Next generation interface for MMO-RPG
Creating a immersive experience

Master thesis industrial design, Konstfack

Anders Johansson – 2011
**Background:** The interface in MMO has been looking the same since Ultima Online (released 1997) and EverQuest (released 1999) the two first commercially big massive multiplayer online roleplaying games. As games become more and more complex the interface has not been able to keep up with the rest of the development.

**Project in short:** Creating the next generation interface for MMO-RPG games. Making it an immersive experience, where the interface is an integrate part of the game.

**Framework and limitations:** This project will use World of Warcraft as a platform for implementing ideas and conceptualization. This project will not address the core game mechanics and will follow the framework of the game as close as possible. The argumentation behind being; once you start to change the core game mechanics, where then do you stop. With that mindset the project is no more about the interface but game mechanics. That said, the interface is closely entwined with the game mechanics.

**External partner:** Massive Ent.
Index

Page  4 -  0.01 Methodology

5 -  0.02 Terminology

6 -  1.00 The interface, evolution

8 -  2.00 Immersion, everything and nothing

9 -  3.00 The player and target group

10 -  4.00 The brain
  4.10 Perception
  4.20 How to memorize better
  4.30 Internal factors
  4.30 External factors

16 -  5.00 Building a system
  5.10 Taking 2D information into 3D
  5.20 Information flow
  5.30 Time management and hotkeys

22 -  6.00 Visual impact

23 -  7.00 Three concepts
  7.10 first contact
  7.20 Tutorial concept
  7.30 Basic layout concept
  7.40 Spirit concept
0.01 - Methodology

My approach to this work has been based on gathering a foundation of information in areas like, how the brain learns and takes in information, how visual information is decoded and how to motivate players. This has been complemented with interviews and video documentation of how players use and navigate throughout the game. Even though my focus has always been on new players, discussion outside interviews has been mostly with game developers and long time users. Interviews:
Charlie “surname” – Video user studies and interview – first time user
Martin Ekenber – User study and interview – first time user
John Victorin – interview, discussion – long time user
Tobias “surname” – discussions and brain storm – long time user and game developer, Massive ent
Lars Vincent – Discussions and brain storm – game developer, Massive ent
Lisa Lenkel – Discussion and brain storm – Game developer education, currently designer
Lena “surname” – Discussion on interface design – Master student interaction design
Rahul “surname” – Discussion on interface design – Interaction designer, Ergonomidesign

Lecture and literature:
Celia Hodent – lecture and literature - Psychologist, focus on game development
0.02 - Terminology

**MMO; Massive multiplayer online.**
Is used for games that have several thousand players playing at the same time on the same server. The virtual world is generally persistent and there is a big focus for players to interact with other players within this world.

**RPG; Role playing game.**
Is used within many areas, within computer games RPG generally means that the player has one character that is progressing throughout the game. As the character is progressing it will gain new attributes and abilities. Where single player RPGs are generally story driven whereas MMO-RPGs tend to be less about the story and focus more on social aspects and collaboration.

**Player Avatar.**
The Avatar is the object the player controls in the game.

"First person" and "third person"
Is referred to how the player see the world. First person, is when the player see out of the eyes of the player avatar. This gives a more realistic view of the world. Some classic games that use this camera mode; Quake, Half-life and Battlefield. Third person refers to when the camera is outside the player avatar. In general the camera is set slightly elevated to 3-5 meters behind the player avatar. This gives an overview over the scene. Games that use this view is World of Warcraft, Diablo and Gears of war.

**HUD; Head-Up Display.**
Pioneered by military aviation, helping the pilot to see important information on a sheet of glass in the front window. In computer games the HUD has much of the same purpose. It is often seen as a constant overlay on the screen that is showing important information to the player.

**Interface.**
The game interface incorporates the HUD but also all other menus, mouse pointer and other overlay information in the game.

**Pixel.**
The smallest addressable screen element in a display device; it is the smallest unit of a picture that can be represented or controlled.
1.00 - The interface

Evolution

**Back to basics**: Pong is one of the first computer games with a visual interface. The game is a virtual interpretation of table tennis aka Ping-Pong and consist of two white lines on either side of computer screen, bouncing a ball (pixel) between them. To keep score, much like table tennis there is a score counter. That score counter is the interface in Pong, whereas the white lines (rackets) and ball represents the game world. Image 1.01

**Growing complexity**: Generally as games grow more complex so does the amount of information output by the game increase. Early example of this is Super Mario. By today’s standard a simple game, but the interface compared to Pong has grown in complexity significantly. The interface now displays amount of coin, points, time and the biggest change, in what world or map the player resides in. Image 1.02

**Dungeoncrawler**: Is a digital version of pen and paper role playing game. With the transition into digital format arose a bunch of problem. Classic RPGs as Dungeons and Dragons are extremely complex and incorporate new things such as player character abilities and spells. Even though early dungeoncrawlers such as Eye of the Beholder did not come near its none digital counterpart in complexity, the interface steals more than fifty percent of the visible screen. Games like Eye of the Beholder have set the standard for how RPG interface layout works. In later examples we can track everything back to these early dungeoncrawler games. Image 1.03

**3D the big jump**: Two things happened in the mid 90ies. The big move to 3D and competitive gaming. Quake was the breakthrough for a fully 3D world and was also one of the big contributors to competitive gaming. Even though Quake is a fully emerged 3D game the interface is still reminiscing from earlier 2D games, constructed of an overlay style much like the early Super Mario. The big change Quake brought to the interface came along with competitive gaming, streamlining the interface. Customizing all information input, everything from wall textures to removing screen obstacles, even the weapon. Image 1.04, 1.05

**Evolution continued**: In the late 90ies, EverQuest was the first big commercial fully 3D MMO-RPG and has set the standard for the MMO-RPG genre interface even today. At first the interface closely resembled the older dungeoncrawler games. During the next few years a transparent interface was introduced. This evolution towards minimizing game world interference is closely followed by the majority of MMO-RPGs produced and being produced
today. EverQuest is the last major evolution in interface design within MMO-RPG genre. Image 1.06, 1.07

**FPS leading the way:** Lately there has been one genre of games that have pushed the evolution of interface design. One major reason why FPS games are pushing the evolution is because they tend to much lesser information to display. There is a trend among modern games to put realism and immersion in the front of game design. From an interface perspective, this is often done by reducing the amount of information displayed to the player. This can be seen in games such as modern realistic war games such as Call of Duty and Battlefield. There is a big discussion within the gamer community whether a minimalistic or none interface is the way to go. One of those voices is Greg Wilson, arguing that the most immersive experience is an absence of the interface¹. This paper will discuss immersion in a later chapter (2.00). Image 1.08, 1.09

**Pushing the interface part 1:** It is mandatory to talk about Mirrors Edge by Dice in discussions about interfaces. Released 2008. Mirrors Edge, removed the 2D overlay interface in its entirety. The information the player gets from the game is bound in the game world. The most obvious example is how the game guides the player around the map with color codes. The world is extremely stylistic, basically it is a white box world where red objects tell the player where to go and how to move about the map. In combat the players avatars limbs show as the player performs actions as kicking or grappling the opponent. Sound and visual filters, such as motion blur is used with great effect for simulating how the player avatar moves about. Image 1.10

**Pushing the interface part 2:** The next big title is Dead Space by EA Redwood Shores. Released 2008. It is a close camera third person shooter that is almost played as a first person shooter due to the fact that the camera is so close to the player avatar. In this game it is clear that the interface has played a big part in the design choices made. The interface is totally integrated in the world, by combining 2D and 3D elements in the game world. Dead Space displays one of the most successful integrations of the interface within the gaming community today. But it is not without its flaws. To be able to see the ammunition counter on the weapon, health bar on the spine of the player avatar and the statis bar (slows down time) also on the back of the player avatar. Camera placement has been forced very to the player avatar, resulting in poor vision. It can also be argued that this gives a very personal viewing experience that can help the fright factor in a horror game. My analysis of this is that it is a trade off, the camera is a bit to close but it gives other positive values and therefore accepted. The next issue with the interface in Dead Space is that the player avatar is placed off center. When the player avatar is that close to the camera the avatar would block too much of the players view if centered. This leads to an awkward control of the player avatar. This can be related to driving a car, it is hard to know exactly how big the object you are controlling is due to the fact the steering is off center. As a driver you are not sitting directly

above the tires, that way the drive always has to guess where exactly the vehicle is. All in all, Dead Space is a great example of working interface evolution! Image 1.11

2.00 - Immersion

Everything and nothing

**Immersion** is a problematic word. It only has meaning within a certain context. If you follow the discussion around computer games, immersion is often referred to if the interface should be a 2D overlay or making it to a none interface (none interface - the game world tells the information it can and it’s up to the player to interpret that). Throughout this project I have come to realize that this is a simplistic way to look at it. My standpoint is that there are several different ways to obtain immersion. Because immersion is in the head of the player and not in the game itself “the gaming experience is in the players mind” – Jesse Schnell (Carnegie Mellon University Professor). Immersion is when the player loses perception of the surrounding world outside the game. That has very little to do with if the interface is in the game world or as a 2D overlay and more to do with how the player perceives the game. According to Celia Hodent the most common way immersion is obtained in games today is when the skill level of the player and the difficulty of the game are perfectly matched. There are some other ways that games could possibly create immersion, admittingly this is very rare if ever happened in the game world. But the industry is moving towards more stories driven games. Like books or movies, the story drives the player to lose perception of the outside world. A good example of this in recent years is the game Alan Wake, a story driven action game in the psychological thriller genre. “Follow Alan Wake as he uncovers the mystery behind his wife Alice's disappearance while both are on vacation in the small town”

The contrast to the usual game mechanics that revolves around combat in one way or another is vast.

**Preserving immersion:** The interface is probably the most common element when a break in the immersion occurs. Common factors to this is when there are logical breaks, the game knows it’s a game, it gets to easy or to hard or the game shows the player how to play. Logical breaks is common in games and is often a result of the game displaying information in an way that doesn’t follow the world scenario. An example of this would be the minimap in World of Wacraft, it is an excellent tool to navigate by but it does not make sense in a high fantasy world to have an almost digital map. Thus creating a logical break. The other most

---

2 [http://www.g4tv.com/videos/44277/dice-2010-design-outside-the-box-presentation/](http://www.g4tv.com/videos/44277/dice-2010-design-outside-the-box-presentation/)
3 Celia Hodent – Psychologist with focus on how we perceive games
5 Beyond the HUD – Master of science Thesis by Erik fagerholt and Magnus Lorentzon
6 Interviews – John Victorin and Martin Ekenberg
common way games break immersion is that the game tells the player how to play. This is a huge factor in the first 30 minutes of the game when the player starts to learn how to play the game. Developers are looking into this more and more. We can see that AAA games today is trying to incorporate startup tutorials in to the game story. Another part of the same problem is how games use signs, in World of Warcraft we can see exclamation marks above important characters and in Dawn of War 2 there is flashing arrows showing the player where to go. These uses of signs have no connection to the world and are a reminder to the player that this is only a game, creating an immersion breaker.

3.00 - The player and target group

Not always who you think it is

The player: The gamer community often refers to two types of players, hardcore and casual gamers. Hardcore gamers being heavily invested in their game and casual gamers playing an hour now and then. This was a valid description 10 to 20 years ago, when computer games was mainly played by young males. Today we see an explosion in the diversity of players, age and gender. 26% off all persons playing computer games are over the age of 50. 40% of all gamers are female and an even greater portion in MMO-RPGs. These numbers were unthinkable only 10 years ago and I feel that the mentality in the gamer community has not caught up. Playing games today is commodity for everyone, with it comes all of its complexity and benefits! The only genre that there is low diversity within is competitive gaming. Competitive gaming is still dominated by younger males, much like competitive sports. This might be linked to how western society relates to male and female competitive sports. There is no physical reason why we should not see more female actors in competitive gaming other than cultural.

Target group: “Inviting for players that have very limited experience with computer games, still feel interesting for long time users”. I argue that there is still a lot off new gamers that feel threatened by trying out new games, mainly because off their complexity and the needed pre knowledge to be able to play certain games, usually AAA games. Through game testing and individual discussions I could see that even seasoned gamers had problems navigating games such as World of Warcraft the first couple of hours of game play. Therefore my main focus is on gamers with very little experience in MMO-RPGs and gaming in general,

---

7 Entertainment software association – essential facts 2010
8 Interview and game testing with Charlie – Video recorded – first time World of Warcraft user. (Swedish)
9 See interview summary.
remembering that MMO-RPG is mainly spent on late game content and can therefore not exclude long time users.

4.00 - The Brain

Having spent a lot of time researching cognitive psychology through the web, lectures and discussions. I will take this section to go through some of them. My focus is perception, learning and motivation but it will also touch on some other areas as well. Even though I in this project won’t be able to get deep knowledge of cognitive psychology, the basic tools and concepts will give me a broad perspective of DONTs and DOs. Not everything is directly connected to my final result but has been a big part of shaping my work and what direction I have been going. Almost everything under the chapter “The Brain” will reference Celia Hodent “how does the brain learn” and I want to take time to thank her for the great lecture.

What is learning: First the physical response to learning is that neurons form connections in the brain. The more we learn about a specific subject the stronger the connections become.

The brain learns by four major factors. Input, memory, internal factors and external factors.

4.10 - Perception

Perception: is an active window to the world. Where information is organized through a 3 level process. An example for vision would be:

Physics: that relates to how we orientate ourselves and picks up contrast, brightness, frequency and so on.

Organizes: the visual input filtering out patterns. The brain has huge resources connected to this part and is extremely adept at connecting individual dots, contrasts and colors to form surfaces and patterns.

Access your individual knowledge and creates meaning. Depending on your
knowledge and culture you will interpret visual information differently.

**Context** is the next big factor in what we perceive. Below are some examples of how the context is changing the meaning of the same artifact.

![Image of a duck / rabbit](image)

What we see at first might be very different from person to person. Again when you are showing key information for a wide audience it is important to first have tested it on a test group. A classic example of this is the image of a duck / rabbit.

“Because everything we perceive is filtered through the individual’s knowledge. We remember our own interpretation of reality and not reality itself. “

**Memory** allows us to encode, retain and retrieve information. There are three levels of memory. (It is important to note that the brain does not work like a computer and the human memory cannot be compared with ex a computer hard drive etc. The neurons both store and process information at the same time).

**Sensory memory** is a part of perception and maintains information for up to a second. It is connected to direct information from our senses, sight, sound, touch, smell etc. Sensory memory works as our attention system. It can only process information from a single source at a time. This makes true multitasking impossible for the human brain. (see video – awareness test and split screen avatar spielberg).

**Working memory**, also known as short-term memory and maintains information for up to one min. Even though it works within many areas a classic example is within calculating
"3+6+23 = 32" we have to think about the answer. We feel that the brain is actively working, but if the example would be “2+2=4”. Then our long term memory is working because we know the answer by hart, thus it have been stored long ago in the long term memory. The working memory stores and process huge amounts of information all the time, but has a limed stamina. At around 45 min depending on the person, the working memory tires and both information storage and retention significantly suffers. This is extremely important to remember when you design game mechanics. In an MMO-RPG you want the player to be able to play the game for several hours without stop. If the working memory is out of stamina after only a short time the player will feel exhausted and stop playing. Finding the right balance between intensity and relaxation. It is also important to remember that there is an information hierarchy. Shown in Stroop effect. Try to say the color out loud and it is clear what information is higher in the hierarchy, as a designer you would want to avoid these stroop effects because they take a lot of energy from the player. Be very clear on what signal you are sending!

![Colorful Circles](image)

**Long-term memory** is potentially unlimited and works in two ways. Declarative memory (conscious) = knowledge, something you actively try to remember. Procedural memory (unconscious), linked to action and hard to forget when it gets automatic, like riding a bike.

**Conclusion:** How do we sort/group information, for how long are we distributing information and in what ways do we distributing information. (fixa)

### 4.20 - How to memorize better

As a designer there are several things to think about when it comes to creating a good learning environment and avoiding “oblivion/memory deficit”. As 40% of our input that we actively try to remember is lost in only 19min and 70% is lost after one day.

**Automatisms:** Maybe the most common way to remember information. The first year of school is focusing heavily on this. Repetition, doing one thing over and over again until you don’t have to think about what you are doing, the body does it by itself. It’s common to hear athletes say it takes 2000 times to master something, that’s because that’s about the time it
takes for the brain/neurons to create automatisms. Always be consistent when you work with visual signs and interface navigation. Having the same basic navigation structure in all situations helps the player to learn the game much faster and it will take less energy in the process!

**Give sense and meaning:** We memorize better what we understand and if we can link the information to a context that's even better. It is much harder to remember “trtbaeesre” then “vertebrates” even though the only core difference is how the letters are organized. That is because the word vertebrates has a meaning and is put in a context that makes sense to us. Information without meaning will just clutter our senses and make it hard to understand and focus.

**Multiple inputs:** Using more than one source of information input can greatly enhance the amount of information that we are able to understand and process. Thus we remember information that uses multiply inputs much more. Experiences are often strong memories, they consists of many different inputs, not only the basic sensors like smell, touch etc. But emotional inputs as well, creating a strong multifaceted manifestation. A classic example in fantasy is. What sword is best, the one that is ordinary metal or the sword that is twice the size of the first one and is burning with blue flames, giving of a deafening scream when wielded.

**Chunking:** It is very hard to take in large quantity of information and store it. Therefore it is necessary to divide the information. This can be done in several different ways. Phone numbers are tricky thus we divide them into smaller parts ex, 08 756 57 28. Each different chunk has a separate meaning, 08 regional code in Sweden, 756 says where in the region and it keeps zooming in. Divided into chunks it is much easier to say as well.

**Emotional input:** So far there has been a big focus on the physical inputs. It is almost impossible to remember something that we have no emotional response to. Be it positive or negative. That is why it is so important that the information received is packed in an emotional package. Remember that the same neural network is taking part in reasoning, survival and emotion.

**Intuition:** There are very few universal emotions that are universal for all humans. The strongest of those is the sense of danger. It is very hard to find universal emotions but if found they can be used with great success. Just because you react in a certain way does not mean that everybody does. It is hard to separate a basic instinct to learned reactions. What seem as dangerous are mostly universal and even spans over animal boarders. When used right, this can be used with great effect.

---

10 Video displaying chunking at work – Chunking_999.wmv
4.30 - Internal factors

Prior knowledge. This is a very important part of making an interface. When the customer base is 12 million, from all parts of society, from pro gamers to people that have never touched a game before. Letting new players feel like a natural part of the gaming community and not excluded by knowledge barriers. Whereas players that have a lot of experience have lesser interest in unlearning current skills for something new. Windows is a classical example of this, getting used to a certain way of navigating the operating system, that is why all windows operating systems is navigationally back compatible to windows 98.

Different ways of learning, curiosity and imagination. We are all individuals, we all have different ways of learning. Making tutorials etc composed of different ways of learning. There is always more than one way to describe how to solve a problem or how to use an item. This is touching on the memory part of learning and I don’t need to go in to detail here, just remembering that it is a big part of internal factors and I will go into depth in this subject later in the tutorial chapter.

Motivation

The most important factor for keeping the player interested and keep playing! In MMO-RPGs that is crucial, where the play time of an average player reaches months of active playtime. An example of motivation and the positive effects it has is Piaget´s task and Mehler´s task. Each task displayed a number of objects, Piaget displayed two rows of balls and then children had to say which of the two rows had the more balls.

![Two rows of balls](image)

the average age of succeeding was 6-7 years

![Candy](image)

the average age with candy instead was 2 years!

This is credited to the fact that the kids got the candy row they pointed at. Thus motivated the children with a real world gain. In modern games we see more and more off this reward system. To keep the players motivated the game rewards the player frequently. This is done with new equipment in games like Battlefield Bad Company 2, getting new weapons and making the next frag (win over an opponent) a little easier. In RPGs the player gains experience, making the player avatar more powerful. In other games like Quake live the
player earns achievement tokens, more for bragging rights when they have no real value in the game.

Intrinsic motivation is the best motivation for learning, because it brings pleasure and the pleasure of learning can decrease when it becomes external i.e. at school.

4.40 - External factors
Cooperation. Studies have shown that cooperation is much more effective than individual learning and even to competitive learning. There is a wonderful TED talk about cooperation learning by kids\textsuperscript{11}.

Tutoring. In most games today there is a tutorial for the basic game mechanics, how to run, navigate, interact and so on. There is a huge cooperation and tutoring capital in MMORPGs but they still treat the game as a single player game throughout most of the gaming experience. Especially the beginning and the cooperation and tutoring are actually made harder in WoW by lowering the reward of cooperation during questing. This is the opposite of what the general idea behind MMORPGs are all about, interaction.

Transmission. If you have learned something, you memorize it much better if you share your knowledge with someone else. “teach to learn”

\textsuperscript{11} http://www.ted.com/talks/lang/eng/sugata_mitra_the_child_driven_education.html
5.00 -

Building a system

The core of my project is working out how the mechanics behind a integrated 3D interface could work. Below I share my thoughts on this based on my research.
5.10 - Taking 2D information into 3D

**2D overlay:** When creating an interface that has to handle vast amount of information, a 2D overlay makes a lot of sense. The 2D overlay is very space efficient, easy to control and organize from a visual perspective. A 2D overlay interface has a huge potential and used in almost all games today. The problems with a 2D overlay interface is that it is hard to make it feel like a part of the game, it almost always feels like something that is put on top of the game. This is a problem when we see a movement towards more graphically integrated game worlds. I want to be clear here and say that a 2D overlay does not have to be bad for immersion, it is important to remember that immersion is not the same as a graphically integrated game world. Immersion is what the player experience. World of Warcraft have a very traditional approach to the interface, evolving from earlier RPGs and MMO-RPGs.

**3D in world interface:** The pros and cons of an integrated 3D interface is almost opposite a 2D overlay interface. It is very space inefficient, 3D icons take up space in 3 axels instead of 2. Looking at a box from only one side takes up much less visual space then looking at it from three-quarters perspective. When you move an object from 2D to 3D another effect takes place, the object starts to add real world values like weight and volume. It also starts to interact with other in world objects, demanding much more space to not feel cramped etc. In the fully integrated 3D interface I’m proposing, one single 3D icon takes as much perceived space as 5-10 2D overlay icons. It is extremely space inefficient. That said, a 3D interface is by nature totally integrated into the game world, something that is very hard to do with a 2D overlay. Can the issues with space inefficiency and object interaction be solved there is much to be gained by a 3D interface in terms of game experience, that a 2D interface would have a hard time doing, integration.

**Handling 2D space:** The classic MMO-RPG interface, including World of Warcraft attempts to keep the area around the player avatar clear of interface clutter. The idée behind the classic layout is hiding the interface in the corners of the screen. This is because the close relationship with 2D overlay interface and immersion breaks, as soon as a part of the 2D overlay gets in front of the player avatar the game tells the player that this is only a game. Hiding the interface in the corners of the screen works great, the human eye has about a 2cm radius circle focus area, meaning that we can only focus on a very small part of the screen at any one time. The sensory memory can only handle one source of information at a time so we do not connect the 2D interface as a direct immersion breaker, unless the interface is directly over important objects such as the player avatar. This is as long as any other immersion breaking rules are not broken, logical breaks etc. Image 5.10, 5.11

**Handling 3D space:** Again working in 3D space is almost the opposite of 2D. In 3D the interface is kept close to the player avatar or even make it a part of the player avatar like in Dead Space. Focusing on making the interface a part of the game world and the interface
becomes more of an experience. The drawback with keeping the interface close to the center of action is that it will easily block the vision for the player. An even bigger problem that can occur is when two or more 3D objects claim the same space. Ex; If the icon for your inventory is in the same 3D space as your team mate is occupying what happens when the player wants to access either the inventory or the team mate. In my approach to this problem I have a number of smaller solutions to deal with this. The foremost solution is to keep the interface information onscreen to a minimum, this is explained later in the information flow chapter. The next step is to place the onscreen interface information on non-colliding places, ex; keeping most of the 3D interface above the player avatar’s shoulders will remove almost all collisions in space. Lastly I have worked out a hierarchy of action system, if the player makes an active action to open the 3D interface it is also most likely that the player wants to interact with the interface rather than other surrounding objects. The player's last action will determine the onscreen hierarchy. Note that this only works once the player has started to interact with an object, so it is very important that the first contact with an interaction point is made easily accessible.

5.20 - Information flow

Flat information system: World of Warcraft uses a flat information system\(^\text{12}\) that lets the user to reach desired information quickly. This is combined with a shallow layer system\(^\text{13}\). Ex; to reach talents in World of Warcraft, the player only has to klick twice, once on the initial talent icon and ones on the desired talent tree. Resulting in a very quick navigation. World of Warcraft is also a bloated game with hundreds of items, talents, skills, characteristic and more, this combination makes the information reaching the player highly contaminated with clutter. The human brain is really bad at decoding clutter, this might seem as a paradox to the excellent pattern detection abilities the brain has. This has to do with that we don’t see an individual point of information but try to make sense of the big picture. (bild; it’s hard to focus on a individual dot but easy to see the leopard). This flat and layered system also leads to a huge amount of information windows and with objects needing multiply windows to work, resulting in confusion. If there is no pre-knowledge about the system, the user has to take a chance on where to navigate to get the necessary information. This gets especially confusing with the amount of information that World of Warcraft has. In my opinion the system World of Warcraft is using today works best in medium to low amount of information and when we look at the evolution of MMO-RPGs we can see that this system derives from the early dungeoncrawler games that had very little information. Image 5.20

\(^{12}\) Flat information system – One click to reach desired information. Ex; to reach the inventory the user clicks once on the bag/inventory icon and all inventory items are shown at once.

\(^{13}\) Layer system – The information is layered like an onion.
Fragmented information: Is something that World of Warcraft suffers from. This is closely related to problem with that the player has to open multiply windows for a single conscious action to take place. Ex; to change sword is one conscious action. Fragmented information is when information from a single object is displayed at several different locations in the information system. This leads to confusion and new players don’t see all necessary information. Image 5.21

Tree information system: To be able to handle the amount of information in World of Warcraft I have gone with a tree like information system. Where all information has one access point (root) and from there branches out to desired destination. This way I as a designer have control of the amount of information shown at any one time. Keeping the information shown on screen down as much as possible is a must when you move information from 2D into 3D as explained in “Taking 2D information into 3D”. Only showing necessary information and the hierarchy becomes very clear (from where the initial information resonate and where it is heading) Image 5.22, 5.23

Linking information: Tree information system is great at handling vast amount of information with low clutter amount. The next step is to remove as much of the confusion in World of Warcraft as much as possible associated with clutter and multiply windows not being linked in any order, everything is floating loose in information space. To resolve that I have mapped out crucial information link patterns, ex; armor is found in the backpack/inventory but has no real use there. Instead I propose that the armor should be found in the character screen where it is equipped. So forth I have mapped out the system. Quest items found within the quest system itself and not in the backpack and in the end when everything is mapped and linked properly the backpack/inventory ends up more or less as a spam filter, picking up objects that the player rarely wants to see or use.

Binding information: Similarly to linking information, new players often get confused during combat and when targeting objects. This is due to the fact that in World of Warcraft information is fragmented, so if you target an enemy, the spells and other actions that are linked to that enemy are not found in the vicinity of that enemy. This can clearly be seen in the video recorded play test with Charlie, a first time user. This has led me to bind all information to the objects in question. Ex; if you fight an enemy, all abilities and spells that the player can do on that target is shown in the target vicinity. This is very similar to how I have bound all information around the main character in the “Basic layout” concept. 5.235

Zoning information: Even with a linked tree system the amount of information in World of Warcraft becomes too much for a 3D interface. When mapping out the link system I incorporated system that listens to what situation the player avatar is in. Then displays the necessary 3D interface. Ex; when the player avatar is in combat, the player does not need to see the amount of money carried or when at a vendor the player does not need to see the all combat abilities. Using this system greatly reduces the amount of root information points onscreen at any one time. Image 5.24, 5.25
**Visual information**: The brain is much more adept at handling visual information in form of patterns and contrast instead of numbers and text. World of Warcraft being a numbers game, every item, spell, ability adding plus or minus to stats that is controlling how powerful the player avatar is. With that much information displayed back and forth all the time, making that information as accessible as possible has been a challenge. My approach has been to make it as simple as possible, resulting in graphical diagrams. Green for positive values and red for negative values, colors selected since they are some of the most cultural universally. Its foundation is found in traffic rules all over the world, green for drive, red for stop. When using color combined with numbers, the color has a much stronger indication so even if the numbers are harder to see in a 3D integrated interface it is still easier to get the big picture due to the colors and the size of the diagram. Image 5.26

---

**5.30 - Time management and hotkeys**

**Responsiveness** is a small area but very important. It is an area that has lead to a lot of discussion. The rightfully skeptic of a fully integrated 3D interface is often concerned with how responsive a 3D interface can be, how to deal with animations that can take time to perform and will that delay the players actions. The quick answer would be that a 3D interface cannot be less responsive than its 2D counterpart, it will never be accepted. So if there is a hotkey leading far into the interface tree, there must not be any other animations or delay to get to that specific point. Hotkeys and other shortcuts have priority over animations and other time consuming actions!

**Time management**: Time management that we don’t often see is when some parts of the interface is allowed to take up a lot of time and space, depending when and where it is used. Usually there is a set standard, ex; in World of Warcraft the interface window for changing an item that is often done on the fly or can even have a hotkey assigned. Has equal visual space as the interface window for Talents, something many players spend lots of time in figuring out what talent build they want to take. There could be a great opportunity to change the visual impact off those two windows. Where changing weapon window could be quick and light and the talent window could have a much more elaborate approach to it, embracing the player in visual effects. Video – Basic layout concept
6.00 - Visual impact

World of Warcraft uses a highly saturated color pallet, this makes it easier on the eyes when you play for long periods of time. Everything is clearly separated through shape and color. In this world magic rules supreme with over saturated glow effects, this is balanced with 10cm plate armor and weapons big as a man. This is a cartoon twist to high fantasy.
7.00 -

Three concepts

From my system I have created 3 concepts to show the conclusion of this work
7.10 - First contact

It has always been my goal to really push the interface to greet new players with open arms. The first experience the player has is very important and that is a moment the player will carry throughout the whole gaming experience and it is also that experience the player will share with friends. It is crucial that is positive!

**Tutorials now:** World of Warcraft is a very complex game, and the amount of tutorials throughout the game makes that very clear. There is a very basic approach to tutorials in World of Warcraft, it is basically a text box. The level of integration into the world is none and worse is that it works against the basic rules of memory retention. The basic idea behind a game is “having fun”, forcing a player to read several boxes of text just to be able to start the game, the player might ask “why should I do this, I just want to play”. There is no positive motivation to do this. In fact it’s on the opposite side of positive self motivation, extrinsic “someone else wants you to do it” (the game) and negative “if you don’t read this text box you will have a much harder time to understand this game”. Even if the player reads the tutorial, they have the worst possible condition to recall the information. Image 7.10

**My approach:** Instead of text reading I think that the tutorial should be a fun experience and the player should not think of it as a tutorial but a part of the game story. Something that the player wants to do, this will also help the player remember the tutorial much better as motivation is the best instrument for the brain to retain information. This in combination with other memory triggers such as multi faceted information sources, using speech instead of text combined with direct action which leads to a reaction. At the start of the game it is very important to not confuse a new player and with a story driven tutorial the game has very good control of what input the player is receiving. Chunking down information into small steps, allows new players to take small steps in the beginning (learning curve). First you learn to interact with other characters, then navigate, basic combat etc.

7.20 - Tutorial - concept

In this concept I want to show a short storyboard of how a tutorial can be built. Found in the Tutorial Appendix. The tutorial explains the first contact with World of Warcraft as a undead character. This undead character as been resurrected by another undead, a necromancer. But there has been complications throughout the resurrection process and the player avatar is sadly missing its lower jaw. The necromancer explains that an thieving ghoul stole it but it
should not be hard to get it back, just follow the sound of the now singing/wailing ghoul. Before the player leaves it is necessary to test joints and bones so no other faults has occurred during the resurrection. The player now learns how to walk, and to some basic poking/combat by waking a sleeping guard. Later the player learns to navigate by following the wailing of the ghoul. Use basic combat to take the jaw back and it ends with the necromancer reattaching the jaw. The player gets access to the chat and different emotes like cheering, singing etc.

From an interface perspective: By making the tutorial a part of the game story instead of a piece of text, I have also moved the tutorial from 2D interface (the overlay box) to an in game none interface. This is a part of my goal with this exam work, erasing the line between interface and in world game.

7.30 - Basic layout – concept

This layout is replaces the main interface bar in World of Warcraft that was located in the center bottom of the screen. This part of the interface includes maps, friends, guild, inventory, character/items, abilities, spells. I have added one part to this interface that is spirit. Exactly what the spirit is will be explained in the “Spirit – concept” part of this paper. The main idea behind this concept is to show how I have linked icons and items. Created one icon that morphs into another menu, how some menus have a much higher visual impact and somewhere where the player can spend more time. Video and images 7.30 +

Icons: Linking information has always been very important in this project, not less so when it comes down to icons. One example in my concept is the icon for characteristics and equipment, it shows a bust of the player avatar. The underlying idea behind this is that the characteristics is a representation of the player avatar in numbers, then the visual representation should be a representation of the avatar itself. When activating this icon, the bust is morphed into an exploded view of the player avatar with stats on the side. This is to represent that this is a drawing or blueprint of the player avatar. Other direct links in similar fashion is; the world map is 3D world map, the icon for friends and guilds will show the player avatar bust with two friends at the side.

Space: 3D icons has another visual time space then 2D icons, something brought up in system building part of my paper. By being able to remove almost all other on screen information I can allow the icons to take up much more space. In my concept video, only active parts of the interface is shown. This is again to remove clutter and leave as much space as possible for the active icons. Another dramatic change to 2D overlay icons is that 3D in game icons needs to be close to the active object using them, not to close to make it cluttered but not too far away to lose the link. I have created a ring of icons, the eye easily
registers the pattern of a ring and looks for the center. The center is located in the plexus solaris if the player avatar creating a hard broken link between them.

**Taking time and space:** When mapping out the interface, I discovered that some parts of the interface is used more often but quickly others when used seldom but under longer periods of time. This is something I have used, where characteristics and equipment can be used very fast, with easy to see diagrams and direct links. The spirit part of the interface is the opposite, something you use two or three times a week and in controlled situations. Much like late game talents. The concept for the spirit interface is more elaborate, taking both time and space, where each spirit can be built upon with souls (more on this in the spirit concept chapter). By creating this more elaborate part of the interface, it becomes more dynamic, where each part of the interface has its own set of rules. This is I stark contrast to World of Warcraft today, where the interface is very static and all windows has the same visual impact, creating a stiff experience. I want to make the interface a fun place, not just a transportation device for numbers.

**Visual impact:** In my early sketches, every icon had a blu-ghostish feel to them. This is something I have revised, What happened was that it became to stylistic and the World of Warcraft feeling of heavy metal meets magic was lost. It was all magic no metal. I ended up creating a interface where “real” objects is the foundation and magic/spirits creates contrast and makes the interface less static. Compare the spirit interface with the basic layout. The basic layout has almost no fuzz, everything is strait to point whereas the spirit has lots of fuzz and small addons with magic smoke etc. Trying to make that each part of the interface feel like it has its own separated room.

### 7.40 - Spirit – concept

The spirit system emerged from what I perceived as a logic gap in World of Warcraft, namely the minimap. The minimap in World of Warcraft is a great tool for navigation, in fact it is crucial. Earlier games like EverQuest lacked a solid map system or other tools for navigation. This led to constant confusion and players would get lost in the big game worlds. The minimap is a tool used in many other games and many gamers see it as a natural part of almost any game. The one issue with the minimap is that it’s a constant reminder that the player is only playing a game. It does not make sense to have a minimap in a high fantasy world. I needed something to fill in all those logical gaps, thus the spirit system slowly took form. The spirit system plays one more important role, it allows for the interface to interact with the in game world through living spirits and so can guide and help the player in many ways. This gives the game designers lots of control and also makes the system very flexible.

**Itemization:** Because the spirit system is built on many smaller parts. There is no big single entity so throughout the game the player gather spirits and adds those to the interface. The
advantage of making the system modular is that it keeps being interesting throughout the game and allows the interface to grow with the character and learning curve. It also allows the player to be more in control of their own interface, what parts they want represented by finding new pieces/spirits. It can also be the bridge between the community and game developers, leaving some parts of this modular interface open for modification. With this modular style the game developers gets a greater quality control over their product, that is if the game developer delivers the tools to the community to do modifications.

**Souls:** They add another level to souls, working like adding runes on weapons etc. That would be adding additional effects and making your spirits more powerful. In the menu for managing spirits there are three slots to add souls for each spirit. A more concrete example of souls in use can be read below in the Spirit of Ascendance system. How souls will act as modifiers, adding area of effect to spells etc.

**Spirit of Guidance:** This is the first spirit gathered, it is intertwined with the starting tutorial and acts as a guide and both verbally and visually to new players. It will throughout the game act as the main tool for navigation and it is closely linked the map and quest system. By selection a quest or a place on the map the spirit will then rush there leaving a ghostly trail in its wake that the player can follow. An example can be seen in the storyboard.

Storyboard 7.41

**Other spirits:** This modular system, built on lots of spirits some are necessary like the spirit of guidance while others might just make the life of the player just a little bit easier like the Spirit of Pilfer. A spirit that helps the player to loot so that the player doesn’t have to spend unnecessary time kneeling over a corpse, it’s a all about entertainment so remove the unnecessary boring parts. Spirit of Kinship, a strategic spirit that allows the player to interact with other players, guiding them by laying out spirits that work as waypoints. Leading them through dangerous dungeons or other tricky situations. Letting players teach each other how to navigate through new places or setup attacks on hard clusters of enemies. In the end it’s up to the player to choose their own spirits. Images 7.42, 7.43

**Spirit of Ascendance:** This is an example of a late game spirit and what implications it can have on the game. This spirit emerged from looking at how the healing system works in World of Warcraft. In one way it can be said that the healing system works almost as a game within the game. A game that only focuses on healing, keeping key characters alive as long as possible. A system based heavily on the 2D overlay interface, my question was if I could move that 2D overlay system in to the game and make it even more interesting as a game within a game. So Spirit of Ascendance was born. Video and Images 7.44, 7.45

**Spirit of Ascendance the system:** The spirit itself does not change the game mechanics, it uses the same spells and abilities as World of Warcraft. The difference is that once activated the spirit separates the player avatar from the ingame world. This is done with hue and saturation. Make the classic world de-saturated blueish, whereas the new world, the world
above is golden, magic silversih. The color was selected both as complementary colors giving contrast but also keeping in mind that the world above ours often is referred to as golden, shimmering. Playing with the idea of ascending. Before the player is now a circular grid where slots for spirit representing their teammates is. Depending how the player puts these representations/spirit is going to affect how well the player heals. When placing the representations correctly the can get a healing tactical benefit. Ex; placing souls that is going to get more damage than others clumped close together, one single area of effect heal can all those clumped together. But if all the ones taking lots of damage is spread out its going to be much harder to fit more of them into one or two area of effect heals, and so on. The next step in this game is adding souls. The souls added on your Spirit of Ascendance will affect how the system works. Ex; a soul can give area of effect on heals on that target. Placed on the main tank, this soul would give “amount”% of that heal to the spirits/representations around it.

**Representatives / spirits:** Consists of three main parts, in the middle a colored item. The color stands for class and the item, what role that player has. Ex; A brown shield would be a warrior tank, warrior = brown and shield = tank. The color system used is taken directly from World of Warcraft. The outer golden, shimmering ring is the health bar, that runs out in a circular motion. Holding everything together is an iron halo, this is to balance the world, when there was no iron halo, it became too light for World of Warcraft and even if this is a place of ascendance it is still heavy and brutal.