Side health indicators in FPS
A study in the subject health indicators in first person shooters

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Abstract

This essay is about side health indicator in FPS, why they look like they do and what function they provide in FPS and their existence in modern FPS. The essay also contains information about traditional health indicators, psychology in colors, the crosshair focus area and research about FPS in modern times. The author research of 44 FPS games is find out the amount of side health indicators against the more traditional types and the reasons a developer would include a side health indicator instead of the others. In his research he found out that in the selected games, a fair amount of them did include only a side health indicator but a far larger amount of the combination type, using a traditional type as a primary health indicator and a side health indicator when an avatar takes too much damage or nearing death. The author also found out a type he had not thought of, called full screen health indicators, which affects the whole screen to indicate the avatars state of health.

Keywords

First person shooter
Psychology of colors
Health indicators
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1 Introduction

1.1 About the paper
The paper of “Side health indicators in FPS” is about health indicators, specifically side health indicators that have appeared in FPS (First Person Shooter) in recent times. The study will investigate what a health indicator is, what a side health indicator is and has done for the genre, the reasons to include a side health indicator before one of the more traditional variants, along with examination of the cross hair focus area, colors and their meaning in psychology applied to health indicators.

The study that the paper undergoes is centered on recent FPS, set within a five year limit, what kind of health indicator that a game uses, if there is more than one and what kind of FPS it is, a single player experience, multiplayer only or a combination of both.

1.2 Purpose of the paper
The purpose of this paper is to investigate the recent change in displaying health in video games, from having a one or more standard health indicators to using the type known as a side health indicator. The author wishes to understand the reasons behind using a side health indicator instead of one of the traditional ones, if a side health indicator is better option when designing a FPSs interface and if the choice of using a side health indicator is done due to having multiplayer or not.

The paper will also detail the crosshair focus area, one of the reasons that side health indicators are becoming more standard in the FPS genre.

2 History of FPS
FPS is a genre that is defined in videogames by the virtue of having a first person perspective, as viewed from the avatars own eyes. As such, the player views the world as the character does, as opposed from a top down perspective, looking down at the map or a third person style perspective, where the camera follows the avatar from behind.

FPS where born from the reason of simulating the way humans sees and interacts with the world, a 2D image of a 3D environment. This way to portray the in-game world brings the player closer to said game world as she experiences it from the avatars perspective.

The FPS genre mostly consists of violent action shooting, where the in-game problems are often but not always solved with the use of ranged weaponry, mostly the projectile based variant. As such, the genre often revolves around armed conflicts in between military organizations, often pitting the player character against a much larger quantity of armed enemy forces, but it is not a just what the genre is about. There can and does exist games that use the FPS label but does not use it meaning other than to tell that a game is in first person perspective and may or may not involve projectile weapon. Examples include: Portal, Unfinished Swan and Dear Esther.

The first financial successful FPS in video game history is the game Wolfenstein 3D for the Personal Computer (PC) for short [1]. The game is about a man named William "B.J." Blazkowicz fighting Nazis and was developed by Id Software and released in 1992. The game gave developers a new way to design games from the first person perspective, which sank the player deeper into the game by letting the player be directly controlling the player avatar in the game, as opposed of controlling the
avatar from a distance. She was not just a watcher but foremost a participant in the game, on a deeper level of personal interaction then there had been before. [2]

From the success, the genre moved forward with technology, and games like Doom, Duke Nukem and Quake showed that FPS is a useful way of designing games that is based around armed conflict.

The genre has evolved to become better of interacting with the player, with better graphics to show the game with more clarity and understating of what is happening on the screen, while innovations like multiple weaponry, greater quantity in enemy variety and in-game environment, better designed game maps, traps and other kinds of hindrance to hold the players attention and involvement in playing while also challenging their skill with different levels of difficulty, if the option is included.

3 Health indicators in MDA

MDA (Mechanics-Dynamics-Aesthetics) is a videogame design method which breaks down the game into three parts in order to have a better control over the testing and designing of a game.

Health indicators are a part of health systems, which in MDA is placed in the mechanics section.

3.1 Mechanics
Mechanics is the rules that control everything that can be done in-game. From movement to combat, A.I (artificial intelligence), energy systems and every other part that the game contains are part of this stage.

Using a metaphor, mechanics are the parts inside of the mechanical clock. The gears and springs that makes up the mechanism of the clock must work together in order to move the hands of the clock.

The health system of the mechanic part of the game design philosophy is to create a play state: alive or dead. If the player is alive, the can continue to play but if the health is lowered to 0, the player avatar dies and has to restart from a check point or a save station if they wish to continue.

It is important to note that a health system is not a required part of a video game but a tool to create a life/death state within the game, in order to challenge the player to become better at solving the in-game problems, such as the survival of the player avatar in a hostile environment.

3.2 Dynamics
The dynamic part of a game is usage of mechanics and the results they do, the combination of multiple different systems working together results in things happening on the screen. For example, the triggering a weapon is mechanics and result, the firing of said weapon, is the dynamics.

Going back to the clock metaphor, the dynamics are the moving of the clock hands, moving due to the parts inside working together.

The dynamic part of health systems is the change which affects the health indicator and in turn, the chances of the player succeeding in their quest to win the game. If an action in-game hurts or heals the avatar, this change is the dynamics happening through the mechanics.
3.3 Aesthetics
The aesthetic part in MDA is the graphics, the style, the sound and music that the game contains. It is the superficial game space, the effects and the actions which are presented to the players through their input by doing things in the game and the results that this generates.

Lastly, returning to the clock metaphor, it is how a mechanical clock shows time, moving a hand to a number. We only need to know what the number that the hands are on to know what time it is. The average person does not need to understand the process behind hands to know the current time.

The health system part of aesthetics is the health indicator that shows the health on screen. It can be a bar, an index, an icon, almost anything just as long as the player can connect that the health and the fact that their actions in-game affects the health indicator that is displayed and therefore the health state of the avatar they control.

4 Colors of health indicators

4.1 Color in FPS health indicators
By having color in health indicators, players can distinguish the state of health of an avatar with a single look. By having different colors attached to different states, the player can associate the color to the survival chances of the avatar.

In Leo Sandberg book “Imagine” (2009), he speaks that there are three primary colors that combines to create all other colors; Blue, red and yellow. From these can the secondary colors be created; green, purple and orange. The other colors beyond is simply a matter of adding or removing amounts of a color to another to create the mix that is required. Including the usage of values, temperatures in color and saturation, and a person can make any color they so desire from the visual light spectrum humans can observe. (Sandberg, 2009:74)

4.2 Meaning of colors in FPS health indicators
As stated, if the states in a health indicator have a color attached to them, the player connects the current health state with the chances of survival of the avatar they control.

As colors have different meaning in different cultures, the author has chosen to focus on the western implications as the development of FPS is mostly made by westerners.

The usual colors of a changing health indicator, as seen in Left 4 Dead and Conduit 2 are as following, described by Angela Wright of Color Effects [3]:

- Green: Green strikes the eye in such a way as to require no adjustment whatever and is, therefore, restful. Being in the center of the spectrum, it is the color of balance - a more important concept than many people realize. When the world about us contains plenty of green, this indicates the presence of water, and little danger of famine, so we are reassured by green, on a primitive level. Negatively, it can indicate stagnation and, incorrectly used, will be perceived as being too bland.

When the health levels are at this color, the player can take risks and be more adventurous, as they are not in danger of dying due to in game opposition at the moment.
- **Yellow:** The yellow wavelength is relatively long and essentially stimulating. In this case the stimulus is emotional; therefore yellow is the strongest color, psychologically. The right yellow will lift our spirits and our self-esteem; it is the color of confidence and optimism. Too much of it, or the wrong tone in relation to the other tones in a color scheme, can cause self-esteem to plummet, giving rise to fear and anxiety. Our "yellow streak" can surface.

It is the color that is often placed around the half point, 50% of a health indicator. It is the color that is often associated with change, to confidence and optimism if the health is going from red to yellow or to fear and low self-esteem when green turns into yellow.

- **Red:** Being the longest wavelength, red is a powerful color. Although not technically the most visible, it has the property of appearing to be nearer than it is and therefore it grabs our attention first. Hence its effectiveness in traffic lights the world over. Its effect is physical; it stimulates us and raises the pulse rate, giving the impression that time is passing faster than it is. It relates to the masculine principle and can activate the "fight or flight" instinct. Red is strong, and very basic. Pure red is the simplest color, with no subtlety. It is stimulating and lively, very friendly. At the same time, it can be perceived as demanding and aggressive.

The red stage of a health indicator is at the low end, from 1-20%, approximately. As the color is striking, as described in the text, the player notices it more in a stressful situation that an in game armed conflict can result in than the other two.

![Bar health Indicator](image)

By going the route of figure 1, a descending health indicator in the form of a bar in the example, green is the color of good health and strong chances as the player can risk more exposure of damage in order to succeed with their current task. Yellow is usually placed on 50%, a color of change, as described in the example above and red is the color of warning to indicate that the state is dire and the player should proceed with much caution.

However, depending on the color scheme and design of a health indicator, a developer can also use a single color to show the amount of health, often the color red. In those cases, as seen in the figure 1 below, it only needs to remove color instead of changing it, the lack of said color will indicate the amount lost, and the player will still understand that the health levels are affected.

The importance thing to note is that video games are always teaching the player how to play the game, meaning that a player can associate any color with health within the context of the game, as long as the
developers makes an effort to create the connection in between the color and that it represents the abstract notion of the avatars health.

5 Variants of health indicators in FPS

5.1 Index
The index health indicator in FPS refers of showing the numbers that the avatar has in health. By using the index variant, the developer expects that the player understands numbers and their implication within the game. Understanding number and what they mean is the key of using an index variant of health indicator. In figure 2, we can observe that the amount of health is 84%, lower than the starting amount of 100%. The avatar is damaged but not near death at the moment.

![Figure 2: Doom screenshot, Id Software (1993)](image)

5.2 Icons
The Icon health indicator is to have an image represent the health; a heart, a head, a row of fruit for example. Any sort of icon can work but the player has to make the connection that the icon represents health and the icon changes according to the state of the health. For example: a normal, healthy looking heart when the health is at full starting value to a busted and broken heart when the player avatar nearing death.

Doom once again provides an example, figure 2, as it also has an icon to indicate health, the face of the main character, which changes as the in-game situation affects the avatars health.
5.3 Bar health indicator
A geometrical shape, such as a long rectangle that is called a bar is one of the more common ways to display health, as the player can distinguish how much health is left due to how much the bar is filled or emptied. At full health, the bar is at maximum capacity and when the avatar is damaged the bar lowers by the amount the damage represented. Figure 4 shows a simplistic design of this.

Bar health Indicator

5.4 Side health indicators
The change which the paper will be about is the increase of the usage of side health indicators within FPS. The side health indicators refers to an effect which appears at the sides of the screen, seen when the avatar is struck or otherwise injured, resulting in a decrease in vision in the side area for the player. The more hurt the avatar is the more red and in many cases, bloodier the sides can get. Depending on the game, the effect can be limited to a very short distance from the side and inwards or potentially creating a tunnel effect that limits the vision of the player so that only the crosshair focus area is visible.
Either by waiting, if the health system within the game is a regenerator type, where the health automatically replenishes itself by staying away from damage or bringing the health up from its current level with the use of in game health remedies will the effect lessen and disappear.

As such, the effect has been used more often in recent FPS of indicting when the avatar is attacked or injured in any way and the player does not have to leave the focus area, and can see that the avatar is injured and by a degree, how much depending on the game.

Using the game Wolfenstein 2009, we see that figure 5 shows the player screen, unaffected by damage. But in figure 6, damage has been inflicted upon the avatar and in figure 7, severe damage has happened and the avatar is in a dire situation.

Figure 5: Wolfenstein screenshot, Activision, Raven software, Id Software (2009)

Figure 6: Wolfenstein screenshot, Activision, Raven software, Id Software (2009)
5.5 Side damage indicators

When looking at side health indicators in FPS there are an importance to separate the health side indicators from damage side indicators, as the two are similar but have different purposes.

The damage side indicators differ from health side indicators in that while they don’t change in appearance while a side health indicator does. Referring back to figures 5, 6 and 7, Wolfenstein 2009 has a health variant that changes as damage is taken.

But the damage indicator in Borderlands, seen in figure 8, shows where the damage is coming from (the red effect seen on the top of the screen, not the red rectangles on the sides) while other damage indicators may only show that the avatar is damaged. The difference from the two types of indicators is that health change to show how much damage the avatar has taken while the damage one only shows that the avatar is being attacked and damaged.

6 Crosshair area- the focus point of FPS

6.1 What it is

The crosshair focus area refers to the area surrounding the middle of the players screen. This area is when the crosshair is placed within a FPS and successively, where in-game enemies can be killed from. As such, the player will spend most of her gaming session looking at this area, as it is the best method which she can hurt enemies by shooting the avatars weaponry at the opposition. Therefore, the
player wants not to optionally leave this area unless it is more important than shooting enemies, like checking the current amount of ammunition or looking at an in-game map.

The crosshair focus area is created due to the way human vision has evolved. As written by Sean D. Pitman [4], the evolution of human vision adds the ability to observing movement and changes outside the focus area as a way to be faster at reacting to the world around them. But as human eyes can move a person can see the entire screen but only focus on a particular piece of it at the time. This adds up to a complete picture of the screen but information that wasn’t in focus will not be as important until the person looks at it. However, visual cues and changes will draw the person attention, and therefore, the focus to that part of the vision.

6.2 What has it to do with this paper?
The Cross hair Focus area, as a concept is very important to the aiming mechanics in FPS, as stated, being the means to interact with the in-game environment, by aiming at what the player wants to observe by the use of the crosshairs. As such, health indicators, excluding side health indicators, are not what the player looks at in the heat of the moment when she is playing a FPS but the crosshair focus area. Therefore, a health indicator needs to be as informative as possible and inform the player of the avatars current health levels as fast as possible when she desires to observe it at her leisure.

The change from traditional health indicators to side health indicators can be seen as an improvement as the side variant tell the player the current level of health at the sides of her vision without the player having to leave the crosshair focus area to check on that fact. The general simplicity of having only to associate a color to a state can be seen as an improvement over having to analyze a bar health indicator of the current amount of health at heat of an intense situation.

7 Method

7.1 Method of examining the games
To examine a FPSs health indicator there are several factors that needs to be categorized in order to be able to understand them. These factors are:

- Variant: what kind of health indicator is it
- Multiple kinds: if there are more than one health indicator
- If the game is a multiplayer or not
Using these guidelines we can examine what kind of health indicator is used, if there is more than one
and what kind of modes (single- or multiplayer) an examined game contains.

Using this method we can determine the amount of side health indicators used in the selected games
for the research to determine the reasons of the inclusion to add a side health indicator or not.

7.2 The selected games
To limit the research to a manageable scope, a five year period, from 2009-2014, starting with the
game Wolfenstein 2009 as a starting point due to the game having only a side health indicator and
ending with Titanfall (2014) as a way to have a sizeable amount of examples to study. The total
amount of games studied is 44 in amount and is all labeled within the genre FPS and they all feature
health systems and therefore a health indicator of one of the listed variants.

Of the researched games, the author has not played them all, instead observed and studied trailers,
gameplay, “Let’s Plays” (footage of a person or more playing a game with her/their on commentary on
it and other subjects) and reviews as a means to gather the necessary information to perform the
examination.

8. Results
Of the researched games, the author researched what kind of health indicators the games had, which
type of games had only side health indicator and the amount of game mode types the selected games
had.

Figure 10: breakdown of health indicator in the selected games
After looking at the games through the factors set in method, the author noticed several trends that are displayed upon the screen.

8.1 Indicators
Of the selected forty-four selected games, only fourteen of them only had a side health indicator as a means to convey the health levels to the player, while the bars type had five, indexes two and icons zero. The amount of multiple health indicators, eighteen, and the other type unforeseen by the author, five, show that while the amount of side health indicators outweigh the amount of the three classical combined.

8.2 Side health indicators as damage/dangerous situations indicators
Another piece of interesting information is that the game that has multiple indicators, such as bars as a main health indicator and additionally a side damage indicator is far more common than a single health indicator. Including a side health indicator is to further inform the player of the current amount
of health the avatar has when the player is in a stressful situation and cannot leave the crosshair focus area. Therefore, to include a side health indicator as an addition to the main one is a design choice that FPS developer does in order to inform the player when the situation is direr without having to force the player to look upon the main health indicator.

8.3 Side health indicators in both single- and multiplayer
Of the researched games that include only a side health indicator, only two of them where single player while the combination of both single and multiplayer took the rest 12, and in the selected games there were no multiplayer with only side health indicators. There may be such a combination but it in that case outside the selection of the research material.

8.4 Other types of health indicators
During the research the author discovered another way of indicating health dubbed full screen health indicator, due to the fact that the indicator covers the entire screen when it appears, adding a grayscale color to it which persists until the avatar is healed or dead and the player avatar re-spawns.

9 Discussion

9.1 The change
The fact that the amount of games that has only side health indicators is less than the ones that has multiple ones does not change the truth that the incensement of the usage of side health indicators has increased, while the likes of only bar, icon or index has not been used almost at all. The question of why is a good one with a very probable answer:

The need for precisely indicate the health in a FPS has lessened to the importance of the reaction of the player in a firefight.

9.2 Why it happened
The yesteryears gaming products has always been improving in terms of gameplay, from era of 2d pixels to 3d models of today, the way to create games has changed and the limitations that was imposed by that times technology was broken by better improvements in technology.

The original Wolfenstein (1992), which a pace that is slower compared to the 2009 version, has more emphasis on finding and maintain health at a level above 0, as there is no regenerating health in the game, than to kill enemies. To progress in the game does mean to kill enemies, but finding secrets and hidden passages was more engaging to the player. [4]

On the opposite side, Wolfenstein 2009 has a faster paced gameplay, a regenerating health system which allows the player to focus on killing enemies as the health will return to normal if the avatar is not attacked in a certain amount of time. The amount of weaponry and variations on them is more than the 1992 game and so means that the player has more options to choose from. This also means the enemies are faster and smarter, their artificial intelligence is of higher quality, and can do more than just shoot at the player. [5]

As such, the need to know the current health levels differ from each game. A slower pace means the player can look outside the crosshair focus area more often without the fear of letting the avatar die but a fast paced game forces the player to stay within the area to ensure the avatar is not killed by in-game opposition.
So, a faster paced game has more usage of a side health indicator, due to the speed of the gameplay while a slower paced one can have an index as the player does not have to maintain a constant focus on that same area.

9.3 What games have the side health indicator

Of the games looked at that had a side health indicator, the vast majority was both a single player and multiplayer, meaning the games take an emphasis on the action and split-second decisions, rather than the need to slow down and think of a solution to a problem, other than to shoot it to death. As such, it does make sense to have a side health indicator as the player can more freely focus of the gameplay.

To just assume how much health the avatar has, while a dangerous thing to do, increases the reaction time the player can put on decisions that have life or death consequences. The player will be able to put aside the health in favor of the gameplay that involves shooting things to ensure the continuation of the avatars survival. As such, the FPS that the author has looked upon is qualified as either single player or multiplayer, their gameplay are fast paced and action filled, where split second decisions are more favored in conjunction with the long term goals of the game. The games that had a primary health indicator of the traditional types with a side health indicator as low health warning signal.

These games do focus on the action part of the FPS but also include a health indicator to inform the player of the current level of health the avatar has, but also allows the player to focus on the action by having a side health indicator to when the health gets low, without having the players focus leave the crosshair focus area.

9.4 Effect on FPS

The biggest understanding that the author have found due to his research is that the change from not having a side health indicator to the most of them in the latest 5 years is that the fact that the effect of having one does not impair the playing ability of a player, but in fact improve it. As mentioned before, the cross hair focus area is where the player will spend most of her time looking at while playing a FPS, and the effect of having a side health indicator to the area surrounding it does in fact help the player see when the health state is threatened or low. The human vision focuses more on the movement and change rather than the ability to see what it is that is moving. As such, to have a change happening around the focus of your eyes does not steal the focus that you are using on the task at hand. [6] But it does just inform the player that the avatar is hurt and only a good side health indicator, as determined on how much it changes to indicate when the health drops, can only show an estimate of the health left while a bar, icon or index does the job better at informing the player, the information is of less value to the player if their focus is on the combat instead.

In Fundamentals of game design, second edition (2009) Ernest Adams speak of having gameplay broken up by goals, first there should be an overarching goal for the player to strive for. That goal can be to freeing the princess, saving an alien species or the killing of a character, to suggest a few. The point is to set this goal as the last thing the player will do in this game and should be what they want to reach, no matter what.

From that we break down the goals that the player will have to reach before they can get the overarching goal. Opening doors, finding keys, killing enemies, these are just small goals that the player solves during gameplay. The player is in fact solving the little goals which lead to solving the big ones later on.

(Adams, 2009:253-259)
And that is what gameplay is about: choice. Choices are what affects the play style of a player, starting with the smallest, “how do I choose to proceed this section of the game” to “How do I defeat this enemy”, “finding this key to open this lock”, “defeating this boss” and finally, “winning this game”. While they player does have choices, the choices available are implanted by the developers, creating a false sense of freedom for the player as they proceed with the game. While there are choices and strategies that can be discovered by player not foreseen by the developers, the end result is still unchanged, the player wins the game or not.

So having the player choose a way to become better at the game, a side health indicator is a faster way to indicate health and allows the player more time to spend on the gameplay.

And by having more time, even the split second it takes to understand how much 59% health is in the context of the situation, is better spent on choices. Because in a FPS simulated gun fight, where enemies overwhelm and charge at the player relentlessly, the ability to locate enemies, where they are going and how to best fight them is superior than to understand the exact amount of health in that same situation.

10. Conclusion

The change in how health is being displaced is a positive one, as it an improvement in health indication. By giving the player this alternative in understanding the health system, the developers can make FPS faster paced as the player can understand a side health indicator faster than a bar or an index. While a side health indicator may not be as precise as the other types, the player can still understand the current health situation without having to leave the crosshair focus area, which allows them to become better at the game by understanding the action on screen without interruptions from the surrounding screen.

By having a standard type of health indicator and a side health indicator to show when the avatar in in danger allows the player a complete understanding of the current situation. The player can see the standard type before going in to action and under the ensuring battle be informed if the health gets too low without having to reexamine the standard type.
References

Notes


List of Figures


Battlefield 3 [Online]. Available at: https://www.youtube.com/watch?v=a1ymD7K1rW0 [Accessed: 29 June 2014]

Battlefield 4 [Online]. Available at: https://www.youtube.com/watch?v=UieK4lYjCq4 [Accessed: 29 June 2014]


Blacklight: Retribution [Online]. Available at: https://www.youtube.com/watch?v=rVUPFvukLiM [Accessed: 29 June 2014]

Blacklight: Tango Down [Online]. Available at: https://www.youtube.com/watch?v=f_NETwX6mmo [Accessed: 29 June 2014]
Borderlands 2 [Online]. Available at: https://www.youtube.com/watch?v=N8jPSN3sQzw [Accessed: 29 June 2014]

Borderlands [Online]. Available at: https://www.youtube.com/watch?v=GDONdCo_bEU [Accessed: 29 June 2014]

Brink [Online]. Available at: https://www.youtube.com/watch?v=1nyc9k1DKHo [Accessed: 29 June 2014]

Bulletstorm [Online]. Available at: https://www.youtube.com/watch?v=gVkvS9vcCHI [Accessed: 29 June 2014]

Call of Duty: Ghosts [Online]. Available at: https://www.youtube.com/watch?v=m-sLhZuQFPe [Accessed: 29 June 2014]

Call of Duty: Modern Warfare 2 [Online]. Available at: https://www.youtube.com/watch?v=M0Zj2P1QB8w [Accessed: 29 June 2014]

Call of Duty: Modern Warfare 3 [Online]. Available at: https://www.youtube.com/watch?v=995kDu_ZO3s [Accessed: 29 June 2014]


Conduit 2 [Online]. Available at: https://www.youtube.com/watch?v=J4zfIZk2Tfg [Accessed: 29 June 2014]

Crysis 3 [Online]. Available at: https://www.youtube.com/watch?v=xqDbQD5Pa2c [Accessed: 29 June 2014]

Dead Island [Online]. Available at: https://www.youtube.com/watch?v=T2xFFRgl-oM [Accessed: 29 June 2014]

Dishonored [Online]. Available at: https://www.youtube.com/watch?v=qKf2oal9ZQs [Accessed: 29 June 2014]

Duke Nukem Forever [Online]. Available at: https://www.youtube.com/watch?v=UK5Ahwh0HSU [Accessed: 29 June 2014]

Far cry 3 [Online]. Available at: https://www.youtube.com/watch?v=2Kbn8Q3PABI [Accessed: 29 June 2014]

Far Cry 3: Blood Dragon [Online]. Available at: https://www.youtube.com/watch?v=1D1sm4IQhQ0 [Accessed: 29 June 2014]

FEAR 3 [Online]. Available at: https://www.youtube.com/watch?v=lScKzHTitFg [Accessed: 29 June 2014]

Halo 4 [Online]. Available at: https://www.youtube.com/watch?v=w1E7JtaLraU [Accessed: 29 June 2014]

Halo ODST [Online]. Available at: https://www.youtube.com/watch?v=64QiYWZiE0o [Accessed: 29 June 2014]
Halo Reach [Online]. Available at: https://www.youtube.com/watch?v=orOlng5uAHq [Accessed: 29 June 2014]

Homefront [Online]. Available at: https://www.youtube.com/watch?v=yOJ5giN7ASg [Accessed: 29 June 2014]

Left 4 Dead 2 [Online]. Available at: https://www.youtube.com/watch?v=K5BY3-A_mgs [Accessed: 29 June 2014]

MAG [Online]. Available at: https://www.youtube.com/watch?v=NkhyKDbe4q4 [Accessed: 29 June 2014]


Metro 2033 [Online]. Available at: https://www.youtube.com/watch?v=M1Mp6UD_gQ8 [Accessed: 29 June 2014]

Metro: Last Light [Online]. Available at: https://www.youtube.com/watch?v=hO-k0aM8EM0 [Accessed: 29 June 2014]


Red Steel 2 [Online]. Available at: https://www.youtube.com/watch?v=s5n6N2uO04c [Accessed: 29 June 2014]

Resistance 3 [Online]. Available at: https://www.youtube.com/watch?v=0bIpGiZww6k [Accessed: 29 June 2014]

Rogue Warrior [Online]. Available at: https://www.youtube.com/watch?v=3ztsAQ-kU1o [Accessed: 29 June 2014]

Serious Sam 3: BFE [Online]. Available at: https://www.youtube.com/watch?v=t9gq8bR50fU [Accessed: 29 June 2014]

Shattered Horizon [Online]. Available at: https://www.youtube.com/watch?v=_jrR_Muz6DA [Accessed: 29 June 2014]

Singularity [Online]. Available at: https://www.youtube.com/watch?v=7XN50SOLaSs [Accessed: 29 June 2014]

The Darkness II [Online]. Available at: https://www.youtube.com/watch?v=UM5WIpvAcJk [Accessed: 29 June 2014]


Wolfenstein 2009 [Online]. Available at: https://www.youtube.com/watch?v=4_tRr-UHLuw [Accessed: 29 June 2014]

Books references
Sandberg, Leo 2009. Imagine. Fabpics

Appendix
The games in numerical order based on date of release, the oldest to the newest.

1. Wolfenstein 2009

![Wolfenstein screenshot](image)

Figure 13: Wolfenstein screenshot, Activision, Raven software, Id Software (2009)

The game is published by Activision, co-developed by Raven software, Id software and Endrant Studios, released in 2009 for the PC, PlayStation 3 and the Xbox 360.

The health indicator for Wolfenstein is a side health indicator, which grows in size and gets bloodier the more damage is taken. When the player is at lowest possible health, 1, the player cannot see the sides at all.

The game is both Single player and multiplayer.

2. Halo ODST
Halo ODST is published by Microsoft for the Xbox 360 developed by Bungie and released 2009 for the Xbox 360.

The indicator used in Halo ODST is a side health indicator that grows red when the player is hurt, but is transparent enough to be able see the screen, even at the lowest point.

Halo ODST has Single player, Co-op and multiplayer.

3. Borderlands

Borderlands was developed by Gearbox Software and published by 2K Games and released in 2009. The game was released on PC, Xbox and PlayStation 3.

Borderlands have a bar for both the player and for enemies, the enemy one when it is near the crosshair focus area. The health bar is red in color and drains to gray when the shield bar is emptied beforehand.

Borderlands have Single player and Co-op multiplayer.

4. Painkiller: Resurrection
Painkiller: Resurrection is developed by HomeGrown Games and published by DreamCatcher Interactive in 2009 for the PC.

Resurrection has an index for a health indicator, located in the bottom left corner above the armor index. The health indicator switches color when the health is under 20, from light yellow to red.

The game has both single player and multiplayer.

5. Shattered Horizon

Shattered Horizon was published and developed by Futuremark in 2009. Shattered horizon can be played on the PC.

The game does not feature a visual health until the player avatar is near death, the screen flashes red for each damage taken then.

Shattered horizon is a multiplayer game only.

6. Call of Duty: Modern Warfare 2
Call of Duty Modern warfare 2 is published by Activision and made by Infinity Ward in 2009. Modern warfare can be found on Xbox 360, PC and PlayStation 3.

The health indicator is one of the side variant and the screen gets bloody when the avatar is low on health. The side health indicator is transparent enough for vision but slightly obscuring at the same time.

Modern warfare 2 has a multiplayer and a single player.

7. Left 4 Dead 2

Left 4 dead 2 is a PC game developed and published by Valve in 2009. Game can be played on PC and Xbox 360.

The game features a color changing bar health indicator, located at the bottom of the screen for all the players. The changes in colors go from green to yellow and lastly red.

Left for dead is a Co-op game with the possibility to play single player. There is also multiplayer, where the player faces players in the role of the in-game enemies.

8. Rogue Warrior
Rouge warrior was released in 2009, developed by Rebellion and published by Bethesda software. The game is available to be played on PC, PlayStation 3 and Xbox 360.

The health indicator is a screen covering monotone effect when the avatars health runs low. When the health regenerates, the effect disappears.

The game has both single player and multiplayer.

9. MAG

MAG, released in 2010, was made by Zipper Interactive and published by Sony Computer entertainment for the PlayStation 3.

The health indicator in MAG is a flashing effect in red that appears when the player has low health. The effect covers the screen at intervals but is transparent, so the player can still see the content on screen.

The side health indicator is one that only shows up when the player takes damage, therefore not a health indicator.

MAG is a multiplayer game only.

10. Bioshock 2
Bioshock 2 developed by 2K Marin and 2K Australia and published by 2K games in 2010. Bioshock 2 is a PC, Xbox 360 and PlayStation 3 title.

The health indicator of Bioshock 2 is a bar, located in the top left corner of the screen. Red in color, when the player avatar is damaged, the red gets removed and the gray beneath is revealed. If the health is near the end, there is an additional effect as a side health indicator indicates the very low amount of health left.

Bioshock 2 is both a single player game and a multiplayer one.

11. battlefield: Bad Company 2

Battlefield: Bad Company 2 is published by EA (Electronic Arts) and developed by DICE in 2010. The game can be played on PC, PlayStation 3 and Xbox 360.

The health indicator in Bad Company 2 is a side variant, reddening effect with blood splatter on it when the damage taken is close to killing the player avatar. The effect is transparent enough that the player can see the in-game environment.

Battlefield: Bad Company 2 is a Multiplayer and a single player game.
12. Metro 2033

![Figure 24: Metro 2033 screenshot, THQ (2010)](image)

Developed by 4A Games, published by THQ, metro 2033 were released in 2010. Metro 2033 is a PC and an Xbox 360 title.

Metro 2033’s health indicator is of the side variant, which turns red with blood drops when the player character is getting hurt and is nearing death. There is also a red flashing effect when the health is very low.

Metro 2033 is a single player game.

13. Red Steel 2

![Figure 25: Red Steel 2 screenshot, Ubisoft (2010)](image)

Red Steel 2 released in 2010 by developers Ubisoft Paris and published by Ubisoft for the Wii.

The health indicator in the game is one that appears when there are enemies near the player avatar. The bar, as both the player character and the enemy currently under the players hail of bullets are of two colors, white for the player which then goes down to show gray when the avatar is damaged and red for the opposition, which turns to the same gray as the players. There is also an icon for the player
avatar and the enemy, their respective heads which will flash red when their lives are in danger. The enemy head will have an X appear on it when that enemy is slain.

Red Steel 2 is a single player game.

14. Singularity

Figure 26: Singularity screenshot, Activision (2010)

Singularity, developed by Raven Software and published by Activision, released on the PC, Xbox 360 and PlayStation 3 in 2010.

The health indicator in Singularity is of the bars variant, located in the top left corner, colored red and when the bar drains the darkened area behind becomes visible. When the player avatar health is low enough, a side health indicator is used to emphasize the urgency of the little amount of health the avatar has left.

Singularity has both single player and multiplayer.

15. Blacklight: Tango Down

Figure 27: Blacklight: Tango Down screenshot, Ignition Entertainment (2010)
Developed by Zombie Studios and published by Ignition Entertainment, Blacklight: Tango Down is a PC and Xbox360 game released in 2010.

The health indicator in Tango Down is a bar variant with an additional index on its left, located down by the left of the screen. When the red rectangle is lowered to the left, the gray color beneath appear. The number does decrease with the bar, the amount of health corresponding with the amount of red rectangle left. When the health reaches below 30, the bar gains a stripe appearance to indicate this fact.

Blacklight: Tango Down is a multiplayer and a single player game.

16. Halo Reach

![Halo Reach screenshot](image)

Figure 28: Halo Reach screenshot, Microsoft game studios (2010)

Halo reach is published by Microsoft Game Studios, developed mainly by Bungie and released on Xbox 360 in 2010.

The health indicator in Reach, the segmented bar below the blue one changes color depending on the amount of health the player avatar has. At full health, the bar is blue, by 50% the bar is orange and lastly at 20% the bar turns red to show the low amount of health left. The health, beneath the shield indicator is located above the crosshair focus area.

When the health lowers to red levels, the health bar starts to blink and the effect persists until health is recovered.

Halo reach has single player, Co-Op and multiplayer.

Figure 29: Medal of Honor screenshot, EA (2010)

Medal of Honor was developed by Danger Close Games and DICE, published by Electronic Art, released in 2010 for the PC, PlayStation 3 and Xbox 360.

The health indicator in the 2010 version of Medal of Honor is a side health indicator, a blood effect that is visible when the player avatar has taken too much damage. The indicator turns the sides red, with additional blood to show this fact. The area behind the side health indicator cannot be seen when it is visible.

Medal of Honor has both single player and multiplayer.

18. Bulletstorm

Figure 30: Bulletstorm screenshot, EA (2010)

Bulletstorm, developed by Epic games and published in 2010 by Electronic Art for the PC, PlayStation 3 and Xbox 360.

Health indicator is a side health indicator, a reddening effect that shows when the player is taking damage. The screen can be seen through the effect of the health indicator.

Bulletstorm is a Single, Coop and multiplayer game.
19. Homefront

Homefront, published by THQ and developed by Kaos studios. Homefront was released in 2010 on the PC, PlayStation 3 and Xbox 360.

The side health indicator of Homefront turns the area around the sides of the screen red and runny with blood when the avatar is hurt. When the health is reaching low levels, a pulse effect is used on the screen, similar to the beating of a heart.

Homefront is a multi- and single player title.

20. Conduit 2

Conduit 2 is FPS for the Wii, released in 2011 by publisher SEGA. The game was developed by High Voltage Software.

The health indicator in Conduit 2 is a side health indicator, a reddening effect that appears when the health is lowered. Additionally, a bar variant is used by bosses, changing colors from green to yellow and finally to red in order from most health to lowest health before the boss’s death.

Conduit 2 is a single-player, co-op and multiplayer game.
21. Brink

Brink is a game developed by Splash Damage and released in 2011 by publisher Bethesda Softworks. The game was released on platforms PC, PlayStation 3 and Xbox 360.

The health indicator in Brink is of the bars variant, located in the top-left corner of the screen. The bar changes color, from gray to orange at 40% and red at 20%. The bar does also blink in its color when the health reaches that colors level. The difference in speed of each blink increases the lower the health is. At low levels a side health indicator that also blinks, is used to emphasize this.

Lastly, if the player avatar is put into critical state by having the bar emptied completely, blood splatter is also added to the side health indicator to show this fact. The side health indicator with the blood shifts color between dark red and red.

Enemies get a gray health bar that shows itself if the player aims at them. When this health bar depletes, black background is revealed.

Brink is a single player and a multiplayer game.

22. Duke Nukem Forever
Forever was developed by, among several developers, 3D Realms, Gearbox software and Piranha Games. The game was published in 2011 by 2K Games for the PC, PlayStation 3 and Xbox 360.

The health indicator, entitled Ego in-game, is a bar that is located in the top-right corner of the screen. The bar is a low saturation of the color yellow and when the bar is lowered, the background can be seen. The amount of health removed from the bar turns red before lowering.

When the bar is depleted, it starts to flash red to show that it is empty.

When the avatar is nearing death, a side health indicator is used; its red in color and it pulsates. The area that is covered by the side health indicator is obscuring the screen when this happens.

Duke Nukem Forever is a single- and a multiplayer game.

23. FEAR 3

FEAR 3 is published by Warner Bros. Interactive Entertainment and developed by Day 1 Studios in 2011. The game can be played on PC, PlayStation 3 and Xbox 360.

The health indicator in FEAR 3 is a red tunneling side health indicator, which appears when the player character takes damage. The more damage the avatar takes, the more visible the indicator gets. The background can barely be seen when this happens.

FEAR 3 has both single player and multiplayer.

24. Call of Juarez: The Cartel
Call of Juarez: The Cartel was developed by Techland and published in 2011 by Ubisoft for the PC, PlayStation 3 and Xbox 360.

A side health indicator is used in Call of Juarez: The Cartel, but only when the player avatar is getting hurt. The amount of health that the avatar has left is shown in how much the indicator changes: When slightly damaged, a reddening can be seen and when the avatar is at low health, red veins are also shown.

Call of Juarez: The Cartel is a single- and multiplayer game.

25. Dead Island

Dead Island was developed by Techland and published in 2011 by Deep Silver for the PC, PlayStation 3 and Xbox 360.

The health indicator in Dead Island is a bar, located in the left corner of the player screen. If the player avatar is at full health, the bar is not visible. When the avatar takes damage, the bar shows itself. The bar is white in color with a red background. When the health is low, a side health indicator is used to show this fact. The indicator is red and disappears when the player health is not in danger anymore.

When the player aims at in-game enemies a bar show up to show their health. The color of the bar is red and when it drains, the background can be seen.
Dead Island is a single- and multiplayer game.

26. Resistance 3

![Resistance 3 screenshot](image)

Figure 38: Resistance 3 screenshot, Sony Computer entertainment (2011)

Resistance 3 was developed by Insomniac Games and published in 2011 by Sony Computer Entertainment for the PlayStation 3.

The health indicator in Resistance 3 is a yellow colored bar located in the bottom left corner of the screen. When health is drained enough for the avatar to near death, a side health indicator is used to show this fact.

Resistance 3 is a single-, co-op and multiplayer game.

27. Red Orchestra 2: Heroes of Stalingrad

![Heroes of Stalingrad screenshot](image)

Figure 39: Heroes of Stalingrad screenshot, Tripwire Interactive (2011)

Red Orchestra 2: Heroes of Stalingrad is published Tripwire Interactive, and developed the same company in 2011. The game can be played on PC.

The side health indicator appears only when the player avatar is hurt or damaged. The more hurt, the more the indicator turns red, the less the player can see on the sides of the screen. An icon of the
player character colored red when health is low also appears when the player is damaged and when the player health is very low, the screen turns grayscale to show this.

Red Orchestra 2: Heroes of Stalingrad is a single- and multiplayer game.

28. Battlefield 3

![Battlefield 3 screenshot](image)

Figure 40: Battlefield 3 screenshot, EA (2011)

Battlefield 3 is published by EA, Electronic Art, and developed by DICE in 2011. The game can be played on PC, PlayStation 3 and Xbox 360.

In single player campaign mode, a side health indicator is used, showing up when damage is taken and includes blood splatter the closer the player avatar is to dying. The indicator only show up when the player is damaged and disappears when the health has regenerated.

In multiplayer, there is an index located in the right bottom corner together with an icon of a heart monitor next to it. The area around the Icon and the index are colored blue while the symbol of the index and the line representing the heart beat is white.

Battlefield 3 is a single- and multiplayer game.

29. Call of Duty: Modern Warfare 3

![Call of Duty: Modern Warfare 3 screenshot](image)
Call of Duty: Modern Warfare 3, developed Infinity Ward and Sledgehammer Games and published in 2011 by Activision for the PC, PlayStation 3 and Xbox 360.

The health indicator in Call of Duty: Modern Warfare 3 is a side health indicator that shows up when the player avatar is injured. Blood splatter is also added to indicate how much health is left/how close the avatar is to death.

Call of Duty: Modern Warfare 3 is a single- and multiplayer game.

30. Serious Sam 3: BFE

Serious Sam 3: BFE (Before the First Encounter) is published by Devolver Digital, developed by Croteam and released 2011. The game can be played on PC, PlayStation 3 and Xbox 360.

Serious Sam 3: Before the First Encounter has an index in white, located in the bottom left corner of the screen below the armor index.

Serious Sam 3: BFE has Single-, Co-op and multiplayer.

31. The Darkness II
The Darkness 2 was developed by Digital Extremes and published in 2012 by 2K Games for the PC, PlayStation 3 and Xbox 360.

The health indicator in The Darkness II is a bar in the bottom left corner of the screen, colored red. If the health lowers to critical levels, a side health indicator is used, blood splatter. The effect goes away when the health rises.

The Darkness II is a single- and multiplayer game.

32. Blacklight: Retribution

Blacklight: Retribution is published by Perfect World Entertainment and developed by Zombie Studios, released in 2012 and 2014 for the PlayStation 4. The game can be played on PC and PlayStation 4.

A bar and an index are used in Blacklight: Retribution as a health indicator. Located in the bottom left of the player screen, the bar is gray in color with the index in white. When the bar is drained, a darker shade of gray is shown.

Blacklight: Retribution is a multiplayer game only.

33. Borderlands 2
Borderlands 2 is published by 2K games and Sony Computer Entertainment for the PS Vita, and developed by Gearbox software, released in 2012 and 2014 for the PS Vita. The game can be played on PC, PlayStation 3, Xbox 360 and PlayStation Vita.

The health indicators in Borderlands 2 are bars, both for the player avatar and the enemy’s in-game. The player avatar bar, located in the bottom left corner is colored red and when it drains, a gray background can be seen. When the health starts to reach dangerously low levels around 25%, the bars gains a flickering effect.

Additionally, a side health indicator can be seen when the player health levels reach 10 or lower. The color of this indicator is red. An icon is also used to indicate this fact, a red flashing rectangle, located to the right of the bar.

If the player plays Co-op, the extra player’s shield and health indicators can be seen top-left corner. Borderlands 2 are a single- and Co-op game.

34. Dishonored

Dishonored, developed by Arkane Studios and published in 2012 by Bethesda Softworks for the PC, PlayStation 3 and Xbox 360.

The main health indicator in Dishonored is a bar, shaped like a red lightning bolt located in the top left corner. When the bar drains down, the black behind it can be seen. At low levels of health, the bar gain a red pulsating effect around it and a side health indicator makes the sides red in in tune with the bar. If enough time has passed, the side health indicator goes away.

Dishonored is a single player game.

35. Halo 4
Halo 4 is published by Microsoft Studios, co-developed by 343 Industries and Certain Affinity, released in 2012 for the Xbox 360.

There is no traditional bar for a health indicator in Halo 4, instead the shield bar, colored blue and located at the top of the screen. When this bar is drained, a flashing red effect appears on top of the indicator to show that when damage is taken in this state, it affects the health. Take too much and the player avatar dies.

Halo 4 has Single-, Co-Op and multiplayer modes.

36. Far cry 3

Far Cry 3 is published and developed by Ubisoft and released in 2012. The game can be played on PC, PlayStation 3 and Xbox 360.

The health indicator in far Cry 3 is a bent bar, placed besides the map in the bottom left corner of the screen. The bar is yellow in color and leaves a gray area when it is drained. When health reaches dangerous low levels, a side health indicator is used. The side health indicator is a reddening effect which disappears when health is raised again.

Far Cry 3 is single- and multiplayer game.

37. Crysis 3
Crysis 3 was developed and published by Crytek in 2013 for the PC, PlayStation 3 and Xbox 360. A side health indicator is used in Crysis 3, a blooding redness that shows up when damage is taken. The bloodier the sides are, the less health the avatar has. The indicator disappears from the screen when health regenerates.

The honey comb effect is not part of the health indicator; it is instead the indicator for “Boosted Armor” ability found in-game.

Crysis has Single and multiplayer.

38. Aliens: Colonial Marines

Aliens: Colonial Marines is developed mainly by Gearbox Software and published in 2013 by Sega for the PC, PlayStation 3 and Xbox 360.

The health indicator in Aliens: Colonial Marines is a bar health indicator, colored blue at full health, located in the bottom left corner of the screen. When the health reaches low amounts, the bar switches color to red to show this. A side health indicator is also used at this stage, a partial reddening effect seen on the sides. The effect goes away when the health is raised again.

Aliens: Colonial Marines is a Single-, Co-op and multiplayer game.

39. BioShock Infinite
Bioshock infinite is developed by Irrational Games and published in 2013 by 2K Games for the PC, PlayStation 3 and Xbox 360.

A bar, located in the top left corner of the screen, is the health indicator in BioShock Infinite. Red in color and leaves black in when the bar drains.

At low levels of health, a side health indicator is used, turning the corners of the screen dark red in pulses.

BioShock Infinite is a single player experience only.

40. Far Cry 3: Blood Dragon

The game Far Cry 3: Blood Dragon is published and developed by Ubisoft, released in 2013 for the PC, PlayStation 3 and the Xbox 360.

The health bar, located in the bottom left corner of the player screen, is Far Cry 3: Blood Dragon’s health indicator. When there is only 2 slices of health left, the bar starts blinking red.

When the avatar the player uses is nearing death, a filter like effect appears on screen. The effect goes away when health is raised to 1 slice of the total possible amount.
Far Cry 3: Blood Dragon is a single player game.

41. Metro: Last Light

![Figure 53: last Light screenshot, Deep Silver (2013)](image)

Metro: Last Light is published by Deep Silver, and developed by 4A Games and released in 2013. The game can be played on PC, PlayStation- 3, 4, Xbox 360 and Xbox One.

When the health gets too low, a side health indicator darkens the sides and a flashing redness covers the screen in intervals until health is raised.

Metro: Last Light is a single player game.

42. Battlefield 4

![Figure 54: Battlefield 4 screenshot, EA (2013)](image)

Battlefield 4 is published by EA, and developed by DICE, released in 2013. The game can be played on PC, PlayStation- 3, 4, Xbox 360 and Xbox One.

There is two health indicators in Battlefield 4, an index, colored white, placed in the bottom right of the screen and a side health indicator that splatter the sides of the screen with blood. The less health the index indicator shows, the more blood is put on the screen.
Battlefield 4 is a multi- and single player game.

43. Call of Duty: Ghosts

![Ghosts screenshot](image)

Figure 55: Ghosts screenshot, Activision (2013)

Call of Duty: Ghosts is published by Activision, developed by Infinity Ward among other, released in 2013 for the PC, PlayStation 3, 4, Wii U, Xbox 360 and Xbox One.

The health indicator in Call of Duty: Ghosts is one of the side variant, covering the area in between the perimeter and inwards from the sides and the crosshair focus area with a slight reddening effect and blood splatter. The more blood there is the less health the avatar has. The health recovery method in Call of Duty: Ghosts is one of the regeneration type, mean that the effect of the health indicator goes away if the player keeps the avatar safe for a short time.

Call of Duty: Ghosts is a multi- and single player game.

44. Titanfall

Titan Fall is developed by Respawn Entertainment and published in 2014 by Electronic Arts for the PC, Xbox 360 and Xbox One.

There are two health indicators in Titanfall, one for the pilot gameplay and one for the Titan gameplay.
The Pilot indicator is a side health indicator that appears when the player takes damage and changes color, depending how low the health is. It starts orange and changes to red when the player avatar nears death. The indicator changes back to orange before disappearing; as Titanfall has regeneration has health.

The Titan indicator is a bar variant, placed in the top of the screen and is colored light gray. The bar above the segmented health bar is the shield bar that recharges when not attacked.

There is also a bar health indicator for characters, red in color for enemies and green for allies. For the titan variant, the bar is orange for enemies and green for allies. The other player bar health indicator is located below where the titan health indicator is, top right.

Titanfall is a Multiplayer game only.