Designing a User Interface for Web Based Project Management in Film Production

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Titel
Designing a user interface for web based project management in film production.

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Sammanfattning
The aim of this thesis project is to create a user interface for a web based film production project management portal. This implies creating a site map and a functionality specification based on the needs of the people working in the film production industry. The project was made on account of The Chimney Pot, a postproduction company in Stockholm. For the scope of this project, the research was concentrated on the part of film production that concerns The Chimney Pot, i.e. the procedures that take place after a film has been recorded. The research also focused on people working in the area of Stockholm, even if their clients and customers in other areas of Sweden and abroad were indirectly included in order for the project portal to be a usable tool in projects where these people are involved.

Before any visible results can be seen in a web production project, a range of preparation steps needs to be taken. Planning is essential if the final product shall work properly. Extensive research has to be done into the industry. In order to make the product usable, the intended users, their requirements, work procedures and environment need to be examined. Only when there are substantial results and enough knowledge about the industry, the actual implementation can start. The first step is to make a functionality specification, next a site map should be produced and the technical architecture should be specified. These are the areas that are covered in this project, but there are also recommendations about how the further development should be made. Important aspects in the next phase are to create a budget, to put together a development team and to create a graphic user interface. In the whole process the issues of usability need to be considered, i.e. efficiency, flexibility, learnability and satisfaction.

The key requirements for the project portal turned out to be speed and effectiveness. The user interface was designed to be intuitive and to be shallow, which means that the user should be able to perform any task with the least amount of mouse clicks possible. Another intention with the produced user interface is for it to be clearly divided into the four main areas that could be extracted from the user requirements. They are planning, project details, communication and file sharing. Directly after logging on to the project portal, the user should get an overview of all these areas. Other important considerations were security, version control and seamlessness. These issues demand a thorough planning of the technical architecture and this thesis provides some useful tips for the further development of the technical specification.

Nyckelord
User interface design, film production, project management, post production, web portal, site map
1 ABSTRACT

The aim of this thesis project is to create a user interface for a web based project management portal for film production. This implies creating a site map and a functionality specification based on the needs of the people working in the film production industry. The project was made on account of The Chimney Pot, a post production company in Stockholm. For the scope of this project, the research was concentrated on the part of film production that concerns The Chimney Pot, i.e. the procedures that take place after a film has been recorded. The research also focused on people working in the area of Stockholm, even if their clients and customers in other areas of Sweden and abroad were indirectly included in order for the project portal to be a usable tool in projects where these people are involved.

Before any visible results can be seen in a web production project, a range of preparation steps needs to be taken. Planning is essential if the final product shall work properly. Extensive research has to be done into the industry. In order to make the product usable, the intended users, and their requirements, work procedures and environment need to be examined. Only when there are substantial results and enough knowledge about the industry, the actual implementation can start. The first step is to make a functionality specification, next a site map should be produced and the technical architecture should be specified. These are the areas that are covered in this project, but there are also recommendations about how the further development should be made. Important aspects in the next phase are to create a budget, to put together a development team and to create a graphic user interface. In the whole process the issues of usability need to be considered, i.e. efficiency, flexibility, learnability and satisfaction.

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2 PREFACE

This document is a master thesis within the program for Media Technology and Engineering at Linköping University, Campus Norrköping. It is based upon the work that the authors have conducted at the premises of The Chimney Pot, Stockholm, during the autumn of 2003 and spring of 2004.

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4 ABBREVIATIONS AND FORMATS

24p – 24 frames per second, progressive scanning, which means that the full image is repeated progressively 24 frames per second. Progressive scanning means that the whole image is shown, contrary to interlaced scanning, which means the image is repeated in fields instead of frames. Each field only shows every second line of the whole image, but is showed at a double frequency.

2D, 3D – 2-dimensional, 3-dimensional

CRT – Cathode Ray Tube

DVD – The original acronym came from “digital video disc.” Some members of the DVD Forum tried to express that DVD stands for the phrase "digital versatile disc," but this has never been officially accepted by the DVD Forum as a whole. The DVD Forum decreed in 1999 that DVD, as an international standard, is simply three letters.

EDL – edit descision list, an editing list with time codes for selected scenes.

HD – High Definition, a digital format with high resolution

HDTV – digital television broadcasting format

NTSC – Television broadcasting format, 60Hz frequency (USA standard)

PAL – Television broadcasting format, 50Hz frequency (Europe standard)

Film standards and formats:
The names of the film standards correspond to the image format size. The word “super” means that the optic audio track of the film is eliminated and used to enlarge the image. “Perf” stands for the height of each frame. The most common formats are:

• 16 mm
• Super 16 mm
• 35 mm: 3 perf, 4 perf
Video recording formats:

*DigiBeta, Betacam / Beta SP* – are the digital equivalent to super 16 mm blow-up

*DV (CAM)* – is the digital equivalent to 16 mm blow-up

*HD CAM* – is the digital equivalent to 35 mm 3-perf.

*HD D5* - is the digital equivalent to 35 mm 4-perf
This chapter introduces the aims, objectives, problem specification and limitations of this thesis project. It also refers to useful sources and similar projects. An introduction to The Chimney Pot is provided and finally a disposition of the report is outlined and common words and expressions are explained.

5.1 Aim

The aim of our project is to develop a concept for a web based portal, which provides services for efficient project management within the film production industry. Concrete aims are to develop a user interface containing a functionality specification and a site map, to specify the general technological structure and requirements, to give guidelines for future implementations and clarify advantages over present work procedures.

5.2 Objective

The objective of the project is to find ways of handling communication problems and making the information exchange between different actors in the film production industry easily accessible and more efficient. The service is not meant to substitute personal contact in meetings and phone calls, but to facilitate communication by keeping all the important information in one place. This service will be developed with the purpose of being a helpful tool as well as a complement to the existing and traditional project management methods in the business.

5.3 Problem specification

The people who will use this system come from very different backgrounds. Film production involves people with an artistic perspective, on the one hand, and a technological perspective on the other hand. Some have advanced computer knowledge, whereas some are rather unfamiliar with using other
applications than e-mail, internet and word processing. E-mail has actually been widely accepted; however it is crucial to structure this flow of information. The e-mailing situation in production management of today is not durable.

Our task at The Chimney Pot has been to make investigations in the industry and suggest solutions for communication and information exchange that are feasible with respect to the knowledge and needs of the users, and with respect to the existing technical equipment. We will refer to the results from our survey in the process of developing a user interface for a web based project management tool. Important aspects of the project management service are for it to be effective and powerful and yet user-friendly.

5.4 Limitations

We will limit our work to the parts of film production that is relevant to The Chimney Pot and similar companies, i.e. the workflow related to digital post production.

We will not suggest exclusive alternatives for methods and processes that work well today, but rather integrate them into the service. Since there will not be an implementation within the frames of this thesis project, and no date is set for when or if it there will be, we will concentrate on specifying a user interface design developed from thorough investigations mainly within the production and post production part of the film industry in Stockholm. This rather than giving a detailed technical and graphical specification of the service, since the implementation will depend a lot on who is going to do it, which tools that person is used to and what technology that is available at that time. Most importantly there is no budget proposal what so ever at this stage.

5.5 Previous research

To our knowledge there has not been any academic research similar to this project within the film production industry in Sweden. Thus we cannot refer our results to previous studies. However, a similar research project, Virtual Film Crew was started at Chalmers University of Technology in Gothenburg simultaneously with our project in the autumn of 2003.

Virtual Film Crew examines the use of distributed collaboration and online communities in the film and television industry, and how they use digital tools for collaboration and computer mediated communication. They aim at investigating the international film production industry and developing
tools and methods for distributed production and better collaboration over the internet.¹

Our research on current communication methods in Swedish media production projects, in this master thesis project, are definitely within the same range of the objectives as Virtual Film Crew. We have had some mutual exchange of research material and it will be interesting to see the outcomes of the Virtual Film Crew, which is a larger project and hence will provide more comprehensive results. For further information see The Virtual Film Crew project – work in progress on film making using online communities, computer mediated communication and collaborative VR by Eriksson, Sundström and Thelander.

5.6 Relevant literature

We have used a number of sources in our research and in the process of developing a user interface. Some of these have been extra important and deserve a short introduction.

*Web project management* by Ashley Friedlein describes the general procedures of managing a web project. It also elaborates around the different stages of the initial preproduction phase that we are concerned with here.

*Usability Engineering* by Kristine Faulkner and *The Elements of User Interface Design* by Theo Mandel also deal with the preproduction process and goes deeper into the specific considerations that have to be made and what actions that need to be taken in the development of a user interface. In this stage we have also referred to the web article *Getting from Research to Personas: Harnessing the Power of Data* by Kim Goodwin.

*Metodboken* by Conny Svenning was used in the process of analyzing the survey data.

5.7 The Chimney Pot

The Chimney Pot was founded in 1996 by Henric Larsson. It is a modern post production house focused on visual and special effects for television and cinema and it has grown to become one of the largest post production companies in northern Europe, with offices in Stockholm, Oslo and Warsaw.

The Chimney Pot offers full range of post production services in image processing – beginning with the transfer of images from film to video in Beta SP, DigiBeta and D1 formats, through off-line edit, computer animation, on-

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¹ Eriksson, Thommy.
line edit and finishing with - in the case of television commercials - broadcast tapes. Under the same roof, a sound studio called Mic Studio\(^2\) is located.

Clients who require cinema copies of their commercials can rely on The Chimney Pot’s service in that area as well, i.e. printing the material to film negative. Feature productions destined for the video and DVD markets can also take advantage of mastering services offered at The Chimney Pot, e.g. adapting the image to standards required by those formats.\(^3\)

### 5.8 Disposition

In this master thesis we will start by introducing the method of developing a web portal in Chapter 6. Some important aspects of digital film production are described in Chapter 7, and the general flow of information between the different actors within the production chain closest to post production is described in Chapter 8.

After stating some of the problems of the workflow of today, we present the web portal as a possible solution to these drawbacks in Chapter 9.

Following parts of the thesis consider the user interface design, including our survey methods, results and analysis. This is the main focus of our work in this thesis project. The survey is presented in Chapter 10, a user specification is discussed in Chapter 11, an evaluation of similar services is made in Chapter 12 and a functionality specification is presented in Chapter 13.

Technical requirements and aspects are specified and handled in Chapter 14, followed by a discussion about future work in Chapter 15. In Chapter 16 the thesis is concluded as a whole.

### 5.9 Common words and expressions

Some words occur frequently in the report and to make the text easier to follow, they are explained here.

- \(\text{We}\) means the authors of this thesis, i.e. Elinor Thelander and Sofia Sundström.

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\(^2\) www.micstudio.se.

\(^3\) www.chimney.pl
• *The project portal / the web portal / the portal etc.* means the web based project management portal that will be developed with the results from this thesis project as a basis.

• *The user / the potential user / the intended user* means a person that will use the project portal once it is launched.

• *The developers* means the people that will be involved in any of the stages of development until the project portal is launched. It could be people working with the user interface, the content design, the graphical user interface, programming, testing etc.

• *Site map* means a schematic picture of all web pages that will constitute the project portal.

• *User interface* is used interchangeably with the site map and list of functionality requirements combined.

The reason for sometimes using different expressions with the same meaning is to avoid too much repetition and it makes the text more pleasant to read.
6 METHOD

According to Ashley Friedlein the production of a web site can be divided into eight work stages and these stages can be categorized into four key project phases.  

![Diagram of web project management phases](image)

*Figure 1. The eight work stages and four key phases of web project management.*

The span of our work, when developing the user interface of a web portal, constitutes the first three work stages and the first phase, i.e. the preproduction phase. This project management and development model is designed specifically for web projects, which therefore suits this project well. However, the bigger the project, the more critical a project method is and since neither a date for implementation has been set, nor a budget, we have chosen only to cover the most important parts of the user interface design of the preproduction.

The preproduction phase, consisting of the project clarification, the solution definition and the project specification, is the most important phase of a web project. The stages might be simplified into answering the fundamental questions why the project is being done (project clarification), how it should be done (solution definition) and what exactly is going to be done (project specification).

In this project, the focus lies on getting to know the industry and the users, to understand their requirements when it comes to collaborating on the internet and to use this knowledge in order to design a suitable user interface.

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4 Friedlein, Ashley, p. 41-54.
in the form of a site map and a list of necessary, desirable and additional functionality requirements.

The concrete steps that are taken here in order to achieve this are as follows.

• to study literature and articles in order to understand the industry at large
• to inquire into the collaborating problems that The Chimney Pot can see today and to investigate possible solutions to these problems
• to commit a survey in order to understand the users and their requirements
• to make observations and have frequent discussions with people at The Chimney Pot in order to understand what they expect from a web based project management portal
• to have frequent discussions with the technical staff at The Chimney Pot in order to understand the technical requirements
• to use the results from the survey and the results from discussions in order to design a user interface in the form of a site map and a list of functionality requirements
• to use the results from the survey and the results from discussions in order to get a general picture of the technical architecture

6.1 The importance of user interface design

One reason for focusing on user interface design is that this important stage often is not prioritized in software development and web production projects, even though it is evident that tools and sites that are thoroughly planned are easier to implement and are more likely to work well and be appreciated by the intended users.

In the web production industry it is a known fact that it pays off to spend money on this production phase. Some even advise spending as much as 50% of the project’s scheduled time and budget to complete a thorough preproduction. It is, however, not always obvious for the clients why this part of the production needs this amount of financial support and work effort, and it is the project manager’s job to find this motivation. There are important, time-tested arguments that can come in handy when trying to inform and encourage the client, e.g. planning will actually speed up the total delivery time,
planning improves overall quality, planning will save money and planning will improve long-term prospects.\textsuperscript{5}

As a media technology engineer, one of the most important roles and responsibilities is to be able to bridge the gap often existing between the creators of the technology and the actual users of the tool and system being developed. Noticing the need for a thorough preproduction and user interface design in projects has become more crucial as the technology keeps getting even more complicated, and we have a strong conviction that this is something the film production industry in Sweden of today is in a desperate need of.

\textsuperscript{5} Friedlein, Ashley, p. 41-54.
7 DIGITAL FILM PRODUCTION

During the past few years, the film industry has developed a lot in terms of digital production. Instead of having to shoot a movie on optic film, there are now many options and there is a large amount of different technologies used in today's productions. More and more of the production process is getting digitized; there are digital cameras, visual and special effects are made digitally, to some extent the final material is distributed digitally, and there is, for example, DVD and digital cinema for viewing. This chapter will go through some of the most important aspects of digital film production and distribution, as it is today and how it can be in the future.

7.1 The Digital Houses project

The very first digital cinema of Stockholm, a pilot project called Digital Houses run by Folkets Hus och Parker, opened up at “Draken” located at Fridhemsplan on November 25th 2003. Similar Cinemas already exist in Göteborg, Smedjebacken, Gällivare, Kiruna, Arvidsjaur, Skellefteå hamn, Sandviken and Degerfors. A huge benefit for the smaller cities is that they no longer need to wait for tapes being delivered from Stockholm, if delivered at all. The high cost of producing analogue film prints lead to quite few actually being made. The Digital Houses make it possible to have simultaneous opening nights, as well as alternative events such as online sports events, concerts or conferences.

7.2 Digital recording

In 2003, 13 of 22 Swedish feature films were made digitally. The Swedish movie production company Sonet Film was the first in the world to release a movie to be shown in cinemas, Home, sweet home, recorded with the 24p HD technique. Also their latest production, The third wave, was shot digitally. 

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6 Bergin, Erik.
7 E-cinema content, p. 15.
Conventional film is considered providing better quality than digital film and therefore 35mm is still the most popular format for commercials, which need to have perfect image quality. But for larger, more costly and time-consuming productions like feature films, digital film is already a popular alternative. Shooting a movie on, for example, 24p is cheaper than shooting it on 35mm. Anders Nilsson, director of The third wave, says that the production of that movie would have cost SEK10 million more if it was shot on film.9 Henric Larsson, CEO of The Chimney Pot in Stockholm, says that the biggest advantage with working digitally is that it gives the director and the director of photography great freedom to do whatever they want to do with their images. In 35 mm you can grade your images at the lab, but when you adjust the R, G, B-levels for instance it affects the whole image. You cannot mask off specific parts of the image, e.g. a sky or a face. In digital processing of the images you can fix the details such as a reflection in the eye, lift a shadow, change a sky or a background that you dislike. “Our experience tells us that no one who has had the chance to work with real-time digital grading goes back to film”, says Henric Larsson.10

Another advantage of shooting a movie digitally is the seamless transfer of the raw material to the post production process. Since post production is mainly accomplished in computers, you need to convert the film to a digital format before you can start processing it. If the movie is already shot digitally, all you need to do is to upload the material to the machine, where you will be working, without losing any resolution or color information as you will if you convert 35 mm film to a digital format.

### 7.3 Transferring material

One of the large costs of movie production is the delivery of material from one place to another and the transfer of material from one format to another. After each processing step of the film, tapes are physically delivered to the next instance. To some extent, smaller productions are sent digitally, mostly with e-mail or FTP. However, these common digital delivery methods are lacking in security and are too inefficient for larger productions. The industry is clearly in need for a faster and more secure standard for digital delivery.

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10 E-cinema content, p. 43.
7.4 Image quality

As already mentioned, the visual quality can be one of the disadvantages of digital production. The digital visual quality does not have the same amount of information as optic film has. The field of depth and the color depth is still better in 35mm. There is however a possibility to work yourself around it in the grading process in post production. Also, some characteristics of film, like graininess and depth of focus, are not the same when recorded digitally. These effects could either be obtained in post production or by using a lens adapter on the digital camera to get the proper film touch.

Since film is an analogue technique, it has continuous space and color information. In digital film, on the other hand, this information is discrete. Thus every frame is described by a certain number of pixels, and each pixel has a certain number of bits to describe its color. Each pixel usually has 8 to 12 bits of color information for each primary color.

The resolution quality of the image changes depending on how much the file is compressed. It is impossible to keep all of the information from the film, but the human eye cannot detect the difference if the resolution of the digital film is high enough. In digital production, 2k, 3k and so on are common expressions. The numbers refer to the number of pixels on the horizontal level of the image, where 2k means 2000 pixels et cetera. Normally, the human eye appreciates a resolution of around 3k to be corresponding to the quality of film. Unless however there are a lot of details, in that case even 4k might not be enough to get the right feeling.\(^\text{11}\) If we have something to compare to our eyes can notice small differences in color and resolution, therefore it is important to use the 4k resolution if you are editing an effects scene digitally, that is supposed to be put together with an original negative in the end. On the other hand if you are working on a feature film as a whole digitally, it can be sufficient enough to use half the resolution (2k) and still receive a really good result. Scanning in 4k and then down convert it to 2k has proven to give very good results as well.\(^\text{12}\)

7.5 Viewing restrictions in real time

With increasing file size, the processing of the movie is getting slower.\(^\text{13}\) Too large files are still impossible to view in real time. The maximum resolution for

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\(^{11}\) T&M 189, 2003, and Larsson, Henrik.

\(^{12}\) Larsson, Henrik.

\(^{13}\) T&M 189, 2003.
today's projectors is 2k. It will, according to professor Lasse Svanberg, take another 4 to 5 years before it will be possible to project a 4k movie in real time.\textsuperscript{14} Therefore, at present, the final material needs to be converted to a lower resolution, film or some video format before it is shown. In the future it will surely be possible to digitally process feature films in 4k, maybe even 6k in separate effect scenes for commercials. The camera films are constantly developing and the digital post production techniques have to keep up with that. Hollywood has claimed a future goal of having a digital cinema system, which is better than today with a suggested resolution of 4k.

### 7.6 Future prospects for digital production

The digital revolution has taken over the post production process, and is on its way to be seriously introduced on the distribution area through d-cinema as well. It might only be a few years away from taking over the shooting of the film as well, and inevitably this means the end of traditional film development and technology. It has even been disputed about whether or not film will be the correct term to use in the future since it is traditionally associated with the actual physical optical film format. Today, this is still the most common way of shooting a movie, but what the future holds in terms of digital film production is still undecided. For certain, the digital revolution is here for good and will not only dominate the post production parts in the production chain of making of a film in the future. Along with the development and improvements in technology, the digital production will surely increase. More and more post production houses will be able to introduce a digital intermediate pipeline in their production chain, which will raise the level of efficiency significantly.

\textsuperscript{14} Svanberg, Lasse.
8 CURRENT WORKFLOW

This chapter goes through the current workflow situation in film and media production, in Stockholm and Sweden. First the different phases of film production as well as different actors and participants involved in the process are presented. Responsibilities and working relations are explained. Then the structure of the flow of information between the most crucial phases of post production is presented schematically. This thesis project concentrates on the part of the production, most closely related to The Chimney pot, i.e. the post production. Hence, the most important parts of post production are explained in further detail. Finally, obvious problems in the workflow of today are presented.

8.1 The phases of film production

Film production can be divided into four major phases. These are; the development/preproduction phase, the production phase, the post production phase and the distribution phase, which is illustrated below.

![Diagram of film production phases]

Figure 2. The phases of film production.

Media and film productions, e.g. feature films, music videos, commercials etc., involve a lot of different people. The most obvious potential users of the web based production management portal are therefore the producers and production managers from production companies and post production companies and project managers from advertising agencies. In Sweden, and Stockholm in particular, freelancing is a common way of working in film production, so the belonging to a specific type of company is not a matter of course.
A lot of different participants are involved in the production process as a whole. In the paragraphs below, the participants and their responsibilities in the different phases are covered.

8.1.1 DEVELOPMENT/PREPRODUCTION

In conformity with web project management, described in Chapter 6, the planning and development in the preproduction phase of film production is crucial. As a producer you first of all need to embrace the philosophy that “it’s all in the preproduction.” The final outcome of a film is reflected by how well the preproduction process has been put in motion.  

When producing a commercial for instance, the client who has ordered the film has an important role throughout the process. The copywriter and art director at the advertising agency will, together with the client, come up with the very first idea for the commercial. In the next step the producer at the production company engage either a freelance director or a director working for the same company, who will be responsible for developing a script from the early storyboards and sketches provided by the copywriter and art director.

In a feature film production, the producer is usually more extensively involved in the development from synopsis to final script. It is his or her job to search for and hire the best possible writer for the project. But no matter the size of the movie being made, it is an important task of the producer to make sure the original idea of the film is being followed throughout the different steps of the production.

The producer plans the whole production and makes sure that everything runs smoothly. His or her responsibilities are to supervise and oversee all phases of the development and preproduction process, including keeping track of the budget and serve as the primary point of contact on behalf of management or the funding source. Additionally, a great number of freelancers need to be selected and hired during this phase, for example production manager, principal cast, cinematographer, and editor. Also locations and studios for the film shoot in the next phase need to be chosen and booked. These are important responsibilities of the producer. Finally, the final shooting schedule, the final budget, and the final shooting script is approved and signed off by the producer within the phase of preproduction.

15 Hollywooditsales.com.
8.1.2 PRODUCTION

The producer is involved in overseeing and approving deals for the principal components of the production, as well as managing and approving the weekly cost report. Additionally, the producer provides in-person consultation with the director, editor, principal cast, production designer as well as within areas like set design, set dressing, locations, visual and mechanical effects, wardrobe, make-up and hair.

The producer makes sure that everyone is pleased and satisfied with the ongoing process.

Additionally, primarily involved and secondary participants in this phase can be as follows (without relative order); director of photography with assistants, cameramen, actors, stuntmen, make up artists, electricians, sound technicians with assistants, catering firms, carpenters, painters, casting agencies, stylists, extras, art director, set designer, attributer, special effects supervisor, chauffeurs, production manager and director. Also, one must not forget the music composers. Often in conjunction with the director, the producer selects the composer for the film music.

However, depending of the size and budget of the production, the total number of people involved will vary quite a lot.

8.1.3 POST PRODUCTION

In post production, the producer provides the editor with in-person consultation. When it is time for approval of the final cut of the film, the producer, director and editor are usually present. If it is a commercial production, the art director and the copywriter usually have more to say in the final approval process than the director and editor. Although, in the end one must not forget that it is always the client that has to be satisfied.

This phase of the production also includes music composing, music and sound effect mixing and recording, online editing including visual and special effects. The person that always needs to be available for consultation is the producer. The final step of this phase is the printing or re-recording of the digital video version of the film back to optical negative film.

The different stages of post production are covered in Chapter 8.2.

8.1.4 DISTRIBUTION

During the whole production chain it is important to be clear on the marketing and distribution plan of the film; be it a commercial, music video or a feature
film. In the two latter cases the marketing and publicity process is a crucial part of the distribution phase.

8.2 The different stages of digital post production

The production phase includes the shooting of the film and all the various stages related to this, briefly mentioned in the previous paragraph. The following phase is called the post production phase, and its workflow will be described schematically in figure 3, and descriptions and explanations of the different stages are covered in further detail below.

Figure 3. The flow of information in post production.
Film development

Directly after the film has been shot in the studio or on location, the exposed optic film is developed at a film lab. In Sweden, the company Filmteknik based in Stockholm does this exclusively.

Telecine/scanning

When the film has been developed, the negative is scanned in regular PAL-standard to a suitable video format, for example DVCAM, Beta SP or DigiBeta. This can be done at, for instance, a company called Frithiof, situated at the same address as The Chimney Pot in Stockholm.

A procedure that has become more and more common in America is to scan directly to HD-video after each day of shooting and view the film shots projected from a HD-projector.

Offline editing

This is where the film is pre-edited and the EDL (Editing Decision List) is produced, which is an editing list with time codes. The EDL is conformed to a key-code list at the film lab where scenes chosen in the EDL are cut from the film negative material and merged together in the right order with 20-30 frames before and after the scene. After this stage the negative is washed in order to get rid of dirt and dust. Finally the used scenes are scanned in desired resolution, e.g. 2k, 3k or as an alternative HD-video.

There exist several companies in Stockholm, which are able to perform off-line editing to a relatively low cost.

Online editing

The online editing also follows the EDL created in off-line. At this stage texts and effects, i.e. 2D and 3D computer graphics (CGI/3D in figure 3), are created digitally and integrated in the film at high resolution, which constitutes the compositing stage in figure 3. Online editing is performed at expensive workstations equipped with hardware and software like Inferno from Discreet or iQ from Quantel. Editing at this stage involves adding visual effects, i.e. color grading and detail correction and/or enhancement but also, if required, more complex special effects.

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16 Nelson and Nyström.
This is also the editing system where the actual video master is created.

The Chimney Pot offers most of the steps of digital post production, and calls themselves a full-service post-house.¹⁷ In terms of online editing The Chimney Pot have 4 or 5 competing companies in Stockholm.

Sound mix and sync

Remaining parts of the post production chain are the synching and adding of dialogue, sound effects and music to the different clips in the approved edited version of the film. This is accomplished at a sound studio like the partner company of the Chimney Pot, Mic Studio.

Printing/re-recording

Before this stage is carried out the film is color corrected. There are great possibilities to adjust and alter the contrast and color tone in the images of the film at this stage.

However, the final step of digital post production is the printing or the re-recording of the film from digital video format to, once again, an optic film negative. This means a film negative is exposed in a film recorder to the processed version of the film. The film recorder is commonly a laser recorder manufactured by Arri, but it can also be conducted with CRT technology.

The Chimney Pot, actually can offer printing as a service, the second company in Stockholm to do this is Filmteknik.

8.3 Problems in the present workflow

Today, phone calls, e-mails, meetings, ftp transfers and postal deliveries manage the flow of information and material. The produced film material is being sent back and forth for approvals, changes and further processing.

Since there are so many people involved in each production, communication problems are unavoidable. Problems occur, for example when the intended people do not receive important information or when a tape is lost during delivery. Postal deliveries are time consuming and often unnecessary, since the material could have been sent digitally instead.

The Swedish film production industry of today does not have a generalized system for managing their projects. The need of simplifying the

¹⁷ E-Cinema content, p 43.
flow of information between the different people and stages of the film production process is obvious, as well as making it trustworthy.

It is therefore desirable to create a system that decreases communication deficiencies, offers a more efficient way of managing projects and provides an overview of the production chain and its participants.

It has come to our notice that it is necessary to minimize the technical skills needed from the people about to start using or switch to a new project management system, similar to the web based solution suggested in this thesis. The project management system has to be satisfactory to use for both the technicians and the creators in the business.

In the next chapter we will describe a solution to some of these difficulties and problems.
9 THE WEB PORTAL AS A SOLUTION

As described in chapter 5, the aim with this project is to produce a user interface design and introduce a concept of a more efficient system for exchanging information between the different actors in media and film production, specifically in post production.

This flow of information can consist of verbal communication, exchange of different material such as files, videotapes etc.

The asset and project management methods of today in film production are often unstructured, inefficient, difficult to use and offers poor security (see Chapter 12, Evaluation of similar services). We have through our research in the industry found out how projects are managed today, what problems there are and we will present how they could be solved using the internet.

The objective of the web portal solution is to find ways of handling communication problems and making the information exchange between different actors in the film production industry easily accessible, more efficient and more secure. Kristine Faulkner suggests a number of questions that should be considered in order to understand if and how the proposed web portal could benefit the organization, i.e. The Chimney Pot, and improve the processes that it is meant to cover, i.e. film production management. These questions are answered below in order to show the advantage of a web-based portal compared to today’s common standards.

Why is the system needed? Are there critical processes that need to be supported by the system? If so, what are they?

It has become clear to us during our project that a lot of people in this business experience that it is complicated to use FTP to send and receive files. Sending and receiving files via the internet is an information flow that cannot be ignored. If anything it will become more extensive in the post production chain in the future.

Additionally people worry about the lack of security when using FTP for transferring and receiving material. It is therefore absolutely necessary to make
sure that unauthorized people will not be able to look at material other than what concerns them.

What would happen to the organization if the system was not developed?

FTP servers have in its form of today shown drawbacks in the security aspects (See Chapter 14, Technical requirements). So unfortunately, the worries are legitimate.

Therefore, we have, together with The Chimney Pot, noticed the need for developing a new service, which is both secure, easy to use and gather all information relevant to the production at one place. And to reach these requirements we believe that a web portal is a useful concept for this purpose.

Are there critical processes, which need not be supported by the system? If so, which are they?

It is of highest significance that the objective for this project management system does not include in any way a substitution of personal contact in meetings and phone calls, rather to facilitate communication by keeping all the important information in one place.

The importance of personal contact in meetings and phone calls could rather be emphasized with possible community features to increase the social contact and feeling of belonging between the participants. The portal's main objective is to make the everyday work easier and more structured, having all important information at one place, such as; time-tables, e-mail, contact list etc.

What speaks for using a web portal as a solution to the problems stated in the previous chapter?

- A web portal will gather all important information in one place
- It will be effective to use since the internet can be reached almost from wherever you are.
- The portal will be a powerful system, yet the emphasis during development will be on making it as user-friendly as possible, with the typical “film production user “ in mind.
- The portal will integrate all different methods and processes needed when administrating a production.
• The solution will be faster and more secure than current standards for digital delivery in the business, since it will be using advanced technology specifically selected to minimize the input from the user.

• The portal will definitely be more secure than current standards, such as e-mail and FTP.

• The number of time consuming deliveries as well as unnecessary deliveries by post will be minimized.

• The web portal will provide an overview of the production chain, as well as a complete overview of all the production participants.

• The whole information flow will be easier and someone who uses the portal will not have to worry about misplacing important messages or material.

• The functionality of getting a delivery confirmation makes the information flow trustworthy.

• With everything in one place and only needing to log on once, it minimizes the technical demands on the users.

• The graphical layout and design will hopefully be satisfying for BOTH technicians and creators

• A web portal for production management will decrease communication deficiencies and offer a more efficient way of managing projects.

How will the system help to improve the organization?

• The project web portal will save time. In international projects the portal will enable a more efficient project management since it will be possible to work day as well as night no matter what part of the day it is in Sweden or abroad.

• The portal will also save time, because it is faster to transfer material digitally than to use manual delivery services.

• The amount of lost material, information and files, unnecessary phone calls and e-mails will be minimized, when having it all in one place.
• There is naturally money to save. It is cheaper and faster to transfer material via the web and since time is money, money is saved.

• It is more effective than earlier solutions. Everybody knows who is responsible for what and almost every computer has internet connection, but only a few have an FTP client. Additionally virtually everybody knows how to use the internet but few know how to use FTP.

• Working together with a film production via the web using a portal will most certainly provide a more secure and trustworthy environment for project management. New technology, carefully put together, can offer security, efficiency in communication and document version management.

*Will people really start using this system? What will it look like from a functionality point of view?*

Someone has to take the first step and be willing to explore the change of working routine. This is of course crucial, but considering all the benefits that will follow we are convinced that people will start using the portal, start appreciating it and hopefully stay with it as an everyday tool in production management. All functionality will not be included from the beginning, but as people start getting to know the system and accept it as a valuable tool in their daily work, the functionality can be extended one step at the time without implying any drawbacks in functionality and usability.
10 SURVEY

In order for the web portal to meet its users’ needs, it is important for the developers to have a good picture of what those needs look like before building the system. There were many opportunities for observation and informal discussions at The Chimney Pot, which was useful. But it was not sufficient, since many of the potential users are working at other positions in other companies. Therefore a more thorough survey had to be made.

A survey does not only provide explicit user requirements, but also indications of more subtle features that are helpful in the development process. When it comes to functionality, it is difficult for a person to think of everything that she or he wants a project portal to provide during an interview or when filling in a questionnaire. It is also difficult for the user to know what kind of functionality the service will be able to provide. Thus, the survey is useful, since it also gives information of the user’s personality, working environment and general goals. These features are as important as the outspoken needs both when designing functionality and when designing the graphical user interface.

There are different methods of committing a survey and they all serve somewhat different purposes. The methods that are used in this project are observation, interviews and a questionnaire. The collected results from the survey and an evaluation of other similar services that will be presented in chapter 12 constitute the basis for the user interface of the web portal.

The three following paragraphs are divided into two parts; one part (Background) that explains the theory behind the survey method, reasons for using it and how it was used, and a second part (Outcomes) that describes what outcomes each method resulted in. In the next paragraph, Survey evaluation, aspects of reliability, selection of respondents etc. are discussed, and finally an analysis of the questionnaire results is presented in Data analysis.
10.1 Observation

10.1.1 BACKGROUND
Since this project was conducted at The Chimney Pot, observation was a natural part of everyday work. There were opportunities for participatory observation, i.e. where the researchers participate in the activities of the people that are being observed, for example at the shoot of a television commercial. The main part of observation was, however, observer based, i.e. where the researchers are merely passive observers.\(^\text{18}\) Also, there were no opportunities for observation at other companies than the ones that use the same premises as The Chimney Pot.

10.1.2 OUTCOMES
The outcomes of the observation are rather subtle. A deeper understanding of the work procedures and of the people that work in the industry evolved. It also gave a better awareness of the problems that exist in today's communication. For example, it was clear that there exists a reluctance of using new technology among some producers. Observation also proved that producers and project managers generally are very social and enjoy communicating face-to-face or over the phone.

10.2 Interviews

10.2.1 BACKGROUND
For the purpose of this survey, a semi-structured type of interview was found to be the most suitable kind. Semi-structured interviews follow a guideline of questions, but as the interview passes, there is room for going deeper into areas that the interviewer or interviewee finds extra interesting. Other types are structured and unstructured interviews, where the former is similar to questionnaires; all questions are decided on before the interview and no other questions are added during the interview. Unstructured interviews are formed during the interview and there is no pre-set structure of questions.\(^\text{19}\)

\(^{18}\) Svenning, Conny, p. 82.
\(^{19}\) Faulkner, Kristine, p. 42-46 and Svenning, Conny, p. 81.
In this case there were a number of things that were important to ask all the people that took part in the survey, and therefore it was necessary to have a backbone of questions that all interviewees were to be asked. But it was also interesting to get deeper explanations for some of the answers and to emphasize issues and questions that were of special interest for each interviewee. The interview questions can be found in Appendix A.

10.2.2 OUTCOMES

Like observation, the interviews gave a better picture of people’s personality, but more importantly they provided explicit answers to questions of work environment, information flow, communication problems and so on within each company that was included in the interview survey. Both the observation and interviews were qualitative, which implies that they gave no measurable results and they were interpreted in a subjective manner. Nevertheless, qualitative studies are important for understanding subtle features that do not show in a quantitative study like, for example, a questionnaire survey.

After committing 15 interviews, there was sufficient information to see a pattern of user features and requirements. The material from the interviews was then used as a basis for creating a questionnaire.

10.3 Questionnaires

10.3.1 BACKGROUND

The emphasis in the interviews was on the present information flow and communication, whereas the emphasis in the questionnaire was on what the potential users want to be able to do in a project portal. The reason for also sending out a questionnaire was to get a more exact picture and a quantitative measure of user requirements from a larger group of representatives from the industry. There are many things that need to be taken under minute consideration in the stage of creating a questionnaire. First of all, the questions need to be very clear, since there is no way of explaining what is meant to the respondent once the questionnaire is sent. Also, it is important to formulate questions and to use a language that is understandable for all different user groups. The questionnaire results can be found in Swedish in Appendix B (since the survey was made in Swedish, the results are also in Swedish).

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20 Faulkner, Kristine, p. 35-39 and Svenning, Kristine, p. 75.
10.3.2 OUTCOMES

The questionnaire was sent to 45 people who are either clients or partners to The Chimney Pot and 23 of them responded. The results from the questionnaires verified many of the indications from the observation and interview survey and they also provided technical information, such as information about the most commonly used browsers and operative systems. The questionnaire results are useful during the development of the project portal since they make it possible to determine indications of which requirements the majority of the users prioritize.

10.4 Survey evaluation

This paragraph aims at evaluating the survey methods that were used with respect to their validity and reliability. There is also a discussion about the selection of respondents and the consequences the method of selection has. Finally, an analysis of the response reduction is presented.

10.4.1 VALIDITY

Validity answers the question: “Is the survey measuring what it is intended to measure?” There are a number of aspects that influence the validity, for example the choice of methods, the choice of questions and the way the interviewer approaches the interviewee.

There is a difference between inner validity and outer validity. The former deals with, for example, if the people that were chosen as subjects in the study are able to answer the questions, if the proper questions are asked and if the problem that is meant to be solved is appropriately covered in the survey. The outer validity answers to the question if the specific study could be used as a generalization for the whole problem area or if it is just describing a narrow part of it.\textsuperscript{21}

With respect to the chosen people the inner validity of the interview part of the survey is good. The people that participated in the interviews are the most important subset of people that will potentially use the project portal. During the interviews the interviewees had the possibility of asking about expressions or questions that they did not understand. Thus they should be able to answer properly to the questions that they were asked. The questions covered the whole range from today’s work procedures to the wishes and

\textsuperscript{21} Svenning, Conny, p. 60-63.
needs that the potential users have when it comes to communication in general and the project portal in particular. Overall, the validity of interviews and observation are considered to be good. However, the low response frequency in the questionnaire survey may be an indication that sending a questionnaire was not a suitable method, that the questionnaire was too long or that the questions were difficult to understand.

The outer validity of the survey is low if one wants to make a generalization for all of The Chimney Pot’s partners and clients. The interviewees and questionnaire respondents were handpicked by people at The Chimney Pot and therefore they can not be seen as appropriate representatives for all of The Chimney Pot’s partners and clients. Hence, no generalizations can be made from this survey. However, the outer validity is good for the group that was most important in this study, i.e. the companies that have close relations to The Chimney Pot. This issue is further discussed in section 10.4.3 Selection of respondents.

10.4.2 RELIABILITY

Reliability answers the question: “How reliable are the results from the survey?” For the results to be reliable, it is required that another survey that has the same objective and uses the same methods would bring the same results.22

For the population that was selected in the interview and observation parts of the survey, the results have a rather high level of reliability. If the same people were to be included in a similar survey, the results would probably be similar to the results of this study. Yet again, the questionnaire survey is an exception. It cannot be verified that those who responded to the questionnaire are a random subset of the whole group. It is possible that there is a systematic error in the responses. For example, people who are not used to digital communication may hesitate to answer to the questions, because they feel that they do not have enough knowledge. If this is the case, it means that the opinions and requirements of people with little knowledge of digital communication are excluded from the results.23 Additionally, if another group of producers or project managers were chosen, the results could possibly differ because of the relationship that the present respondents have to The Chimney Pot. Read more about this in the next section.

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22 Svenning, Conny, p. 63-65.
23 Bender, Mark.
10.4.3 SELECTION OF RESPONDENTS

The selection of respondents makes it impossible to generalize the results for a larger population. It can only be confirmed that these results apply to the specific people that participated in this study. That is because of the fact that they were carefully selected by The Chimney Pot. It would be desirable to make a more thorough study among film producers and film project managers in general in order to understand the industry better. However, as a first step this project portal aims at the people that The Chimney Pot collaborates with at present.

Naturally, there are negative and positive aspects of choosing specific individuals to participate in a study. If they were randomly selected, it would be possible to generalize the results. Now, they all have similar features, e.g. they have offices in Stockholm and they know somebody at The Chimney Pot. On the other hand there are many advantages of selecting the specific respondents. Firstly, the answers from these people are most interesting to The Chimney Pot. Secondly, because of the close relationship between the selected respondents and The Chimney Pot, they are more likely to take the time to participate in interviews and fill in questionnaires. Finally, by involving them they are introduced to the idea of collaborating over the internet before the project portal is even created. This means that they have time to get used to the idea and it also means that they feel valuable, since their requirements form the basis of the functionality and design of the project portal. All these things potentially imply that the respondents have a positive attitude towards the service once it is up and running.

10.4.4 RESPONSE REDUCTION ANALYSIS

The reduction of respondents in the questionnaire survey requires further discussion. As was mentioned in the previous paragraphs the reduction could have a number of explanations. It may be that people did not understand the questions in the questionnaire, they may have found it too long or irrelevant or they may feel that they have too little knowledge about the subject.24

Collaboration over the internet is still rather rare in film production and it is likely that the respondents found it difficult to picture a project portal when they have no practical experience of such a service. The most common explanation is probably that people have a busy schedule and do not prioritize filling in a questionnaire.

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24 Bender, Mark.
10.5 Data analysis

In this paragraph the questionnaire results are analyzed. The results from observation and interviews cannot be quantitatively measured in the same extent as the questionnaire results and are thus left out from this analysis. Because of the low response rate, these results should be treated as guidance rather than as general facts.

10.5.1 USER FEATURES

Most of the respondents work as film producers or post production producers at production companies, post production companies or advertising agencies. About 60% of the respondents were men. The youngest respondent was 25 years old and the oldest was 58, the average age was 38.

10.5.2 USER REQUIREMENTS

The results from the questionnaire were used to separate user requirements in three different priority groups. In this process it is assumed that the results are representative for all people that received the questionnaire.

In the questionnaire the respondents were asked to rank a number of functions that would potentially be provided in the project portal. A ranking of 1 meant that it was not desirable at all and a ranking of 5 meant that it was very desirable. The functionality that got a high rank from the majority of respondents was placed in the highest priority group and so on.

Confidence interval

Before the user requirements were divided into groups the confidence interval of each answer was determined. The confidence interval is computed according to the following equation:

\[ I = p \pm z \cdot \sqrt{(p \cdot (100-p)/n)^{1/2}} \]

where \( I \) is the confidence interval, \( p \) is the proportion in percent of how many that have given a certain response, \( z \) is a constant that is related to certainty, and \( n \) is the number of responses.\(^{25}\) For example, if it turns out that 17 people have given a rank of 3 or higher and the required certainty is 95% the confidence interval could be calculated like this:

\(^{25}\) Svenning, Conny, p. 100.
\( n = 24 \)
\( p = 100 \cdot 17/24 = 70.83 \)
\( z(95\%) = 1.96 \)

\[ I = 70.83 \pm 1.96 \cdot (70.83 \cdot 29.17/24)^{1/2} = 70.83 \pm 18.18 \]

This interval lies above 50\%, but if one less person would have given this rank, the interval would lie between 47.8\% and 85.5\% and thus it would not be possible to confirm with 95\% certainty that the majority of users think this function is desirable.

**Priority groups**

When the majority of respondents could be confirmed to have given a certain rank, the functionality could be placed in the appropriate priority group. In the top priority functionality group, the functions that got a rank above 3 from the majority of respondents were placed. The functions that could be confirmed to have a rank of 3 or higher were placed in the second priority group and those who had a lower rank were placed in the last priority group. The functions in the two first priority groups should be seen as desirable, but it is doubtful if the functions in the last priority group are desirable to implement at a later stage or if they in fact would be disturbing elements in the project portal that would make it less attractive to use. The desirable functions are listed in their respective priority group below.

**Group 1:**

- Access to contact details for project participants
- Information of who does what
- Information of when different phases are to take place
- Information of which phases that are completed
- Sending/receiving graphics
- Sending/receiving 3D
- Sending/receiving animations
- Sending/receiving film
- Sending/receiving sound
Group 2:
- Sending/receiving EDLs
- Sending/receiving spotting lists
- Access to digital raw material
- Order copies
- Order masters
- See how much the production has cost the own company so far
- Work with the document templates of the company
- Search in the company archive
- Get a confirmation that a message is received by the recipient

10.6 Chapter summary

The survey answered the questions of what features the potential user has and what functionality she or he wants. The qualitative observation and interview studies gave a comprehensive picture of the atmosphere in the film production industry, the common work methods and personalities of the people who work closely with The Chimney Pot. The quantitative questionnaire study gave hands on results on what functionality users want to access in a web based project portal. Unfortunately, the response level was rather low in the questionnaire survey, but the results are still valuable to use as guidance in the user interface design.
11 USER SPECIFICATION

When it comes to user interface design, an important aspect of the product is that it is user friendly. It is not enough that all the functionality is there, but the system also needs to be easy to navigate and be pleasant for the user to work with. Design decisions are more abstract than the functionality decisions and therefore general impressions of common users are useful in the development process.

By considering features, such as personality, interests and work procedures, it will be easier for the developer to conclude which decisions to make if the answer cannot be found in the survey results. That is why user profiles are used.

The survey analysis has been conducted according to methods described in The Elements of User Interface Design by Theo Mandel and in Kim Goodwin’s article Getting from Research to Personas: Harnessing the Power of Data.

11.1 Target group and goal analysis

To get an overview of what the portal should provide and who is going to use it, the main target group and the users’ goals for performing the tasks that the project portal enables them to do needs to be specified. It is also helpful to specify primary and secondary users, and possible other users to get a rough estimate of which user requirements to prioritize and which requirements that can be left aside during the development process. Eric Wagner defines the first priority users as those who will use the system in their everyday work, the second priority users as those who sporadically will need to access the system and the others as users who may not use the system but that will nevertheless benefit from it. User groups are general descriptions. In the next stage, the user profile specifications, the target group is broken down into a number of more detailed characteristic users.

\[\text{Mandel, Theo, p. 254-259.}\]
\[\text{Wagner, Eric, p. 84-85.}\]
Questions to consider at this first stage

- Who constitutes the target group?
- Why does the target group communicate with customers and partners?
- What aspects influence the goals of the target group?
- What do people in the target group work with?
- What skills do people in the target group have?
- What problems exist in the current communication and information flow?
- Are there any conflicts between the goals of the target group and, for example, the system administrator and the system technology?
- What do other similar web based services provide?

11.1.1 TARGET GROUP

The target group of the project portal consists of different people involved in film production (commercials, music videos or feature films) in all stages after shooting the film. The primary user is the producer at the production company or a production, or a post production manager. Secondary users are other people that are involved in the project for a longer period of time, e.g. directors, people at advertising agencies and various post production companies, working with visual and sound effects, and financial administrators. Other users are other people involved in the media production industry, e.g. editors, scanning staff, final customers and freelance staff, varying from project to project. These people have very differing skills, both with respect to their work task and with respect to using computers and the internet. The skills are also very heterogeneous within the groups that have the same work description.

11.1.2 GOAL ANALYSIS

Since the project portal is a communication tool, it is necessary to find out why these people communicate with each other and there are a number of reasons why. Here are a few examples:
Why the survey participants communicate

- to share information about project participants
- to share and approve price proposals and budget issues
- to share and approve graphics, sound and movie samples
- to share comments on the project and the production
- to order services, such as deliveries and converting formats

Film production aspects

There are quite a few aspects that influence the communication and artistic goals of the production, both in positive and negative ways. It could be the director striving for perfect sound and image quality, a busy work environment, a need to take quick decisions or the producer trying to keep costs down. Some problems that are evident in the current production procedures are that people lose documents and therefore have to make phone calls or send e-mails to get a new copy and it is uncertain which the latest version of a production is. Another problem is that different companies have different video formats and therefore one production needs to be converted to several different formats. Finally, instead of delivering material digitally it is often sent by post, which takes a lot of time and money.

Technical aspects

There is a balance between the functionality of the project portal and the administration requirements. The aim for the user is to feel that the system is seamless, that she or he does not have to make any extra effort when using the portal instead of conventional methods. This means that the developer and the system administrator have an important responsibility of making sure all services function well and to resolve any problems that occur. It also demands that the system technology is effective and provides good quality.

User aspects

One problem that will still exist when the portal is up and running, is that the end users do not always have good enough computers. For example, the computer or internet connection speed, or the screen size that influence the quality of the online co-operation.

Especially when it comes to commercials, it is very important that the image quality is the best and to determine if it is good enough you need to
11.2 User profiles

User profiles are useful in the development of a user interface, since they give a concentrated overview of the features that different stereotypical users have. It is also useful in the process of designing the graphic user interface, because this is what gives the project portal its “soul”. If the graphic user interface appeals the user, she or he is more likely to enjoy using the portal. The user profiles make it easier for the designer, who may not have the opportunity to meet the users face to face, to imagine what types of people the interface is being developed for.

An important aspect of user profiles is that they are based on real data, in this case on interviews. The reason is that it gives a true understanding of what users really need, instead of basing product requirements on the developer's assumptions.28

By plotting the features of each survey participant to different variables, a number of user patterns emerge. The variables could be, for example, “degree of customer contact” or “still or mobile work environment”. All variables of behavioral patterns are presented in Appendix C.

Figure 4. Users mapped against behavioral patterns.

When a set of participants has many similar features, they constitute a user profile. Each user profile is presented as a virtual user that is given a name and

28 Goodwin, Kim.
a short description of her or his skills, attitudes, work environment and reasons for using the product being developed. This is meant to illustrate a user as realistically as possible and it functions as a help to the developer when interpreting the users’ requirements.29

Following user profiles were constructed from the data that was collected during the interviews. The variables that were used in order to create these user profiles lay within the areas of long term and personal goals, goals at work, attitudes, knowledge, skills and behavior. The user profiles describe personal characteristics, a common workday and visions of how the user will respond to and use the project portal.

**PETER, 35 YEARS OLD – THE BUSY CEO**

Peter works as a CEO and project manager at a post production company. When it comes to his working life, Peter is very energetic and is striving to be successful. He is determined, has a great responsibility, and is naturally very busy. He enjoys having a demanding position and aims for his company and himself to stand out from the crowd. He is involved in a few of the more important and longer productions, but he also has a more comprehensive responsibility of the company at large.

It is important to Peter to always focus on what is best for the company. He knows the importance of good relations, so he is eager to have close and informal relationships with his most important co-workers and clients and he wants his working environment to allow for this kind of informal, but yet business related, contact.

It is also important to him that his employees feel well and that they are productive. In general he does not have time for “chit-chats”, but he makes sure to encourage his staff every now and then.

Peter is open to changes if they could benefit the company. He critically analyses changes and new procedures to get an informed personal opinion. He is not afraid of new initiatives or drastic moves in order to improve the productivity and efficiency of his company, even if it means that he needs to make uncomfortable decisions sometimes.

Peter separates his private life from work. He does not like to work at home. Sometimes that means that he stays in the office a bit longer in the evenings, but he is eager not to let his job interfere with his private life.

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29 Goodwin, Kim.
Peter's workday
When Peter comes to the office in the morning, the first thing he does is to start his computer. He checks his calendar and e-mails for bookings and meetings. He concentrates on the e-mails that he believes are most important. In case he has time for it, he also reads the e-mails that seem less urgent and important. Peter goes through today’s deadlines and makes sure that his employees are informed on what they need to do today. He spends a lot of time, including his lunch hour, in meetings with the board of the company, clients and partners.

The office is his base, but since he has a lot of meetings you can’t be sure to find him there unless you have agreed to meet.

How Peter responds to the project portal
Since the former management tool did not match the requirements of Peter’s company, he has decided to go for this product that better suits their production structure and procedures. He has informed his staff that from now on this is the “official” project management tool of the company and that everybody is required to use it.

Peter uses the project portal on a daily basis. Since he is a busy person, he thinks it is inefficient to use a lot of applications; he likes to keep all information in one place. It is also very important to him that his project management product is easy to use. He chose this product since it is efficient and seamless; all he needs is there. He values that the application is comfortable to use and aesthetically appealing. It is not in his face, but rather discrete. He likes that he can perform his tasks without noticing that the application is there.

The most important reasons why Peter enjoys using the project portal are because it saves time and money, which makes his company more efficient.

**TOMMY, 30 YEARS OLD – THE SPONTANEOUS PRODUCTION MANAGER**

Tommy works as a production manager at a production company. He enjoys working in the movie industry. He likes his job as a production manager, but would like to try some other kind of job within the industry in the future. He is a spontaneous and positive person that has a rather high level of responsibility.

Tommy often thinks about things that could be improved in his daily work procedures. Poor technical solutions that slow down or complicate his job annoy him. He is interested in technology and he has better computer
skills than an average person does. However, he does not have the sufficient skills or the knowledge to make any bigger changes himself. He has often thought about that he would like to have a better tool for project management and he has a lot of ideas of what he would like to be able to do with this tool. He has not found a perfect product on the market, but he has come up with some creative solutions that are useful complements to the tools he works with.

**Tommy’s workday**

He has relatively much contact with clients both in Sweden and abroad. His projects normally last for about a month. A common workday for Tommy could look like this: When he comes into the office in the morning he bumps into a colleague that tells him about a new project. Tommy has many contacts and is a quick problem solver, so he suggests him to contact a director he worked with in his last project that he thinks will be perfect for the job. In the office Tommy opens up his calendar and e-mails. He spends the rest of his day coordinating his productions, by calling and e-mailing people, uploading and downloading files, and doing some paperwork.

**How Tommy responds to the project portal**

Tommy welcomes the new production management portal. When he got access to it he played around for a while to understand how it worked. He also e-mailed the web manager some questions and suggestions for improvement. Now he uses it regularly and he is happy that the portal has substituted many unnecessary phone calls and boring paperwork. Since he also works with foreign customers, the portal has brought an important enhancement of the delivery and communication possibilities. He still values personal contact, but the portal has brought more efficiency and now he can focus on more important things in his face-to-face meetings. The most important thing for Tommy is that things work and that he can be sure it works safely. Tommy also likes the clean but yet trendy interface. It has the same atmosphere as his work environment - a relaxing place for a busy media person.

The most important reason why Tommy enjoys using the project portal is because it makes communication more efficient.

**SARA, 28 YEARS OLD – THE STRUCTURED PROJECT MANAGER**

Sara works as a project manager at an advertising agency. She coordinates the parts of the production that is relevant to the advertising agency, e.g. scripts
and the profile of the production. She has a lot of contact with end customers, producers at production companies and, to some extent, post production companies. In Sara’s job it is important to be able to decide who is going to do what, calculate how long it will take and how much it will cost. If Sara does not know the answer herself, she knows whom to ask. Sara is a social and positive person. She is rather satisfied with her life as it is. She would not mind if there would be a change in her work procedures to get some variation. But overall she enjoys her job, since she gets to meet a lot of interesting people and since it is already rather varying. Also, it gives her financial security. She mostly works with local clients in the area of Stockholm. Her projects are relatively short, normally from a week up to a month long. She communicates using e-mail, telephone and meetings. She gets and sends graphics and QuickTimes by e-mail. Sometimes she uses FTP to upload or download files. She thinks it works well and has not really thought about any alternatives. This is the common standard, so that is what she uses.

Sara’s workday

Sara starts her day with some breakfast in the lunchroom with her fellow workers. She enjoys talking about other things than work for a while. After breakfast she looks at today’s bookings in the calendar and looks through her e-mails. She spends the day talking to clients, producers, copywriters, art directors and other co-workers. She makes sure that everything works smoothly and that her projects still run according to schedule.

How Sara responds to the project portal

She has started using the project portal, since the people she works with use it. She is happy that it is easy to use, since she is not that experienced and is not very interested in computers or technology. Sara has realized that the portal solves some problems she had before. She knows that all relevant people can reach the information they need there, all material is nicely structured and she always knows which the latest version is. It is also good to get a receipt that the things she has sent has reached the receiver, so she does not have to call that person just to make sure that it arrived.

The most important reasons why Sara enjoys using the project portal are because it is easy to use and makes her projects well structured.


**JONAS, 38 YEARS OLD – THE CREATIVE FILM PRODUCER**

Jonas works as a film producer at a production company. He is very happy with his job, which he feels fulfills his creative needs and his needs for challenge. He has the main responsibility for the productions that he works with. Jonas sets the level of the production and he controls the budget. He is the “spider in the web” and is the first one to be updated to any changes. Having a good relation with his clients and partners is important to him. One of the most important goals for Jonas is to tell stories. He likes working with the scriptwriters and often comes with his own creative suggestions. He is well-informed about new technologies and he likes exploring new technical solutions, both movie production and communication tools.

**Jonas’ workday**

Jonas’ workdays look very different. One day he could be on the set in New York, the other he spends at a sales meeting in Trollhättan and the third day he spends working on the budget in his office in Stockholm. He has flexible working hours. It is not unusual that he has to work at weekends. He also has a very mobile job. Some productions require Jonas to travel within and outside Sweden. He is often working with people abroad.

**How Jonas responds to the project portal**

What he especially likes about the project portal is that he can access it wherever he is in the world, either from a computer or from his mobile phone. Jonas believes in personal communication and he thinks that new communication technologies enable him to keep in contact with his partners, both globally and locally. He also enjoys the possibilities of sending images and production samples digitally in order to discuss locations, casting, editing, post production et cetera. Before, he used to send this material by post or express delivery and he thinks it is very convenient now that he only has to upload and download material. It is cheap, it is quick and he does not have to worry about tapes getting lost during delivery.

Jonas uses the project portal daily in order to update production information, to communicate with his co-workers and to get an overview of the production process. He considers the project portal as a good tool for getting information of what is going on. Another useful feature of the project portal is that he can reach the document templates that he needs.

The most important reasons why Jonas enjoys using the project portal are because it is flexible and accessible at virtually any time or place.
11.3 Chapter summary

The potential users of the project portal are mainly project managers that will need to use it frequently. A few key areas where the project portal can provide better solutions than today’s tools can be identified. These are the exchange of media files, comments, approvals and project information, as well as orders and budget management. In these areas a project portal would imply faster communication, a better project overview and a simpler organization of project material. This is especially valuable for the people that work within the film production industry, since it often is a rather busy work environment and because they often need to have a mobile workplace. To be able to reach all project information on the internet would be a great advantage in such situations. Except for being a comfortable solution for the individual user, the project portal would imply less mail deliveries and phone calls, which makes the production cheaper for the participating companies.

Four characteristic users have been identified from interviews and specified in user profiles in order to give a more vivid picture of the typical user. One is the busy CEO that wants fast, seamless and cheap solutions. Another is the production manager that is interested in technology and that wants better means of communication. A third characteristic user is the project manager at the advertising agency who needs to exchange a lot of files and wants a tool that gives her a better structure and overview of the production. Finally, there is the creative film producer who needs to access all his project material from any place in the world. These user profiles aim to convey a feeling for the characteristic users, which will be helpful in the user interface design, particularly in the development of the graphic user interface.
12 EVALUATION OF SIMILAR SERVICES

There are some similar web based services on the web already, but they are either not developed for a Swedish audience, not aiming at movie production or not aiming at the post production process, i.e. communication and file sharing between all involved participants after the film has been shot and developed. However, it is valuable to evaluate some of these services in order to learn from their clever solutions or from their mistakes. The project management systems that are evaluated here are Alienbrain, Beam TV, Zoetrope, Bygnet, Projektplatsen and WireDrive. These evaluations are not exhaustive, but serve as examples and inspiration for the further development of The Chimney Pot’s project portal.

Alienbrain

Alienbrain\textsuperscript{30} is a very powerful project management tool that is especially designed for film production projects and it is suitable for online collaboration in the process of post production. It has an explorer-like interface with files and folders presented in a tree-structure. It is also possible to work with files within the Alienbrain interface. Some of the main advantages of Alienbrain is that it is integrated with most of the major 2D and 3D graphic tools, such as Adobe PhotoShop and 3D Studio Max and it handles version control by checking in and checking out files storing the history of modifications to each file. However, one of the negative features of Alienbrain that primarily makes it unsuitable for the users that The Chimney Pot are aiming at is that it is expensive to use. Moreover, it requires a separate Alienbrain client to be installed on each user’s computer, which is something that The Chimney Pot is trying to avoid. It also provides so much functionality that it is non-intuitive and requires some period of learning.

\textsuperscript{30} www.alienbrain.com.
Beam TV

Beam TV\textsuperscript{31} is a web based project management site aiming at a film production user group. It is also accessible via FTP. The interface is similar to Alienbrain in the sense that it orders files and folders in a tree-structure. It provides three main services that would be of interest to The Chimney Pot, that is online approval (including filesharing), online ordering and archive. It has no functionality for common calendars or scheduling. Another drawback of Beam TV is its murky graphic interface with light green text on a dark gray background, which makes it tiresome to work with.

WireDrive

WireDrive\textsuperscript{32} is web-based, provides file sharing, approving and communication and is specifically made for managing media projects. Files can be uploaded and downloaded and are displayed with thumbnails and additional information in a list, which gives the user necessary information without having to open the file. Also WireDrive has a Windows explorer-like interface. A drawback is that it does not have functionality for common calendars or time planning. Another drawback is that it is rather costly.

Zoetrope

Zoetrope\textsuperscript{33} also has a filmmaker audience, but focuses more on the preproduction stages, i.e. script writing, music production and other creative and artistic areas of film production. It is also more a place for exchanging ideas than actually working together. Contrary to Beam TV it has a great community feeling and is encouraging communication among its users, which makes it more inspiring to work with for those who enjoy the social aspect of collaborating online.

Byggnets

Byggnets\textsuperscript{34} is a project management tool for the construction industry, but it is still a good example of an effective project management site. It has a rather strict and conservative look, but it has many clever features. The first thing a user sees when she has logged in is a list of projects and some accompanying

\textsuperscript{31} www.beam.tv.
\textsuperscript{32} www.wiredrive.com.
\textsuperscript{33} www.zoetrope.com.
\textsuperscript{34} www.byggnets.com.
information for each project. A new project is marked with green and projects where there has been something added or changed since last time the user logged in are marked with a flag. This gives the user a good overview of the project activities directly after logging in. On each project page new files, actions and messages are visible. This design corresponds well to the user requirements that were evident in the survey of this project in terms of functionality, effectiveness and simplicity. However, it is not suitable for exchanging the kind of media files that are used in the film production industry.

**Projektplatsen**

*Projektplatsen*[^35] is a general web portal for any kind of project. It has functionality for file sharing, planning, communicating, Gantt schemes and a common project calendar where it is possible to make meeting bookings. It is also possible to receive an e-mail with an activity report daily or weekly. The interface is similar to the Windows explorer interface where new files are marked with a flag. This is a rather cheap and intuitive place for collaborating and it could be used for film production projects, but it is not designed for film production and it does not fully meet the requirements that were presented in the survey. It has a rather boring graphic interface, it has redundant functionality and it does not provide the instant project overview that, for example, Byggnet does.

### 12.1 Chapter summary

All of the above mentioned project management services have features that are of interest for The Chimney Pot. However, none of them perfectly fits the needs of the users that The Chimney Pot works with. Most of the already existing project management tools have rather conventional and non-inspiring interfaces often based on the Windows’ explorer interface. This is good in the sense that Windows users are familiar with the interface, but it is bad with respect to Mac users, who are a majority in the film production industry. The fast overview features of Byggnet should be a source of inspiration in the design of The Chimney Pot’s project portal and the Gantt scheme provided at

[^35]: www.projektplatsen.se.
Projektplatsen is a good solution for planning and controlling the status of each project activity.
13 USER INTERFACE DESIGN

Using the acquired knowledge from the background research and the survey it is possible to specify the features of the project portal’s user interface. However, before the user interface design is presented, some aspects of usability will be discussed.

13.1 Usability

According to the ISO standard 9241-11 from 1998 system usability could be described in terms of effectiveness, efficiency and satisfaction. An alternative definition was provided by Brian Shackel in 1981. This definition is based on criterions of learnability, effectiveness, attitude and flexibility.

Effectiveness, which is mentioned both by ISO and Shackel, could be described as the system’s ability to accomplish the tasks that it is meant to perform. Efficiency means that the system should accomplish the tasks with as little spent time and effort as possible. Satisfaction is more difficult to measure, but it implies that the users should be positive about using the system. Learnability refers to how easy it is for the user to learn how to perform different tasks using the system. Attitude is almost similar to satisfaction, but implies that the users should enjoy using the system rather than just finding it satisfying. Finally, flexibility indicates that the system should be able to adjust to the different user environments that exist. In this case it could, for example, mean that a Mac user should find the project portal as usable as a PC user.

These are aspects that have been considered during the user interface design. After the future implementation of the project portal, this design needs to be tested and evaluated to confirm that the usability requirements are met. An aim has been to reduce the time and the number of clicks that the user needs to make in order to perform a task in the web portal. Another aim has been to distinguish as clearly as possible between the different areas of the

36 Faulkner, Xristine, p. 114.
37 ibid., p. 6.
38 ibid., p. 113-135.
portal and to make it intuitive how to navigate in order to achieve the desired goals.

The usability aspects also need to be considered in future stages when the graphical user interface and the technical structure of the system are developed to make it even more satisfactory and flexible. After the future implementation of the project portal, the design needs to be tested and evaluated to confirm that the usability requirements are met.

13.2 Functionality requirements

When comparing results from interviews, questionnaires, observation and discussions with the technical and organizational personnel at The Chimney Pot, four main areas of functionality requirements could be extracted. They are file sharing, planning, communication and project information. Hence, the user interface was developed with these areas in mind. Some requirements could be seen as more important than others and therefore a priority list of necessary, desirable and additional requirements were made.

13.2.1 NECESSARY REQUIREMENTS

Uploading and downloading files

This is the most acute functionality. Without file sharing possibilities the project portal is not likely to succeed.

Access to project participant details

To be able to determine whom to contact about different issues regarding the production, it is important that contact details and areas of responsibility of all participating companies and people are accessible through the project portal.

Online communication and information sharing

It is also an important feature that the project portal provides a space where additional comments and information can be placed. If there is no such opportunity, this information needs to be shared by phone calls or meetings. One of the purposes of the project portal is to remove this time consuming way of distributing information to all project participants.
Online help
The basic functions should be described in a help section that is available online. This could be designed as an online user manual or an FAQ.

Production planning
Creating a dynamic production scheme (in the form of a timeline, Gantt scheme or similar) is a bit more technically demanding than the above mentioned features. Still it is necessary to implement this functionality in an early stage, since it is required both from outside users and staff at The Chimney Pot. It is, however, possible to leave the implementation of this functionality until the more prioritized functionality is implemented. In the meantime production schedules could be shared as PDFs or similar.

Access levels
All participants in the productions cannot have access to all information. Therefore, it should be possible to assign different user levels for different users. As a start, system administrator, project manager and normal user would be suitable levels. This should be regulated within each project, i.e. a person that is a normal user in one project could be the project manager of another project.

Login security
It is very important that the project portal provides security. At least by authenticating and authorizing users with some kind of password. In a later stage the security should be further developed, e.g. with encryption of data that is sent back and forth.

Language selection
It is necessary that foreign users can use the portal. Therefore it is a necessary requirement to make at least an English language version of the portal and preferably also a Swedish one.

Technical maintenance
It is not feasible to implement the project portal until it is certain that somebody is responsible for the technical maintenance of the site. Problems will occur and then it is of great importance that somebody is able to solve them as quickly as possible.
Support

Likewise, it is necessary to provide individual support to users. An FAQ is not enough for solving individual problems and the project management system needs to offer personal support, either by telephone or e-mail.

13.2.2 DESIRABLE REQUIREMENTS

Version control

One of the most desirable requirements is version control, which would enable people to store several versions of the same document in one place, without having to think about document names, documenting changes etc.

Online approval

If there were a specific service for approving material that is posted in the project portal online, it would be easy for all users to get an overview of how far the production has come. However, this functionality does not seem to be desirable for all forms of material, especially not the final version since desktop monitors do not have as good quality as the screens in the production studios.

Internal pages

It also seems desirable to provide a space for documents and information that only concern or should only be available for the own company. The most urgent requirements that were mentioned in the survey were access to and control of the own company’s project budget, document templates and access to a searchable archive.

Order

Two types of orders were asked for in the survey and that is orders of copies and masters.

Access to digital raw material

It is not yet possible to exchange or store very large media files at a common server at The Chimney Pot. Therefore this functionality should only be implemented when it is possible to meet the technical requirements for this service.
Hierarchical file-/folder system
If a hierarchical file- and folder system is not implemented from the beginning, it is at least desirable to achieve this in a later stage, since it is a requirement by many participants of the survey.

Confirmation of received messages
Many survey participants also asked for receipt when they have sent a message or production material digitally. If they would get a confirmation note they can be sure that the message has reached the recipient and will not have to make a phone call just to make sure.

E-mail reminders
Another desirable feature is the option of e-mail reminders. If somebody wants to be reminded of a certain project event, it should be possible to tick a box in order to receive a reminder of the activity by e-mail.

Encryption security
As was mentioned above, security is of utmost importance and it should constantly be improved. At a second stage, it should include encryption of data that is transferred to and from the project portal.

13.2.3 ADDITIONAL REQUIREMENTS

Customized access levels
In order to further improve the project portal, there should be an option (but not a requirement) to individually customize access to all parts of the project portal. It should, however, still be possible to assign the general user levels system administrator, project manager and normal user to avoid a too complicated project management procedure.

Dynamic interface
It should also be possible in a future stage to be able to customize the interface. For example, it could be desirable to see it from a project perspective, a company perspective or individual perspective.
Common calendar

A fully functional common calendar would make it possible to book meetings etc. directly in the project portal. However, this requires that this calendar can be synchronized with each user’s personal calendar and this means that the calendar of the project portal must be designed in a way that is compatible with Mac as well as PC calendars.

Cell phone connectivity

Some survey participants wanted to be able to access some features, for example reminders and accessing sound and images, from their cell phones. This is however not a general requirement from all potential users and should not be implemented until cell phones have become more technically advanced and cell phone users have started using them for other things than making phone calls and sending text messages.

Instant messaging

Instant messaging is similar to cell phone connectivity in the sense that is not yet widespread among common users. It is, however, a useful functionality that should be considered in a later stage when users have become more used to using computers and online communication.

Reference library

Some of the survey participants showed interest in accessing a reference library of movies, commercials, locations etc. from the project portal. This should be a possible feature that may need to be a part of the internal functionality since companies should not be able to access reference libraries of other companies. It may, however, turn out to be better to have a common reference library with open files free for everyone to use.

13.3 Site map

The site map that is developed in this project is a suggestion for a suitable user interface. There is a detailed graphic presentation of the site map in Appendix D and E. It includes the necessary requirements and it is built up of several pages in different levels, including popup windows and two pages reserved for the desired requirements Orders and Internal information. Following is a
detailed description of the suggested project portal, level by level and page by page.

**Figure 4: The site map**

### 13.3.1 LEVEL 0

**Pages at this level**

- Login

Level zero is where everything starts, that is the login page. From this page the user is linked to either of two pages at the first level.

### 13.3.2 LEVEL 1

**Pages at this level**

- Information for new users
- Projects
If the user does not have an account at the project portal, she will be linked to a page with information for new users, where she will get information of how to retrieve a user account and a password.

If the user does have an account, she will be referred to the Projects page, where she will find a list of all projects that she is a member of. Under each project the latest activity is shown. If it is a file upload that file could be downloaded straight from the Projects page. This functionality makes the portal more efficient, since the user does not even have to go into the specific project page in order to reach the most recent information.

**13.3.3 LEVEL 2**

<table>
<thead>
<tr>
<th>Pages at this level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help</td>
</tr>
<tr>
<td>Order</td>
</tr>
<tr>
<td>Internal company information</td>
</tr>
<tr>
<td>Users</td>
</tr>
<tr>
<td>New project</td>
</tr>
<tr>
<td>Project overview</td>
</tr>
</tbody>
</table>

All pages at level 2 are reached from the Projects page. This is the first instance where they are linked to, but most of them can thereafter also be reached from all other pages of the portal.

- The Order page is not suggested to be implemented in the first stage, but is included in this site map to show where it is supposed to be placed at the stage of implementation. The same goes for the page of Internal company information.

- The Users page provides a list of all people that use the project portal, i.e. everybody that has a portal account, both those who are involved in the same projects as the current user and those who use the portal in other projects. It is desirable that this list is adjusted according to different access levels in order to hide certain user details from people that are not involved in the same projects.

- At the New project page, a new project can be created. The person who creates the project chooses which project information that should be
included and also invites new project participants. The creator automatically becomes the project manager.

- Finally, the Project overview is accessed at level 2. This is the main page, where the user will get an instant overview of the chosen project. The overview shows the four main areas of the production, i.e. project details, schedule file system and information forum. At this level the most recent information or the most commonly accessed information of all four areas could be accessed. If the user wants to see more detailed information about one of the four areas she needs to click the desired area which will take her to the specific page at level 3.

13.3.4 LEVEL 3

<table>
<thead>
<tr>
<th>Pages at this level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Popup: Delete project?</td>
</tr>
<tr>
<td>Project added</td>
</tr>
<tr>
<td>Popup: Delete user?</td>
</tr>
<tr>
<td>Add user</td>
</tr>
<tr>
<td>Edit user</td>
</tr>
<tr>
<td>Project details</td>
</tr>
<tr>
<td>Schedule</td>
</tr>
<tr>
<td>File system</td>
</tr>
<tr>
<td>Information forum</td>
</tr>
<tr>
<td>Invite participants</td>
</tr>
<tr>
<td>Remove participants</td>
</tr>
</tbody>
</table>

- The popup Delete project? is shown when the user has clicked the delete project button at the project overview.

- Project added is a confirmation page that is shown when the user has clicked the save changes button at the New project page.

- The popup Delete user? is shown when the user has clicked the delete user button at the Users page.

- At the Add user page, which is reached from the Users page, it is possible to add users. Note that this adds a user to the portal as a whole. To add the user to a certain project, she or he needs to be invited to that project.
This could either be done directly from the *Add user* page or at a later stage on the *Invite participants* page.

- User information can be edited on the *Edit user* page, which is also accessed from the *Users* page.
- One of the main areas of the *Project overview* page is project details. The *Project details* page shows all information that the project manager has added.
- On the *Schedule* page, a scheme of activities is shown. Here it is possible to see the status of different activities, start and end dates, and who is the responsible person.
- On the *File system* page a system of files and folders is shown. Under each folder there is a list of downloadable files with accompanying thumbnails and file information.
- The *Information forum* works like a common discussion forum or guest book. In this space, the project manager or any other project participant could share important information about the project.
- The *Invite participants* page is also reached from the *Project overview*. Here it is possible to chose among all portal users and to invite those who should participate in this specific project.
- It is also possible to remove participants. This is done on the *Remove participants* page that is accessed from the *Project overview* page. The removal only concerns this specific project. The user will still exist as a portal user.
13.3.5 LEVEL 4

<table>
<thead>
<tr>
<th>Pages at this level</th>
</tr>
</thead>
<tbody>
<tr>
<td>User deleted</td>
</tr>
<tr>
<td>User changes saved</td>
</tr>
<tr>
<td>User added</td>
</tr>
<tr>
<td>Project deleted</td>
</tr>
<tr>
<td>Edit project details</td>
</tr>
<tr>
<td>Add activity</td>
</tr>
<tr>
<td>Edit activity</td>
</tr>
<tr>
<td>Download files</td>
</tr>
<tr>
<td><strong>Popup: Delete files?</strong></td>
</tr>
<tr>
<td>Edit file</td>
</tr>
<tr>
<td>Move file</td>
</tr>
<tr>
<td>Add file</td>
</tr>
<tr>
<td>Add folder</td>
</tr>
<tr>
<td><strong>Popup: Remove participants?</strong></td>
</tr>
<tr>
<td><strong>Popup: Cancel invitation?</strong></td>
</tr>
<tr>
<td>Participants invited</td>
</tr>
</tbody>
</table>

- After clicking yes in the *Delete user?* popup, a confirmation is shown on the *User deleted* page.
- After clicking *save changes* on the *Edit user* page, a confirmation is shown on the *User changes saved* page.
- After clicking *save changes* on the *Add user* page, a confirmation is shown on the *User added* page.
- After clicking yes in the *Delete project?* popup, a confirmation is shown on the *Project deleted* page.
- On the *Edit project details* page, that is accessed from the *Project details* page, it is possible to edit the project details in the same way that these details are edited when the project is created.
- The *Add activity* page is reached from the *Schedule* page. On this page the user is allowed to add a project activity and all its adherent information.
- The activity information could also be edited on the *Edit activity* page, which is also reached from the *Schedule* page.
• It is possible to download files that are listed on the *File system* page. On the *Download files* page all selected files are added to a zip file and can be downloaded to the local computer.

• If the user clicks the *delete files* button on the *File system* page, the popup *Delete files?* appears.

• On the *Edit file* page, which is accessed from the *File system* page, file information can be edited.

• On the *Move file* page, which is accessed from the *File system* page, files can be moved between folders.

• Files can be uploaded to the file system on the *Add file* page, which is reached from the *File system* page.

• It is also possible to add folders on the *Add folder* page, which is linked to from the *File system* page.

• If the user clicks the *Remove selected* button on the *Remove participants* page, the popup *Remove participants?* appears.

• If the user clicks *cancel invitation* on the *Invite participants* page, the popup *Cancel invitation?* appears.

• If she clicks *send invitation* on that page the *Participants invited* confirmation page is shown.

### 13.3.6 LEVEL 5

<table>
<thead>
<tr>
<th>Pages at this level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitation cancelled</td>
</tr>
<tr>
<td>Participants removed</td>
</tr>
<tr>
<td>Project details updated</td>
</tr>
<tr>
<td>File changes saved</td>
</tr>
<tr>
<td>File moved</td>
</tr>
<tr>
<td>File added</td>
</tr>
<tr>
<td>Folder added</td>
</tr>
</tbody>
</table>

All pages at this level are confirmations of actions that are made in the previous levels.
• The Invitation cancelled page is shown after the user clicks yes in the Cancel invitation? popup.

• The Participants removed page is shown after the user clicks yes in the Remove participants? popup.

• The Project details updated page is shown after the user clicks Save changes on the Edit project details page.

• The File changes saved page is shown after the user clicks Save on the Edit file page.

• The File moved page is shown after the user clicks Save on the Move file page.

• The File added page is shown after the user clicks Save on the Add file page.

• The Folder added page is shown after the user clicks Save on the Add folder page.

13.4 Chapter summary

The issues of learnability, efficiency, effectiveness, flexibility, satisfaction and attitude have been considered in the design of the project portal user interface. The site map shows that the portal is rather shallow. It is clearly divided into four parts, namely file sharing, planning, project information and communication. This design is primarily made to meet the usability requirements of learnability, efficiency and effectiveness. To further improve the usability, particularly the aspects of flexibility, satisfaction and attitude it is required that the graphic user interface design and the technical system architecture is well thought through. In order to function satisfactory it is desirable to gain a seamless system such that all pages of the portal seem unitary and that the user does not notice the underlying technology.

The most urgent functionality requirements need to be implemented first, but later on also the requirements that are labeled as desirable and additional should be implemented in order to intensify the usability of the project portal.
14 TECHNICAL REQUIREMENTS

This thesis is focusing on usability and functionality, but still it is necessary to bring up a couple of technical solutions in more detail. In this chapter, different types of network protocols for file transfer are discussed. Also, a solution to the authorization problem is presented. Finally, the technical requirements of The Chimney Pot is included.

14.1 Network data transfer

One of the main issues when it comes to the technology of the project portal is network data transfer. This is of special interest in the film production industry, since the media files that have to be transferred during a production are very large and requires a fast and stable connection. There are commercial systems that are tailor-made for film production. These have a large capacity, but are platform dependent, expensive to use or require specific clients to be installed by the user.

Two of the most commonly used non-commercial protocols for transferring data over a network are the File Transfer Protocol, FTP and the Hypertext Transfer Protocol, HTTP/1.1. These are both application layer protocols that run on top of the Transmission Control Protocol, TCP. FTP was designed for sharing files and for transferring data efficiently between remote computers, and the basic functionality of HTTP is to handle hypermedia and to transfer data over the internet.

There is a relatively new extension to HTTP/1.1 called WebDAV, which stands for Web Distributed Authoring and Versioning. WebDAV allows HTTP to be used for secure and efficient file transfers and file management, because of the added functionality for managing remote web content.

In this paragraph, FTP, HTTP/1.1 and WebDAV are discussed in order to find out which protocol that best suits the project portal.

14.1.1 FTP

Except e-mail, FTP is probably the most common way of sending and receiving files over the internet at The Chimney Pot today. The File Transfer Protocol uses two parallel connections for transferring data; one control connection for passing commands and replies between client and server, and one data connection for the actual data transfer between the two hosts. The control connection needs to be open as long as data is being transferred. In general, the client initiates both the establishment and the closing of the connection by sending a request to the server, which implements the requested action.

A problem of FTP, as described in RFC 959, is its insufficient security. FTP does not encode passwords but sends them in clear text over the network, which implies that it is possible for an unauthorized person, by monitoring the network, to steal and use the password. Another security risk is caused by the fact that FTP does not handle encryption or authenticity verification of commands, replies or transferred data. These problems could be solved by using manually distributed encryption keys to encrypt files before they are transferred; however this is not a very efficient method. Optional extensions to FTP are defined in RFC 2228 for strong authentication, integrity and confidentiality of the information passed between client and server. The use of these operations increases security, but they are not required by the protocol, and an arbitrary FTP connection is therefore not guaranteed to be secure.41

FTP is the protocol that normally has been used at The Chimney Pot for transferring large files, but the staff is complaining about slow transfers and the high security risk implied by the fact that customers can view each other’s material on the FTP server. Another issue that has been brought up is the inconvenience of having to use an additional application in order to send files. Not only is it annoying, it implies that all users need to learn how to use the application, which is mostly not intuitive.

14.1.2 HTTP/1.1

Unlike FTP, HTTP uses only one connection channel between the server and the client for transmitting requests and responses. The client sends a request
including necessary information to the server, which in turn responds by sending the requested data. Several requests and responses can be sent on the same connection simultaneously by using pipelining, which implies faster transmissions. HTTP/1.1 uses persistent connections; instead of establishing a new connection each time a client sends a request to the server, like the former versions do. This enables the feature of pipelining and reduces network traffic induced by multiple TCP connections being opened.

The earlier versions of HTTP have the same security problem as FTP, i.e. that when authentication is needed, the user name and password are sent in clear text over the network. However, in relation to HTTP/1.1 a new type of authentication scheme, Digest Access Authentication, was introduced. It is described in RFC 2617 and makes it possible to send this information in an encrypted format.  

14.1.3 WEBDAV  

WebDAV is extending the HTTP/1.1 protocol by adding functionality. Most importantly WebDAV includes functions of handling multiple users and versions of the same document in a distributed way, which is a desirable functionality in the web portal.

WebDAV is an acronym for WWW Distributed Authoring and Versioning and it is a standard developed to expand HTTP with the possibility to collaboratively compose and update files on remote web servers. WebDAV is based on XML and is supported by among others Microsoft Office 2000, Microsoft SharePoint Portal Server, Photoshop 6, GoLive 5, Microsoft Internet Explorer 5, MacOS X, Apache, Microsoft Internet Information Server 5 and Jigsaw, including web sites offering storing, Sharemation for example.

The security aspects of HTTP/1.1 and WebDAV make these protocols advantageous to FTP. Moreover, it would be a great benefit to film production projects if versioning control could be handled by a protocol like WebDAV.

14.2 Authorization technology  

Many of the interviewees mentioned that the collaboration tool needs to be easy to use. A problem with security is that it requires authentication, i.e. the
user needs to have login details. If there are many applications on the server the user needs to have login details for all of them. This problem can be solved by using LDAP, Lightweight Directory Access Protocol.

14.2.1 LDAP 46

The Lightweight Directory Access Protocol, as described in RFC 3377, builds upon the X.500 protocol, which is also a directory access protocol. This protocol is used to find information about, for example, a person or a company that is stored in a directory. LDAP provides a model for clients to perform different operations in a directory on a server over a TCP connection. The objective of LDAP is to decrease the complexity for the user. By letting applications access the directory through LDAP, the user only needs to communicate with the LDAP server, which in turn communicates with other applications. The information in the directory on the LDAP server is arranged in a tree structure with globally unique entries, so called distinguished names (DNs).

In the project portal, LDAP would be a good way of storing user data, for example login details and access rights to different applications. The user would only need to remember her or his password for the LDAP server. The LDAP server would in turn pass relevant information and authentication details to the applications that are needed in the operations that the user wants to perform.

14.3 Considerations at The Chimney Pot

The Chimney Pot will not be able to invest in new technology and it is therefore required that the project portal is developed to suit the technical architecture that exists at The Chimney Pot today.

14.3.1 TECHNICAL CAPACITY

The web server that is used today operates on a machine that is called HP Proliant DL320G3. It is a Pentium 4 with a capacity of 2.8GHz, 1GB memory and 120GB disk space. The web server OS is FreeBSD.

The Chimney Pot has a gigabit Ethernet connection to the other companies in the same building. The internet capacity is 20 megabit.

46 RFC 3377
47 RFC 1308
14.3.2 DATABASE TECHNOLOGY
The Chimney Pot uses MySQL or PostgreSQL as database management systems. The database connection language is SQL.

14.3.3 WEB SERVER TECHNOLOGY
Apache is the application server that is used and server generated pages are generated using PHP. The technical staff at The Chimney Pot can also see Java as a possible alternative for server generated pages.

14.3.4 OTHER REQUIREMENTS
The Chimney Pot agrees that LDAP is a suitable authentication module, and they require a security level of at least 128 bits SSL. File transfer should be done by using HTTP and WebDAV for transferring small and few files, whereas FTP should be an alternative when large or many files need to be transferred. The system administrator of The Chimney Pot believes that 10 simultaneous users is a suitable capacity requirement for the project portal.

Finally, it is important that it runs smoothly on the machines that are used at The Chimney Pot. It must work well on the average machine, which is an iBook with OSX 10.2 or 10.3. It must also be developed for the most common web browsers at the company, which are Safari and Internet Explorer.

14.4 Chapter summary
One of the most difficult problems to solve in the development of the project portals technological architecture will be to find a suitable way of transferring many large files in a secure manner between the different participants of a production project. There are already commercial solutions, but they are often expensive and platform dependent. The suggested solution here is to use a combination of WebDAV and FTP. WebDAV could be used for version control and small transfers, but FTP is still the fastest protocol for transferring large or many files.

The present technical architecture at The Chimney Pot that was presented in this chapter puts some restrictions on the development of the project portal. The technical development team should make sure that they create a solution that works well with the existing technology, but still lives up to the needs of the users as well as possible.
Recapitulating from chapter 6, Ashley Friedlein defines four phases of a web management project; that is preproduction, production, maintenance and evaluation.\textsuperscript{48} This thesis project has focused on the preproduction phase, which is in turn divided into project clarification, solution definition and project specification. The first of these subphases implies getting to know technical, commercial and user requirements as well as the objective of the project. In the solution definition phase a plan and strategy for the further development is specified and in the last subphase a site map, functional and technical specification is developed.\textsuperscript{49} Friedlein’s method is designed for a full-scale commercial project and is thus not directly applicable to a relatively small academic thesis project like this one. Therefore, some of the recommended preproduction steps, such as creating a budget and setting up a development team, have deliberately not been addressed here.

However, if The Chimney Pot decides to implement this proposed project portal, such commercial considerations must be done. It is necessary to specify how the further development should be conducted, i.e. who should do it, when it should be finished, how much it should cost, how it will be financed and what deliverables that are expected.

From a development point of view, what is left to be done before the coding starts is to design a graphic user interface and make a detailed specification of the technical architecture. Next, the portal should be implemented in code and tested before it is ready to be launched. When it has been launched it is very important that the new users are provided with user support and that the technical maintenance works well. The first period is particularly sensitive to problems, since this is the time when new users get their first impressions of working together on the web. Gradually the functionality that is specified under desirable and additional requirements should be added to the portal. It is also very important to continuously

\textsuperscript{48} Friedlein, Ashley, p. 43.
\textsuperscript{49} \textit{ibid.}, p. 55-137.
evaluate it and make improvements to it in order to make it more suitable to the users’ needs.

One aspect that needs to be emphasized is the aspect of marketing the project portal. People that are working in the film production industry are creative, artistic and sensitive to trends. They will not be satisfied with a service that functions acceptably, but they will want it to be enjoyable, aesthetically appealing and to feel “new and fresh”. The way it is introduced to the users is therefore important for it to be as successful as possible.
16 CONCLUSIONS

We believe it is important to have a user perspective rather than a technology perspective. There is a risk in having a functionality approach and being eager to try out new technologies without looking to the needs and requirements of the users. Our goal has been to find out what users want and need, and propose the best functional and technical solution based on that. Even if the main focus has been user requirements, it is also important to look at more advanced technology and discuss how that could be implemented and in which way it could be useful in online production at a second stage.

The survey that was made in this project showed that it is important to simplify the flow of information that exists between the different actors in the production and post production chain. It is also very important that the project portal, which will be implemented as a solution to this, is reliable and secure. Since many of the potential portal users do not have advanced technology skills it must be intuitive and pleasant to use. It is desirable that it appeals both to the more creative people and to the more technically oriented people in the industry.

In a busy environment like the film production environment it is difficult to get a massive response in a survey, therefore the results that were retrieved here could not be statistically determined. Still, the user interface that is suggested in this report is rather intuitive and it seems like a sound solution that would suit a wide range of people and needs.

It is recommended that the user perspective is kept in the further development of the project portal, even if technical circumstances may impose restrictions on the usability. Testing and evaluation is crucial in order to assess and improve the functionality of the portal. It is also important to use a suitable marketing strategy and approach towards the clients and partners, not least because people in the film production industry in general are very busy and need to instantly understand what the portal can do for them in order to save time and money.

This report can function as help for those who will continue developing the project portal. It can be used as a whole by somebody who is not familiar
with film production at all. For a person that has a better knowledge about the industry, it may be sufficient to only look at a few chapters, for example the programmer should look at the functionality requirements, the technical architect should have a look at the technical aspects and architecture and the graphic designer can benefit from the user specification and the user interface design at large.
17 REFERENCES

17.1 Literature


17.2 Articles


17.3 Documents and reports

E-Cinema Content: A report from an international seminar at the Film House, Stockholm, 5 December 2001.


Eriksson, Sundström and Thelander, 2004. The Virtual Film Crew project – work in progress on film making using online communities, computer mediated communication and collaborative VR.

Nelson, Jonas and Nyström, Daniel. Filmscanning.

17.4 Master Theses


17.5 Electronic sources


**17.6 Requests for comments**


RFC 1308 (X.500).

RFC 2228 (Optional extensions to FTP), October 1997.

RFC 2518 (WebDAV), February 1999.

RFC 2616 (HTTP/1.1), June 1999.

RFC 2617 (Digest Access Authentication), February 1999.

RFC 3377 (LDAP), September 2002.
17.7 Oral sources

Aldegren, Niklas, system administrator at The Chimney Pot. Continuous discussions during the autumn of 2003 and the spring of 2004.

Bender, Mark, guest teacher in statistics at Linköping University. 4 May 2004.

Björk, Viktor, CEO at Ashton. 28 October 2003.


Ewert, Anneli, post production producer at The Chimney Pot. 29 October 2003.

Flodell, Mikael, producer at Flodell Film. 30 September 2003.

Grafström, Johan, account director at Dallas. 23 October 2003.

Hansson, Joakim, producer at Sonet Film. 17 September 2003.

Jerrstedt, Pontus, producer at Raw Film. 16 September 2003.

Kindgren, Henrik, freelance director. 28 September 2003.

Larsson, Henric, CEO at The Chimney Pot. Continuous discussions during the autumn of 2003 and the spring of 2004.

Nordin, Maria, former producer at Kalmargruppen. 22 October 2003.

Näsman, Per. Professor at the Center for Safety Research, Royal Institute of Technology. 24 September 2003.

Sundqvist, Marcus, film producer at Leo Burnett. 6 November 2003.

Svensson, Dan, freelance producer at Flodell Film. 30 September 2003.

Wall, Jean-Paul, music composer and producer at Mic Studio. 6 October 2003.

Wessblad, Karl, former CEO at The Chimney Pot. 9 September 2003.

Åström, Mikael, sales manager at Filmteknik. 14 October 2003.
We are in the process of developing a system for web based information exchange for people in the media production industry. Our aim is to make film production more efficient.

- What does your company do?
- Who work there? What professions do your employees have?
- How big is your company (number of employees)?
- What kind of companies do you work and communicate with?
- Do you have foreign clients or partners?
- How do you work with your clients and partners? How does information flow to and from you today?
- Are the people that you need to reach connected to the internet?
- How long does one of your average projects last?
- How many projects are you working on simultaneously on average?
- Can you mention a few common problems that you have noticed in today’s project management?
- Are you using any project management program today? Which one?
- What works well with that program? How would you like to improve it?
- Who at your company use this program?
- Do you use an intranet in your company? How does that work?
- What functions would you like to see in a portal of the kind that we have described?
• How would you like to work with documents in such a portal? Would you like to use document templates (that you or somebody else has designed) or design each document separately?
• How would you like to work with archives of digital tapes or masters?
• What types of formats do you use and get in contact with?
• What operative system do you use?
• Which web browser do you normally use?
• Do you use or have you used ftp?
• Do you have any partners or clients that you think we should contact?
• Can we come back later on with further interviews and questionnaire surveys?
Enkät angående informationsutbyte inom mediaproduktion

Hej!

Detta är en enkät som kommer att användas som underlag vid utvecklingen av en webbaserad tjänst för att samordna och arbeta med projekt inom mediaproduktion.


Motivet till undersökningen är att dagens metoder för projektsamordning ofta är ostrukterade, svåra att använda och erbjuder dålig säkerhet. Till exempel upplever många att det är krävligt att använda FTP för att hämta och skicka filer och många oroar sig för att obehöriga ska kunna titta på deras material när det ligger på FTP-servern. Därför ser The Chimney Pot ett behov av att utveckla en ny tjänst som både är säker, smidig att använda och som samlar all information på ett ställe.

Enkäten tar ungefär 15 minuter att besvara. De flesta frågor har färdiga svaralternativ, men det finns även möjlighet för dig att ge utförligare kommentarer och synpunkter på varje del. Vi hoppas att du har möjlighet att fylla i enkäten och därmed bidra till att den här tjänsten blir så bra som möjligt!
Dina svar kommer att ge oss en bild av hur du helst vill arbeta. Under förutsättning att de inte utgör något hinder för säkerhet och användarvänlighet kommer dina önskemål att ligga till grund för hur tjänsten utformas.

Tack för hjälpen!
Elinor Thelander och Sofia Sundström

Telefon: 0707-41 71 97 (Elinor), 0709-79 88 30 (Sofia)
E-mail: survey@chimney.se

I och med att du anger ditt namn i denna enkät samtickey du också, enligt personuppgiftslagen, till att vi under den begränsade period som studien kommer att göras får bearbeta uppgifterna elektroniskt. Dina uppgifter kommer att bearbetas anonymt. Anledningen till att vi vill ha ditt namn är för att ha möjlighet att kontakta dig för eventuella följdfrågor. Namnet kommer inte att användas på annat sätt i studien.

---

**Om dig och ditt arbete**

Här vill vi veta vem du är, vad du jobbar med och vilka kommunikationsmedel du använder dig av i ditt arbete.

**1. Namn**

*Nr.* *Svar*

1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
1 XXXX
2 XXXX
2. Kön
Kvinna 37.5% (9)
Man 62.5% (15)
TOTALT 100.0% 24

3. Ålder
Nr. Står
1 25
1 28
2 30
4 32
1 34
2 35
1 36
1 37
2 38
2 40
2 42
1 47
1 48
1 53
1 58

4. Titel/huvudsaklig arbetsuppgift
Nr. Står
1 account executive
1 Art Director
1 Byråproducent
1 Efterbearbetningsproducent
1 film producent
2 filmproducent
1 filmregissör & filmproducent
1 Kompositör
1 Manager
2 post producent
1 Postproduktionskoordinator/Klippare
6 producent
1 Producent/prodledare
1 Producent/regissör
1 produktionsledare
1 Produktionsledare-reklamfilm
1 Projektleader

5. Företagsnamn
*Nr. Svar*
1 anonym
1 Balken AB
1 Breidablick Film AB
1 CO.FILM & CINE-QUA-NON
1 Dallas sthlm DDG
1 Filmkreatörerna
3 Flodellfilm
1 Freelance
1 Go Garbergs
1 greta film
1 hinden/länna-ateljéerna
1 Katarina Wiklund Efterproduktion
1 Mekano/Filmlance
1 Micstudio
1 Nostromo Sthlm AB
1 Ogilvy Advertising
1 omega film ab
1 Poppis Production Service
1 Rawfilm
1 Sonet
1 The Chimney Pot

6. Typ av företag
*Nr. Svar*
1 Breidablick Film AB
1 Design
1 Efterbearbetning av film & TV - Ljud/Musik
1 Erbjuder klippning och postproduktionskoordinering
1 Filmbolag
2 filmproduktion
1 Filmproduktionsbolag
1 filmproktionsbolag
1 post production
1 prod bolag
1 Prodiktionsbolag
5 Produktionsbolag
1 Produktionsledning av efterarbete för film och tyngre TV drama
1 Redigering av film & video
1 Reklam
2 reklambyrå
1 Service bolag (Producerar åt andra bolag/ uppdragsgivare )

7. Hur ofta kommunicerar ditt företag med utländska kunder/partners?
   Ofta
   Det förekommer
   Aldrig
   TOTALT

8. Rangordna följande alternativ för vilka verktyg du använder för kommunikation i ditt arbete. (Det du använder mest placeras som nummer 1)

   Genomsnitts rankning 1 2 3 4 5 6 7 8 9
   - E-mail
   - Telefon
   - Fax
   - Brev
   - Bud
   - Instant Messaging (ICQ, MSN, iChat, etc.)
   - Webbtjänst
   - FTP
   - Personlig kontakt

9. Övriga kommentarer om detta

   Nr. Svar
   1 Har ej jobbat med FTP
   1 Jag är väldigt intresserad av att ta del av vad ni kommer fram till..
   1 Personlig kontakt är väl i och för sig telefoni också.........
1 Telefon och email står för 80 % av all kontakt med kund
1 Urdålig på datorer och hur jag skulle kunna använda den i större utsträckning!
1 År dessvärre inte förtrogen med ftp, har aldrig kommit igång med chat, ingen har heller önskat en sådan kontaktbas.

**Om tjänsten för informationsutbyte**

Här vill vi veta vad du skulle vilja göra på projektportalen.

**Genomsnitts rankning 1 2 3 4 5**
Bjuda in berörda att delta i projektportalen (4.1)
Använda uppgifter från lokal adressbok (3.1)
Arbeta med manus (3.0)
Hantera offerter (3.1)

11. Markera hur gärna du vill kunna göra följande saker direkt i portalen.
(1 – inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)
**Genomsnitts rankning 1 2 3 4 5**
Ha tillgång till kontaktuppgifter för delaktiga (4.5)
Ha tillgång till uppgifter om ansvarsområden för delaktiga (4.3)
Arbeta med gemensam projektkalender för delaktiga (3.9)
Synca projektkalender med egen lokal kalender (3.8)
Boka/avboka möten i gemensam projektkalender (3.4)
Kommentera projektet i ett diskussionsforum (3.2)

12. Tidsplanering
Markera hur gärna du vill kunna göra följande saker direkt i portalen. (1 – inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)
Genomsnitts rankning 1 2 3 4 5
Ha tillgång till information om vem som gör vad (4.5)
Ha tillgång till information om när olika moment ska ske (4.6)
Ha tillgång till information om vilka delmoment som är slutförda (4.7)

13. Övriga kommentarer om detta

Nr. Stav
1 Det hela bör inte innehålla för mycket information, egentligen är det onödigt med information om vem som gör vad etc, huvudsaken är att det finns rätt information som rätt personer kan ta del av.
1 Kunna ha olika nivåer i tillgänglighet. Kunder ska ej kunna se interna eventuella problem osv. som kankännas negativt för kund. Producent ska ha rätt att planera och ändra, redigerare och övriga ska ha begränsad rätt att utföra vissa saker.
1 portalen borde kunna vara kopplad till mailen, så man får ett meddelande när saker uppdateras/förändras
1 Toppen om man kan utbyta faktainfo på detta sätt, då kan möten vara på en högre nivå med insatta deltagare.
1 Verkar bra med enklare kommunikation!
1 vet för lite om denna tjänst för att kunna överblicka hur man skulle vilja använda den

14. Förberedelser

Markera hur gärna du vill kunna göra följande saker direkt i portalen. (1 – inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)

Genomsnitts rankning 1 2 3 4 5
Boka/avboka inspelningssplats (1.9)
Boka/avboka frilansare (2.5)
Boka/avboka övriga medarbetare (2.3)
Boka/avboka ljudstudio (3.3)
Boka/avboka förredigerings (3.2)
Boka/avboka efterbearbetning (3.4)

15. Markera hur gärna du vill kunna göra följande saker direkt i portalen. (1 – inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)

Genomsnitts rankning 1 2 3 4 5
Kommentera/godkänna locationförslag (3.9)
Kommentera/godkänna casting (3.8)
Kommentera/godkänna storyboards (3.7)
16. Övriga kommentarer om detta

Nr. Svar
1 14 & 15 vänder sig nog mest till Reklamfilm och lämper sig nog inte riktigt för långfilm (som vi sysslar med) men kanske...
1 ej inblandad i den typen av arbete
1 Måsta sättas en begränsning hur tätt inpå ett godat datum som en kund själv kan avboka.
1 Ni ser säkert vad jag menar. För godkännandet av saker som tidplan, storyboard, casting och location funkar detta bra, men att ha ljudstudio, redigerings etc finner jag bara onödigt. Man kommer aldrig att få in alla dessa ställen under en portal och man arbetar med olika nästan varje gång. Det är så pass enkelt redan som det är idag.
1 nu använder jag inte mycket av tjänsterna i 14 o 15. arbetar som regel med ett eget nätverk. men tanken på att ha en sådat ställe för överenskommelser är stimulerande
1 Personlig kontakt är viktigare i dessa frågor är av stor betydelse.
1 Personlig kontakt är ändå bra i många sammanhang.
1 Självklart skulle man kunna skriva 5 på samtliga punkter men jag känner en viss tveksamhet till själa avbokningsbiten där en personal dialog ofta känns bäst. Många gånger vill man kanske diskutera alternativ.
1 vet för lite om denna tjänst för att kunna överblicka hur man skulle vilja använda den

17. Efterbearbetning

Markera hur gärna du vill kunna skicka/hämta följande saker direkt i portalen. (1 – inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)

Genomsnitts rankning 1 2 3 4 5

Klipplistor (EDL) (4.5)
Grafik (4.5)
3D (4.5)
Animationer (4.5)
Film (4.4)
Spottninglists (4.3)
Ljud (4.6)

18. Markera hur gärna du vill kunna ha tillgång till följande direkt i portalen. (1 – inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)

Genomsnitts rankning 1 2 3 4 5
19. Övriga kommentarer om detta

Nr. Svär
1 Bandarkiv är bra, likaså överföring av filer på ett smidigt sätt. Råmaterial och backup.............vet inte riktigt vad det skulle vara bra för. Backup har man i regel själv och råmaterial kommer det inte att finnas plats för........tro mig!
1 Det framgår inte av era frågor om ni är ute efter hur mycket vi använder har ett dagsaktuellt behov av... eller har lust på för framtida eventuella behov. i flera av fallen ovan, gäller lust för framtida behov.
1 Se punkt 13 ang olika personers rättigheter.
1 Säkerheten spelar mycket stor roll. Därför kanske det inte är så lämpligt att ha tillgång till färdiga produktioner i portalen.
1 vet för lite om denna tjänst för att kunna överblika hur man skulle vilja använda den

20. Godkännandeprocess

Markera hur gärna du vill kunna göra följande saker direkt i portalen. (1 – inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)

Genomsnitts rankning 1 2 3 4 5
Godkänna klippning (3.1)
Godkänna musik (3.3)
Godkänna ljudefekter (3.0)
Godkänna specialeffekter (2.9)
Godkänna visuella effekter (3.0)
Godkänna slutgiltig produktion (2.9)

21. Övriga kommentarer om detta

Nr. Svär
1 Det känns som man vill träffas vid första ok av klippningen!
1 Eftersom det är svårt att bedöma Ljud och bild på en dator anser jag att Kund /ansvarig måste också komma till " studion" för att få slutgiltig bedömmning ,det är viktigt att alla har rätt förutsättning att bedömma materialet samt att det är aldrig fel att mötas öga mot öga, men i vissa stadier är det ok att godkänna över Webben
1 Frågan är om det funkar att slutgiltigt godkänna tex en film medd effekter. Kommer i så fall bild och ljudkvalité vara tillräckligt bra??????
1 Godkännning sker in person
1 hellre personlig kontakt för att inga missförstånd skall uppstå
1 jag har inga problem att arbeta på nätet, men om man tar alla mina positiva
svar, så kan det se ut som en totalt kontaktlös arbetsprocess. jag ser förslagen
ovan som en komplettering och ytterligare möjlighet till de möten och
genomgångar som kreativt är avgörande för arbetet.
1 vet för lite om denna tjänst för att kunna överblicka hur man skulle vilja
använda den
1 Viktigt att kunder endast har rätt att se sitt eget projekt. Andras
projektmappar ska hels vara osynliga så att de inte ser projektnamn som
konkurrenter har.
1 Önska kan man ju alltid. Trod dock även här att det många gånger krävs en
personlig dialog kring div. godkännanden

22. Beställningar
Markera hur gärna du vill kunna göra följande saker direkt i portalen. (1
– inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)
Genomsnitts rankning 1 2 3 4 5
Beställa bud (3.6)
Beställa kopior (4.0)
Beställa master (3.9)

23. Övriga kommentarer om detta
Nr. Svar
1 Alltför enkelt med bara ett telefonsamtal, då har du dessutom bekräftelse
direkt. Portal för detta är bara onödig!
1 Jag kommer inte vilja involvera dessa stationer i portalen.
1 Måste finnas någon form av indikering att en beställning är gjord. Att en
person endast får ett email är inte tillräckligt. kanske ett SMS eller blinkande
note på skärmen mm.
1 vet för lite om denna tjänst för att kunna överblicka hur man skulle vilja
använda den

24. Internt – enbart tillgängligt inom egna företaget
Markera hur gärna du vill kunna göra följande saker direkt i portalen. (1
– inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)
Genomsnitts rankning 1 2 3 4 5
Se den planerade budgeten (3.8)
Arbeta med den planerade budgeten (3.8)
Se hur mycket produktionen har kostat det egna företaget hittills  (4.3)
Arbeta med företagets dokumentmallar      (3.9)
Söka i företagets arkiv                  (4.0)
Delta i ett intern diskussionsforum       (3.4)

25. Övriga kommentarer om detta

Nr. Svar
1 Alla på ett företag har ju inte tillgång till all information och det är mycket viktigt. Jag vet inte hur politiskt korrekt det är att vissa saker ligger synliga men inte tillgängliga för alla. Men ni har säkert en plan kring detta.
2 Allt detta gör vi redan, hur ska en portal kunna förenkla?? Måste nog förklaras.
3 Vet för lite om denna tjänst för att kunna överblicka hur man skulle vilja använda den

26. Mobilrelaterade tjänster
Markera hur gärna du vill kunna göra följande saker med hjälp av din mobiltelefon. (1 – inte alls, 5 – mycket gärna, blankt - vet ej/ingår ej)

Skicka:
Genomsnitts rankning 1 2 3 4 5
Bilder                  (2.9)
Filmsekvenser          (2.4)
Ljud                   (2.4)
Kommentarer            (3.0)

27. Hämta:
Genomsnitts rankning 1 2 3 4 5
Bilder                  (3.1)
Filmsekvenser          (2.7)
Ljud                   (2.4)
Kommentarer            (3.2)

1 16.7%                  (4)
2 4.2%                  (1)
29. Övriga kommentarer om detta

Nr. Svar
1 Fel kille att fråga om mobiler. Jag tycker inte att det är ett forum för information annat än att prata i. Ett litet SMS kan funka ibland också förstås.
1 Jag har inte uppdaterat min mobiltjänst...
1 Jag tycker att det skulle kunna vara kanon att göra allt detta på mobilen men mobilerna får allt se till att bli mycket bättre först.
1 Vet ej om det skulle funka.
1 Vet för lite om denna tjänst för att kunna överblicka hur man skulle vilja använda den
1 Än så länge använder jag min mobil till att ringa och eventuellt sms...

30. Övriga tjänster

Markera hur gärna du vill att det i portalen ska finnas tjänster för att: (1 = inte alls, 5 = mycket gärna, blankt - vet ej/ingår ej)

Genomsnitts rankning 1 2 3 4 5

Lägga upp en personlig presentation (2.7)
Chatta med andra som är delaktiga i projektet (3.1)
Skicka personliga meddelanden inom portalen (instant messaging) (3.0)
Skicka SMS (3.1)
Skicka personliga e-mail (3.3)
Göra grupputskick via e-mail (3.7)
Få bekräftelse på att det du skickat har kommit fram till mottagaren (4.3)
Få påminnelser om viktiga händelser (t.ex. möten eller deadlines) (3.9)
Hålla en videokonferens (3.5)
Generera automatiskt protokoll med hjälp av digital röstupptagning (2.6)
Sätta upp meddelanden på en anstalstavla (3.5)
Få nyhetsutskick (3.2)
Söka i referensbibliotek av mediatexter (3.8)
Konvertera filer till annat format (4.3)
Sköta versionshantering (4.1)

31. Övriga kommentarer om detta
**Nrz Svar**

1 svårt att svara på alla dessa frågor eftersom det är ett format som ännu ej är i funktion
1 det får man skräddarsy för varje projekt
1 Inte nödvändigt att kunna konvertera till all tänkbara format, bör kunna läsa många olika filformat
1 Personlig presentation?
1 vet för lite om denna tjänst för att kunna överblicka hur man skulle vilja använda den

**32. Känsliga funktioner**

Commentera om det är någon eller några av ovanstående funktioner som du inte anser att alla i projektet ska kunna ta del av

**Nrz Svar**

1 budget
1 Borde kunna gå att välja tillgänglighet.
1 Budget, offert och avtal!!!!!!! Samtidigt som all information i ett projekt måste behandlas konfidentiellt!
1 Budgetering
1 BUDGETETARBETE, OFFERTER
1 det får man skräddarsy för varje projekt
1 Det mesta bör kunna styras så bara ett urval av personer har tillgång till just den informationen.
1 Godkännande av slutlig klippning bör ej vara med.
1 Ingen av funktionerna ska alltid vara tillgänglig för alla.
1 Röstupptagning bra ibland typ PPM. Annars inte.
1 Sköta versionshantering Söka i referensbibliotek av mediafiler
1 vet för lite om denna tjänst för att kunna överblicka hur man skulle vilja använda den

**Tekniska detaljer**

Här vill vi veta vilken typ av operativsystem och webbläsare du använder.

**33. Mitt operativsystem på jobbet är**

<table>
<thead>
<tr>
<th>Operativsystem</th>
<th>Användare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mac</td>
<td>66.7%</td>
</tr>
<tr>
<td>Windows</td>
<td>25.0%</td>
</tr>
<tr>
<td>Linux</td>
<td>0%</td>
</tr>
<tr>
<td>Annet</td>
<td>0%</td>
</tr>
<tr>
<td>Vet ej</td>
<td>0%</td>
</tr>
</tbody>
</table>
34. Min webbläsare på jobbet är

<table>
<thead>
<tr>
<th>Browser</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Explorer</td>
<td>70.8%</td>
<td>17</td>
</tr>
<tr>
<td>Netscape</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Safari</td>
<td>20.8%</td>
<td>5</td>
</tr>
<tr>
<td>Mozilla</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Annan</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Vet ej</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

| TOTAL          | 91.7%      | 24    |

35. Vad har du för e-mail program hemma respektive på jobbet?

Nr. Svar

1 Apple Mail
1 chello hemma
3 entourage
1 entourage / mail
1 eudora
1 int explorer
1 internet explorer på båda
1 Lotus Notes
1 Mac mail nǻnting
1 macs mailprogram
1 Mail
1 mail+webmail
1 Microsoft outlook
1 notes
4 outlook
3 outlook express

36. Min uppkoppling på jobbet är

<table>
<thead>
<tr>
<th>Connection</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bredband</td>
<td>58.3%</td>
<td>14</td>
</tr>
<tr>
<td>ADSL</td>
<td>12.5%</td>
<td>3</td>
</tr>
<tr>
<td>Modem</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Ingen Uppkoppling</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Annan</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Vet ej</td>
<td>16.7%</td>
<td>4</td>
</tr>
</tbody>
</table>

| TOTAL          | 87.5%      | 24    |
37. Jag arbetar ibland hemma (om nej, gå till fråga 41)
Ja 75.0% (18)
Nej 20.8% (5)
TOTALT 95.8% 24

38. Mitt operativsystem hemma är
Mac 41.7% (10)
PC 33.3% (8)
Linux (0)
Annan (0)
Vet ej (0)
TOTALT 75.0% 24

39. Min webbläsare hemma är
Internet Explorer 54.2% (13)
Netscape (0)
Safari 16.7% (4)
Mozilla (0)
Annan 4.2% (1)
Vet ej (0)
TOTALT 75.0% 24

40. Min uppkoppling hemma är
Bredband 45.8% (11)
ADSL 20.8% (5)
Modem 4.2% (1)
Ingen Uppkoppling (0)
Annan (0)
Vet ej (0)
TOTALT 70.8% 24

41. Övriga kommentarer om detta
Nr. Står
1 Nja...
1 Surfar via mobiln ofta GPRS
1 telia fungerar inte så bra
42. Kryssa i vilka format du arbetar/kommer i kontakt med i dina projekt

<table>
<thead>
<tr>
<th>Format</th>
<th>Antal</th>
<th>Antalstr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOC (Microsoft Word Dokument)</td>
<td>91.7%</td>
<td>(22)</td>
</tr>
<tr>
<td>RTF (Text)</td>
<td>45.8%</td>
<td>(11)</td>
</tr>
<tr>
<td>TXT (Text)</td>
<td>58.3%</td>
<td>(14)</td>
</tr>
<tr>
<td>PDF (Adobe Acrobat Dokument)</td>
<td>91.7%</td>
<td>(22)</td>
</tr>
<tr>
<td>XLS (Microsoft Excel Arbetsblad)</td>
<td>83.3%</td>
<td>(20)</td>
</tr>
<tr>
<td>WAV (Ljud: Waveform Audio)</td>
<td>41.7%</td>
<td>(10)</td>
</tr>
<tr>
<td>MP3 (Ljud: MPEG Audio Stream, Layer III)</td>
<td>75.0%</td>
<td>(18)</td>
</tr>
<tr>
<td>AIF (Ljud: Audio Interchange File)</td>
<td>50.0%</td>
<td>(12)</td>
</tr>
<tr>
<td>RAM (Ljud: RealNetworks RealMedia Metafile)</td>
<td>25.0%</td>
<td>(6)</td>
</tr>
<tr>
<td>TIF (Högupplöst bild/grafik: Tagged Image Format File)</td>
<td>79.2%</td>
<td>(19)</td>
</tr>
<tr>
<td>EPS (Högupplöst bild/grafik: Encapsulated PostScript)</td>
<td>75.0%</td>
<td>(18)</td>
</tr>
<tr>
<td>JPG (Komprimerad bild/grafik)</td>
<td>95.8%</td>
<td>(23)</td>
</tr>
<tr>
<td>GIF (Komprimerad bild/grafik: Graphic Interchange Format)</td>
<td>62.5%</td>
<td>(15)</td>
</tr>
<tr>
<td>BMP (Bild/grafik: Bitmap)</td>
<td>12.5%</td>
<td>(3)</td>
</tr>
<tr>
<td>PSD (Bild/grafik: Adobe Photoshop Dokument)</td>
<td>50.0%</td>
<td>(12)</td>
</tr>
<tr>
<td>AI (Bild/grafik: Adobe Illustrator Dokument)</td>
<td>33.3%</td>
<td>(8)</td>
</tr>
<tr>
<td>MOV (Video)</td>
<td>66.7%</td>
<td>(16)</td>
</tr>
<tr>
<td>AVI (Video: Audio Video Interleave File)</td>
<td>29.2%</td>
<td>(7)</td>
</tr>
<tr>
<td>MPEG (Video)</td>
<td>79.2%</td>
<td>(19)</td>
</tr>
<tr>
<td>EDL (Klipplista: Edit Decision List)</td>
<td>75.0%</td>
<td>(18)</td>
</tr>
</tbody>
</table>

43. Om du har några övriga kommentarer om webbportalen i sin helhet eller om enkäten, skriv dem här!

Nr. Står
1 inte nu
1 Kanske lite av allt egentligen.
1 mera funktioner som amn kan sätta på och stänga av vore bra. man vill ju inte alltid att alla i projektet ska ha samma funktioner.
1 ring gärna
1 Som sagt vet för lite om detta - har ingen erfarenhet
1 Viktigt att det enkelt går att skapa hirarkier i vem som får göra vad. Väldigt känsligt för en del om konkurrenter får reda på viket jobb som man planerar för eller håller på med. En utomstående utanför det egna företaget som loggar in ska helst bara se sitt eget projekt i alla funktioner på portalen. Ex. vill en kund boka tid för efterbearbetning och önskad tid redan är bokad så ska ingen annan info förutom att tiden ej är tillgänglig visas.
## APPENDIX C – BEHAVIORAL PATTERNS

<table>
<thead>
<tr>
<th>Users mapped against behavioral patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>business oriented</strong></td>
</tr>
<tr>
<td>creatively oriented</td>
</tr>
<tr>
<td><strong>prioritize efficiency</strong></td>
</tr>
<tr>
<td><strong>prioritize relations</strong></td>
</tr>
<tr>
<td><strong>challenge, excitement, ambition</strong></td>
</tr>
<tr>
<td>have fun, earn one's living, happy as it is</td>
</tr>
<tr>
<td><strong>critic, thinker</strong></td>
</tr>
<tr>
<td><strong>&quot;do-er&quot;, &quot;yes-sayer&quot;</strong></td>
</tr>
<tr>
<td><strong>big responsibility</strong></td>
</tr>
<tr>
<td>(economy, personnel, production)</td>
</tr>
<tr>
<td>practical/administrative</td>
</tr>
<tr>
<td><strong>has thought along the lines</strong></td>
</tr>
<tr>
<td><strong>new to the idea</strong></td>
</tr>
<tr>
<td><strong>enjoy new, technology</strong></td>
</tr>
<tr>
<td>not interested in, technology</td>
</tr>
<tr>
<td><strong>globally</strong></td>
</tr>
<tr>
<td><strong>locally</strong></td>
</tr>
<tr>
<td><strong>mobile</strong></td>
</tr>
<tr>
<td>stationary (at the office)</td>
</tr>
<tr>
<td><strong>stable family life</strong></td>
</tr>
<tr>
<td><strong>unsettled</strong></td>
</tr>
<tr>
<td><strong>flexible working tasks and hours</strong></td>
</tr>
<tr>
<td>9-5 working days</td>
</tr>
<tr>
<td><strong>a lot of customer contact</strong></td>
</tr>
<tr>
<td><strong>no customer contact</strong></td>
</tr>
<tr>
<td><strong>self concious, wants to stand out</strong></td>
</tr>
<tr>
<td><strong>wants to belong</strong></td>
</tr>
<tr>
<td><strong>wide computer knowledge</strong></td>
</tr>
<tr>
<td><strong>narrow computer knowledge</strong></td>
</tr>
<tr>
<td><strong>month-year-long projects</strong></td>
</tr>
<tr>
<td><strong>onedia-project</strong></td>
</tr>
<tr>
<td><strong>the portal is a social forum</strong></td>
</tr>
<tr>
<td><strong>the portal is necessary for communication</strong></td>
</tr>
<tr>
<td><strong>like email</strong></td>
</tr>
<tr>
<td><strong>dislike email</strong></td>
</tr>
<tr>
<td><strong>the portal is an active project management tool</strong></td>
</tr>
<tr>
<td><strong>the portal is back-up for file and information</strong></td>
</tr>
</tbody>
</table>
21 APPENDIX D – SITE MAP OVERVIEW

Level 0  Level 01  Level 02  Level 03  Level 04  Level 05  Level 06

Login  New User info  Help  Delete User?  User deleted  User deleted
Projects  [Order]  Add User  User added  User added
  Internal company info  Edit User  User changes saved  User changes saved
  Users  New project  Project added  Project deleted
  Project overview  Delete project?  Project deleted
  
  Project deleted
  Schedule  Edit project details
  File system  Add Activity
  Forum  Edit Activity
  Invite participant  Download files
  
  Activity added
  Edit files  Delete files
  Move files  Delete files
  Add file  Edit files
  Add folder  Move files
  
  File changed
  Cancel invitation  File moved
  Remove participant  File moved
  
  Invitation cancelled
  Participant invited  File added
  Participant invited

Delete file?  File deleted
Level 0: Login

Field: Login
  Text field: E-mail
  Text field: Password
  • Button: Login → Level 1: Projects

Field: Forgotten password
  Text field: E-mail
  • Button: Send → Level 1: Information for new users
Level 1: Information for new users

Field:
Text: E-mail sent, login when you have received your password.
Level 1: Projects

Field(s): Project 1
- Text: Project manager
- Table: Last event
  - date
  - sender
  - event
  - attachment
- Button: Download → Popup: Open / Save as... / cancel
- Button: Go to project overview → Level 2: Project overview

- Button: New project → Level 2: New project
- Button: Projects → Level 1: Projects
- Button: Users → Level 2: Users
- Button: Logout → Level 0: Login
- Button: Help → Level 2: Help
- (Button: Order → Level 2: Order )
- (Button: Internal company activities → Level 2: Internal company activities )
Level 2: Help

Field(s): Help

• Button: Projects → Level 1: Projects
• Button: Users → Level 2: Users
• Button: Logout → Level 0: Login
• Button: Help → Level 2: Help
• (Button: Order → Level 2: Order)
• (Button: Internal company activities → Level 2: Internal company activities)
(Level 2: Order)

Field: Order copies

Field: Order master

- **Button: Projects** → Level 1: Projects
- **Button: Users** → Level 2: Users
- **Button: Logout** → Level 0: Login
- **Button: Help** → Level 2: Help
- **(Button: Order)** → Level 2: Order
- **(Button: Internal company activities)** → Level 2: Internal company activities
(Level 2: Internal company information)

Field: Search archive

Field: Project costs

Field: Document templates

• Button: Projects → Level 1: Projects
• Button: Users → Level 2: Users
• Button: Logout → Level 0: Login
• Button: Help → Level 2: Help
• (Button: Order → Level 2: Order )
• (Button: Internal company activities → Level 2: Internal company activities )
Level 2: Users

Table: Users
name
company
e-mail address
e.tc.
• Button: Edit user → Level 3: Edit user
• Button: Delete user → Popup: Delete user? → Level 4: User deleted, alt. Error message
• Button: Add user → Level 3: Add user

• Button: Projects → Level 1: Projects
• Button: Users → Level 2: Users
• Button: Logout → Level 0: Login
• Button: Help → Level 2: Help
• (Button: Order → Level 2: Order)
• (Button: Internal company activities → Level 2: Internal company activities)
Level 2: New project

Field: Project details
Table: Project details
Text field: Position on page
Text field: Label (e.g. Project name, customer, etc.)
Text field: Data
• Button: Add project detail → New empty table row

Table: Contact list
Text field: name
Text field: title / task
Text field: contact number etc.
Text field: New contact detail label
Text field: New contact detail data
• Button: Add contact detail → New empty table row

Text: “All empty fields will be deleted!”
• Button: Cancel → Changes cancelled
• Button: Save changes → Level 3: Project added alt. Error message

• Button: Projects → Level 1: Projects
• Button: Users → Level 2: Users
• Button: Logout → Level 0: Login
• Button: Help → Level 2: Help
  • (Button: Order → Level 2: Order )
  • (Button: Internal company activities → Level 2: Internal company activities )
Level 2: Project overview

Field: Project details
   Text: Customer
   Text: Production company
   Text: Advertising agency
   etc.
   • Button: Go to project details \(\rightarrow\) Level 3: Project details

Field: Schedule
   Table: Today’s activities
       activity
       responsible person
       status (e.g. Day 1 of 3 / delayed 2 days / etc.)
   • Button: Go to schedule \(\rightarrow\) Level 3: Schedule

Field: File system
   Table: Most recent file uploads (e.g. 3 most recent)
       date added
       sender
       filename
       file type
       file size
       description / comment
   • Button: Download \(\rightarrow\) Popup: Open / Save as… / Cancel
   • Button: Go to file system \(\rightarrow\) Level 3: File system

Field: Information forum
   Table: Information forum (e.g. 3 most recent)
       date
       sender
       information (e.g. “The advertising agency has new contact details!”)
   • Button: Go to information forum \(\rightarrow\) Level 3: Information forum

• Button: Projects \(\rightarrow\) Level 1: Projects
• Button: Users \(\rightarrow\) Level 2: Users
• Button: Logout \(\rightarrow\) Level 0: Login
• Button: Help \(\rightarrow\) Level 2: Help
  • (Button: Order \(\rightarrow\) Level 2: Order)
  • (Button: Internal company activities \(\rightarrow\) Level 2: Internal company activities)

• Button: Invite participant(s) \(\rightarrow\) Level 3: Invite participant(s)
• Button: Remove participant(s) \(\rightarrow\) Level 3: Remove participant(s)
• Button: Delete project \(\rightarrow\) Popup: Delete project? \(\rightarrow\) Project deleted
Level 3: Project added

Field: Confirmation
Text: “The project ‘…’ was successfully added!”

• Button: Projects → Level 1: Projects
• Button: Users → Level 2: Users
• Button: Logout → Level 0: Login
• Button: Help → Level 2: Help
• (Button: Order → Level 2: Order)
• (Button: Internal company activities → Level 2: Internal company activities)
Level 3: Add user

**Table: Add user**
- Text field: name
- Text field: company
- Text field: e-mail address
- etc.

Dropdown menu: Invite to project
Checkbox: Send invitation via e-mail?
Text area: Invitation message

- **Button: Cancel** → form cleared
- **Button: Save changes** → Level 4: User added, alt. Error message

- **Button: Projects** → Level 1: Projects
- **Button: Users** → Level 2: Users
- **Button: Logout** → Level 0: Login
- **Button: Help** → Level 2: Help
- *(Button: Order)* → Level 2: Order
- *(Button: Internal company activities)* → Level 2: Internal company activities
Level 3: Edit user

Table: Edit user
- Text field: name
- Text field: company
- Text field: e-mail address
- Text field: password
- Text field: new password
- Text field: confirm password
- etc.

• Button: Cancel \(\rightarrow\) changes cancelled
• Button: Save changes \(\rightarrow\) Level 4: User changes saved, alt. Error message

• Button: Projects \(\rightarrow\) Level 1: Projects
• Button: Users \(\rightarrow\) Level 2: Users
• Button: Logout \(\rightarrow\) Level 0: Login
• Button: Help \(\rightarrow\) Level 2: Help
• (Button: Order \(\rightarrow\) Level 2: Order)
• (Button: Internal company activities \(\rightarrow\) Level 2: Internal company activities)
Level 3: Project details

Field: Project details
- Text: Customer
- Text: Production company
- Text: Advertising agency
- Text: Laboratory
- Text: Scanner
- Text: Editing
- Text: Sound
- Text: Post production

Table: Contact list
- name
- title / task
- contact number
- etc.
- etc.

Button: Edit project details → Level 4: Edit project details

Field:
- Button: Project overview → Level 2: Project overview
- Button: File system → Level 3: File system
- Button: Schedule → Level 3: Schedule
- Button: Project details → Level 3: Project details
- Button: Information forum → Level 3: Information forum

- Button: Projects → Level 1: Projects
- Button: Users → Level 2: Users
- Button: Logout → Level 0: Login
- Button: Help → Level 2: Help
- (Button: Order → Level 2: Order )
- (Button: Internal company activities → Level 2: Internal company activities )
Level 3: Schedule

Java Applet / Flash (?): Scheme of activities (day / week / month view)

Clickable fields showing duration of specific activities,
  e.g. “editing”, “creating graphics” etc. in a calendar view

Table: Activities
  checkbox
  List of activity labels corresponding to fields in the scheme

Today’s date marked
End of project marked

• **Clickable field** ➔ Change in activity information field
• **Button: Add activity** ➔ Level 4: Add activity
• **Button: Edit activity** ➔ Level 4: Edit activity
• **Button: Delete marked activities** ➔ Popup: Are you sure? ➔ Activity deleted from scheme
  alt. Error message

Text: Activity information
  Text: Contact person
  Text: Comment
  Text: Deadline
  Text: Status (e.g. Day 2 of 3 / Late! 2 days / etc.)

• **Button: Projects** ➔ Level 1: Projects
• **Button: Users** ➔ Level 2: Users
• **Button: Logout** ➔ Level 0: Login
• **Button: Help** ➔ Level 2: Help
  «(Button: Order ➔ Level 2: Order )
  «(Button: Internal company activities ➔ Level 2: Internal company activities )

• **Button: Project overview** ➔ Level 2: Project overview
• **Button: File system** ➔ Level 3: File system
• **Button: Project details** ➔ Level 3: Project details
• **Button: Schedule** ➔ Level 3: Schedule
• **Button: Information forum** ➔ Level 3: Information forum
Level 3: File system

**Field(s): Folder 1**

<table>
<thead>
<tr>
<th>Table: Files in Folder 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>thumbnail</td>
</tr>
<tr>
<td>date added</td>
</tr>
<tr>
<td>sender</td>
</tr>
<tr>
<td>filename</td>
</tr>
<tr>
<td>file type</td>
</tr>
<tr>
<td>file size</td>
</tr>
<tr>
<td>description / comment</td>
</tr>
</tbody>
</table>

• Button: Download → Popup: Open / Save as… / Cancel checkbox

**Field:**

• Button: Download checked file(s) → Level 4: Download files
• Button: Delete checked file(s) / folder(s) → Popup: Delete?
  → Files deleted alt. Error message
• Button: Edit checked file → Level 4: Edit file
• Button: Move checked file(s) / folder(s)
  → Level 4: Move files and folders
• Button: Add file(s) → Level 4: Add files
• Button: Add folder → Level 4: Add folder

• Button: Projects → Level 1: Projects
• Button: Users → Level 2: Users
• Button: Logout → Level 0: Login
• Button: Help → Level 2: Help
• (Button: Order → Level 2: Order )
• (Button: Internal company activities → Level 2: Internal company activities )
## Level 3: Information forum

**Field: Information forum**

Table:
- date
- sender
- information (e.g. “The advertising agency has new contact details!”)

- **Button: Delete** → **Popup: Delete message?** → Message deleted from information forum alt. Error message

**Field:**
- Text field: Name
- Text area: Message

- **Button: Cancel** → Form cleared

- **Button: Submit message** → Message added to information forum alt. Error message

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- **Button: Projects** → **Level 1: Projects**
- **Button: Users** → **Level 2: Users**
- **Button: Logout** → **Level 0: Login**
- **Button: Help** → **Level 2: Help**

- **Button: Order** → **Level 2: Order**

- **Button: Internal company activities** → **Level 2: Internal company activities**

- **Button: Project overview** → **Level 2: Project overview**
- **Button: File system** → **Level 3: File system**
- **Button: Project details** → **Level 3: Project details**
- **Button: Schedule** → **Level 3: Information forum**

- **Button: Information forum** → **Level 3: Information forum**
Level 3: Invite participants

Field: Invite participants

Text: “A new participant needs to be a project portal user before she or he can be invited to a project.”

Dropdown menu: Name, Company (list of available project portal users)

- **Button: Add participant** ➔ Available data added to “User information” fields

Field: User information

Text: “Information edited in the following fields will only affect this specific project. To permanently edit user details, go to the ‘Users’ page.”

Text field: Title / task (data automatically received from database)

Text field: Contact number (data automatically received from database)

Checkbox: Send an invitation via e-mail

Text area: Invitation message

- **Button: Cancel** ➔ Text fields emptied

- **Button: Add** ➔ Information added to “Added participants”, text fields in “User information” emptied

Text: “To add another participant, choose a new user from the drop-down menu above.”

Field(s): Added participants

Text: Participant information

- **Button: Remove** ➔ Participant removed from “Added participants” field

Field: Confirm invitation

- **Button: Cancel invitation** ➔ Popup: This will cancel all invitations. ➔ Level 5: Invitation cancelled

- **Button: Send invitation** ➔ Level 4: Participants were invited to the project! Alt. Error message

- **Button: Projects** ➔ Level 1: Projects

- **Button: Users** ➔ Level 2: Users

- **Button: Logout** ➔ Level 0: Login

- **Button: Help** ➔ Level 2: Help

- **Button: Order** ➔ Level 2: Order

- **Button: Internal company activities** ➔ Level 2: Internal company activities

- **Button: Project overview** ➔ Level 2: Project overview

- **Button: File system** ➔ Level 3: File system

- **Button: Project details** ➔ Level 3: Project details

- **Button: Schedule** ➔ Level 3: Information forum

- **Button: Information forum** ➔ Level 3: Information forum
Level 3: Remove participants

Field: Remove participants
  Table: Participants
  checkbox
  participant
  • Button: Remove selected → Popup: Remove participants?
  → Level: 5 Participants removed from project alt. Error message

• Button: Project overview → Level 2: Project overview
• Button: File system → Level 3: File system
• Button: Project details → Level 3: Project details
• Button: Schedule → Level 3: Schedule
• Button: Information forum → Level 3: Information forum

• Button: Projects → Level 1: Projects
• Button: Users → Level 2: Users
• Button: Logout → Level 0: Login
• Button: Help → Level 2: Help
  • (Button: Order → Level 2: Order )
  • (Button: Internal company activities → Level 2: Internal company activities )
Level 4: User deleted

Field: Confirmation
  Text: “User ‘…’ was successfully deleted!”

- **Button: Projects** → Level 1: Projects
- **Button: Users** → Level 2: Users
- **Button: Logout** → Level 0: Login
- **Button: Help** → Level 2: Help
- (Button: Order) → Level 2: Order
- (Button: Internal company activities) → Level 2: Internal company activities
Level 4: User changes saved

Field: Confirmation
Text: “The user changes were successfully saved!”

• Button: Projects → Level 1: Projects
• Button: Users → Level 2: Users
• Button: Logout → Level 0: Login
• Button: Help → Level 2: Help
• (Button: Order → Level 2: Order )
• (Button: Internal company activities → Level 2: Internal company activities )
Level 4: User added

Field: Confirmation
Text: ‘The user ‘…’ was successfully added!’

- **Button: Projects** → Level 1: Projects
- **Button: Users** → Level 2: Users
- **Button: Logout** → Level 0: Login
- **Button: Help** → Level 2: Help
- **(Button: Order** → Level 2: Order )
- **(Button: Internal company activities** → Level 2: Internal company activities )
Level 4: Project deleted

Field: Confirmation
Text: “Project was successfully deleted!”

•Button: Project overview → Level 2: Project overview
•Button: File system → Level 3: File system
•Button: Project details → Level 3: Project details
•Button: Schedule → Level 3: Schedule
•Button: Information forum → Level 3: Information forum

•Button: Projects → Level 1: Projects
•Button: Users → Level 2: Users
•Button: Logout → Level 0: Login
•Button: Help → Level 2: Help
•(Button: Order → Level 2: Order )
•(Button: Internal company activities → Level 2: Internal company activities )
Level 4: Edit project details

Field: Project details
   Table: Project details
      Text field: Position on page
      Text field: Label (e.g. Project name, customer, etc.)
      Text field: Data
      • Button: Add project detail ➔ New empty table row

   Table: Contact list
      Text field: name
      Text field: title / task
      Text field: contact number
      etc.
      Text field: New contact detail label
      Text field: New contact detail data
      • Button: Add contact detail ➔ New empty table row

Text: “All empty fields will be deleted!”
• Button: Cancel ➔ Changes cancelled
• Button: Save changes ➔ Level 5: Project details are updated alt. Error message

• Button: Projects ➔ Level 1: Projects
• Button: Users ➔ Level 2: Users
• Button: Logout ➔ Level 0: Login
• Button: Help ➔ Level 2: Help
• (Button: Order ➔ Level 2: Order)
• (Button: Internal company activities ➔ Level 2: Internal company activities)
Level 4: Add activity

Java Applet / Flash (?): Add activity
  Text field: Activity label
  Dropdown menu: Contact person
  Text area: Comment
  Date: Deadline
  Radio buttons:
    future activity
    started
    finished / approved

  • Button: Cancel → Level 3: Schedule (no changes)
  • Button: Add → Level 3: Schedule (activity added) alt. Error message
Level 4: Edit activity

Java Applet / Flash (?): Edit activity

- Text field: Activity label
- Dropdown menu: Contact person
- Text area: Comment
- Date: Deadline
- Radio buttons:
  - future activity
  - started
  - finished / approved

- **Button: Cancel** → Level 3: Schedule (no changes)
- **Button: Save** → Level 3: Schedule (activity updated) alt. Error message
Level 4: Download files

Field: Download files
Table:
  file name
  checkbox

Text: “The checked files will be saved as project_files.zip.”

• Button: Download → Animation while downloading
  → Level 3: File system
Level 4: Edit file

Field: Edit file

Table:
- text field: file name
- text area: description / comment

- **Button: Cancel** → Changes cancelled
- **Button: Save** → Level 5: File changes saved, alt. Error message
Level 4: Move file

Field: Move file
Table:
- file name
- present folder
- checkbox

Dropdown menu: Destination

• Button: Cancel → Changes cancelled
• Button: Save → Level 5: File moved, alt. Error message
Level 4: Add file

**Field: Add file**

- Text field: Local destination
- **Button: Browse...**
  - Dropdown menu: Destination in project portal file system
- Text area: Description / comment

  - **Button: Cancel → Changes cancelled**
  - **Button: Save → Level 5: File added, alt. Error message**
Level 4: Add folder

Field: Add folder
- Text field: Folder name
- Dropdown menu: Destination in project portal file system

- Button: Cancel → Changes cancelled
- Button: Save → Level 5: Folder added, alt. Error message
Level 4: Participants invited

Field: Confirmation
Text: “The following participants are invited to the project: ...”
Level 5: Invitation cancelled

Field: Confirmation
Text: “The invitation was cancelled. No participants were invited to the project.”
Level 5: Participants removed

Field: Confirmation
Text: “The following participants were successfully removed from the project...”
Level 5: Project details updated

Field: Confirmation
Text: “The project details were successfully updated.”
Level 5: File changes saved

Field: Confirmation
Text: “The file changes were successfully saved.”
Level 5: File moved

Field: Confirmation
Text: “The following file was successfully moved to the destination folder ‘…’.”
Level 5: File added

Field: Confirmation
Text: “The following file was successfully added to the destination folder ‘…’.”
Level 5: Folder added

Field: Confirmation
Text: “The following folder was successfully added to the destination folder ‘…’. ”