



Popularity of user interface modifications in World of Warcraft Classic

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Bachelor's Thesis

2022

Bachelor of Business Administration

Abstract

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Degree

Bachelor of Business Administration

Report/thesis title

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Number of pages and appendix pages

31 + 1

World of Warcraft has been a popular game for a long time. User interface modifications called addons have always been a big part of the game. In 2019 Blizzard Entertainment re-released World of Warcraft Classic which is a rerelease of the game's 2004 version. This study investigates user interface modifications and popularity of modifications in Classic version. There has been little research about World of Warcraft user interfaces but not about the Classic version.

Research questions was: What percentage of Classic players are modifying their user interface? Thesis also had hypothesis that more experienced players were more likely to modify their user interface.

The study was executed as a questionnaire. Targeted players were currently active players of World of Warcraft Classic. Questionnaire was posted to player community Discord servers and to Reddit.

Secondary study question was: How are World of Warcraft Classic modifications built. Study investigates the scripting language used in user interface modifications.

Findings of this study suggest that the majority of World of Warcraft Classic players modify their user interface. Future research could study motivations of why people modify their user interfaces.

Keywords

User Interface, Human-Computer Interaction, Video games, Video game modding, MMORPG

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1 Introduction

World of Warcraft is an online role-playing game set in the fantasy world of Azeroth. It's a massively multiplayer online game, or MMO in gamer jargon, where each person controls a single character inside a virtual world, interacting with other people's characters and computer-controlled monsters, quest-givers, and merchants (Nardi, 2010).

World of Warcraft has been a widely popular game since its release in 2004. Even though World of Warcraft launched so long ago, the game still boasts millions of players (Brown, 2021). Since its release eight new expansion packs have been added to the game. These expansion packs have heavily changed how this game is played nowadays. In 2019 Blizzard released World of Warcraft Classic which allows players to play the game like it was in 2004.

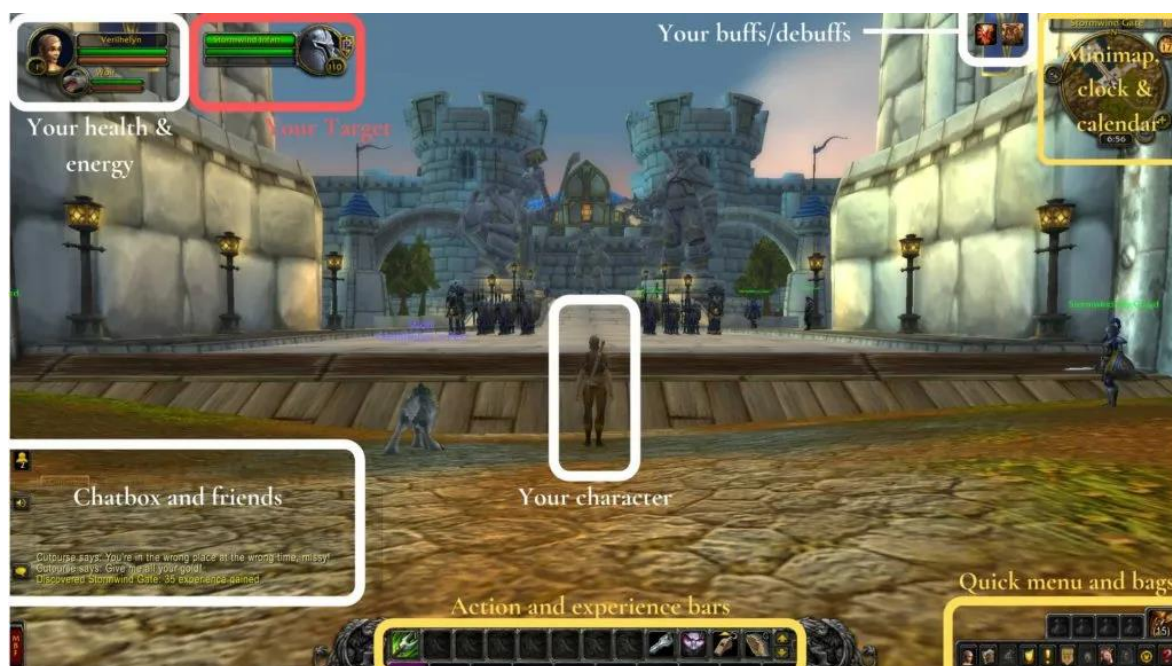


Figure 1. Screenshot of World of Warcraft with standard user interface. Boxes highlight different sections of user interface (Arcane Intellect, 2020)

WoW's UI mediates and organizes the symbols that players use in coordinating their actions (Kirschner & Williams 2014, 311). User interface is a supporting tool that helps players do things inside the game. Players can cast spells, chat and interact with the game world through this interface. Players can modify their user interface to their liking. Common method is to download ready-made addons which modify their interface. Through the game menus players can access interface options which are provided by the game. But these options are very limited.

Findings of this study can help the modification community and people who create modifications to World of Warcraft Classic. Knowing more about the demographic of those who modify their user interface can help those who make modifications. Game developers can learn if allowing customization to their game's user interface is relevant to their game.

1.1 Research question

User interface modifications have always been present in the game. There has been little research about user interfaces in the "retail" version of World of Warcraft but not about the Classic version. Targett, Verlysdonk, Hamilton and Hepting (2012) suggest that most World of Warcraft players modify their user interface. This study differs from earlier research since its main focus is on the Classic version.

This study looks at the role of user interfaces in World of Warcraft Classic. Hypothesis is that more experienced players are more likely to modify their user interfaces. Research questions is:

- What percentage of Classic players are modifying their UI?

Questionnaire is used to receive answers to research questions. Researcher has access to large World of Warcraft Classic community forums where questionnaire can be distributed.

Secondary research question is how are modifications built for World of Warcraft Classic? Research looks into what kind of programming languages are used for addons and what kind of different tools are available for modders.

1.2 Out of scope

This study's focus is on the Classic version of World of Warcraft. Thesis is not going to include retail World of Warcraft. Some of the user interface principles still apply to different versions so material from modern versions can be used.

1.3 Study method

This is qualitative based study. Questionnaire survey was used as the main data collection method. Closed format questions were used in the questionnaire to gather data. Questionnaire was done on Google forms and link to that was sent to World of Warcraft Classic players. As a method of data collection, the questionnaire is a very flexible tool, that has the advantages of having a structured format, is easy and convenient for respondents, and is cheap and quick to administer to a

large number of cases covering large geographical areas (Walliman 97, 2011). Correlations between skill levels in game and modifying user interfaces are to be looked at. Questionnaire results of amount of spent game hours weekly is one variable that is used in this study as well.

1.4 Structure of thesis

First, abbreviations related to this study are opened up. Then in the next chapter there are explanations of what user interfaces roles are in World of Warcraft and how customization plays into that. After that there is look into what goes into addon building. Chapter after that is focused on building the questionnaire and on results that were found from the questionnaire. In the last chapter is discussion about conclusions of this study and possible subjects for further research.

1.5 Terms and abbreviations

| | |
|-------------|--|
| Addon | Modification that changes default UI |
| WoW | World of Warcraft |
| Retail WoW | Most modern version of WoW |
| Classic WoW | Re-release of the games 2004 version |
| UI | User interface |
| UX | User experience |
| GUI | Graphical user interface |
| HUD | Head over display |
| MMORPG | Massively multiplayer online role-playing game |

2 User interfaces

A user interface (UI) is a conduit between human and computer interaction – the space where a user will interact with a computer or machine to complete tasks. The purpose of a UI is to enable a user to effectively control a computer or machine they are interacting with, and for feedback to be received in order to communicate effective completion of tasks. (Every Interaction.) The term user interface is generally understood to mean graphical user interface or as abbreviation GUI. Graphical user interface presents its information in icons and graphics. Most common ways to interact with a graphical user interface is through mouse, keyboard or touch screen. Nowadays graphical user interfaces are everywhere. For example, in mobile phones, computers, self-service checkouts, gaming consoles and even in smart home appliances.

In video games a user interface is occasionally referred to as head over display or HUD. Inside the video game user interface is there to help players play the game. It can be either supporting tool for players to do tasks inside the game. Or it can give player buttons to interact with the world. If the UI of a game contains too much information players are forced to slow down gameplay and it stalls entertainment whereas if there is too little information given on the UI players become frustrated having to again, slow down gameplay to find something they may need, UI should make tasks in-game as quick and seamless as possible to keep the player immersed in the game world (Burke 2021). User interface design principles apply to video games as well. Providing players informative feedback or making the interface consistent are the same rules that apply in all of the user interface design.

2.1 User research

User research is the process of figuring out how people interpret and use products and services (Kuniavsky, Goodman, Moed 2012, 3). It is a way for companies to test out products and find flaws in their design. User research can be conducted in multiple different ways. Usability testing is a popular way for UX designers to test out their designs. In a usability test the user is asked to do a certain task and the researcher observes and asks for feedback. Other methods of user research include interviews, observing, surveys, A/B tests and card sorts.

User research in video games is commonly done through playtesting. Game companies can set up playtests of their development versions of the games and have players test it out before releasing it for the public. “User researchers run playtests to make sure that players are experiencing games in the way in which the designers expect them to”

(Dealessandri 2021). Designers might have one idea how a game is played but when it is put into the hands of actual users, they might get new information.

2.2 Usability and user experience

Usability is a measure of how well a specific user in a specific context can use a product/design to achieve a defined goal effectively, efficiently and satisfactorily (Interaction Design). Usability can be measured throughout by testing. If users can use a product to do certain tasks fast and efficiently it has good usability. If a task can't be done it isn't the fault of the users. It usually points out problems in the usability design.

In games, usability is about delivering a better and deeper experience with less unnecessary interruptions or challenges that have not been designed by the developers (Laitinen 2005). As in video games, challenges are wanted. But challenges solving those challenges because software problems are unwanted. Usability can make a difference in players if they want to play a certain game or not. Complex game systems can be appealing to certain players but having problems navigating through them is off putting.

Usability was one of the reasons that made World of Warcraft the most popular game in this genre. Back in the day massive multiplayer online role-playing games were seen as complex and hard to get into. "World of Warcraft" did a better job of explaining the more arcane aspects of the genre and easing newcomers in, even if it wasn't perfect (Perry 2016).

2.3 User interface in World of Warcraft Classic

Standard UI of World of Warcraft Classic gets every player started on their game. There are tools game developers have given to the player community so they can design their UIs for their own needs. Blizzard Customer Support cannot assist with user interface, addons, key-binding, and macro configurations (Blizzard 2021). Player community had to find their ways with possibilities of customising. If someone breaks their game launcher when trying to modify the game, only other players can help them out.

Even if the gameplay is very polished, a bad UI can hinder the gameplay greatly (Broms 2021, 36). Having a well-done user interface helps players get going in the game. Massive multiplayer online role-playing games usually include a lot of different buttons, action bars and icons compared to other games. Therefore, it is even more crucial to have a helpful user interface which supports players' gameplay.

2.4 Comparing MMORPG user interfaces

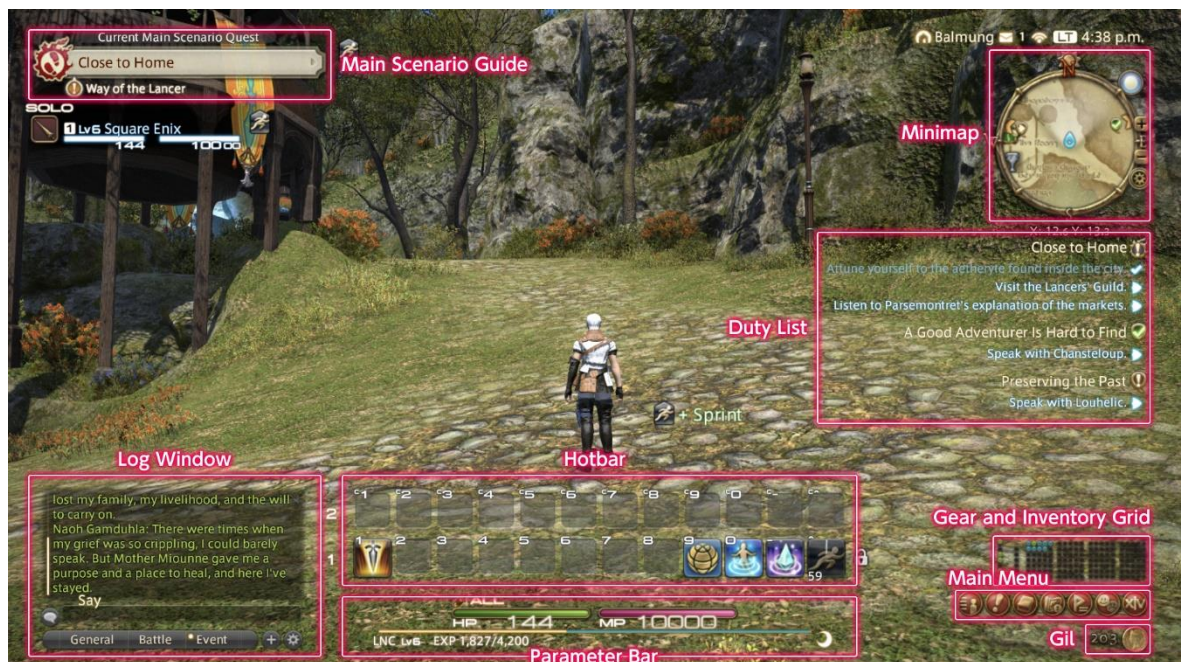


Figure 2. Parts of the Final Fantasy 14 standard user interface highlighted when using keyboard and mouse (Square Enix).

User interface in Final Fantasy 14 has the same elements as the user interface in World of Warcraft Classic. Party list at top left, a chat box bottom left, hotbar bottom middle, menus at bottom right, quest list right side and minimap at top right. Most of the parts are set in the same place as in World of Warcraft Classic. Parameter bar at the bottom of the screen is different from what can be seen in WoW. Final Fantasy 14 user interface has options where players can change their user interface to their liking. As stated in the terms of service for FINAL FANTASY XIV: the use of third-party tools is strictly prohibited (Yoshida 9 May 2022). Modifying the user interface must be done only through game settings.



Figure 3. Final Fantasy 14 user interface with gamepad controls (Square Enix).

Final Fantasy 14 can be played through consoles and with a gamepad. This makes the standard user interface different. Amount of hotbar slots is lower compared to the keyboard and mouse version of the UI. This can be adjusted in game settings.



Figure 4. Guild Wars 2 modified UI in World vs World fight (Carpenter, C. 2022.)

Guild Wars 2 offers a user interface that is minimal and tightly packed. Hotbars have only a few slots and resource bars can be found right next to them. In this figure 4 can be seen one damage modification on the left side of the minimap. This isn't available in standard

game but it can be downloaded from the internet. Guild Wars 2 allows players to use add-ons in their game unlike Final Fantasy 14.



Figure 5. The Elder Scrolls Online with standard UI (Eggy. 2022.)

The Elder Scrolls Online UI is simple, and it doesn't fill the screen as much compared to other MMORPG games. "Things like the interface is very minimalistic and it lets you concentrate on the world, not on the interface, so we made it feel much more like a console game from the interface side than an MMO, just for that reason, to make sure that everyone feels comfortable when they play it" (Senior. 28 May 2012).



Figure 6. Black Desert Online interface (Gamepressure 2016)

Black Desert Online has a user interface that is very similar to many MMORPGs. It includes all the basic elements of chat, action bars, health + resource, minimap, quest list and experience bars. Game allows players to move different elements around their UI. Even outside of play the screen.

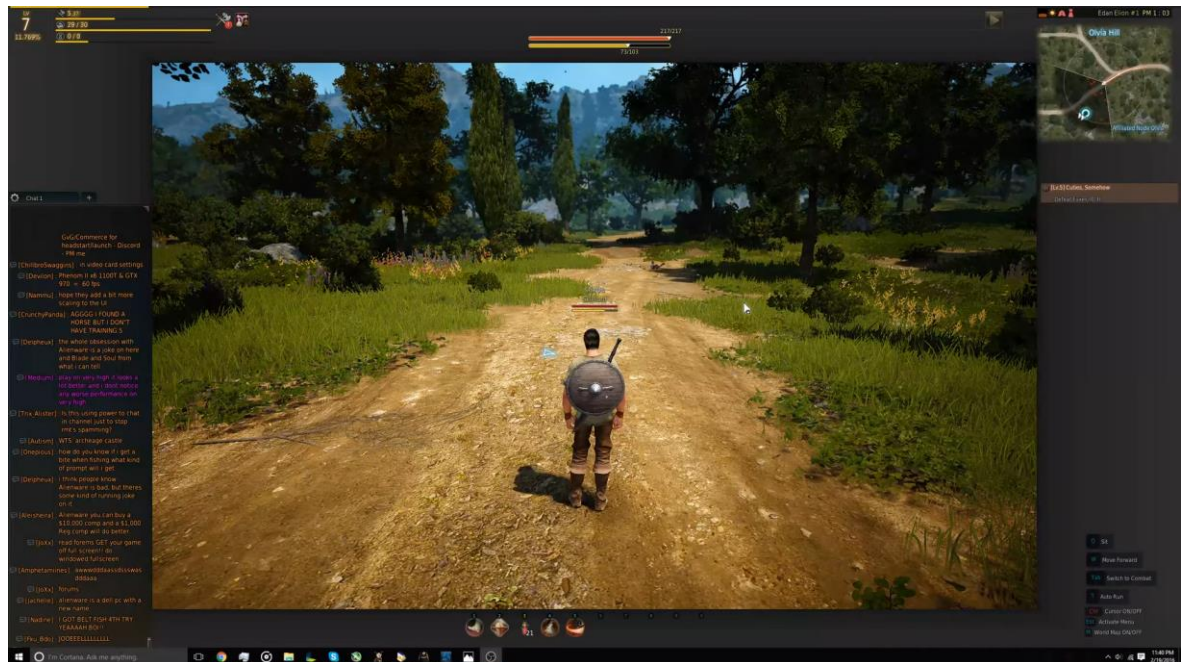


Figure 7. Black Desert Online with user interface elements moved outside to leave play screen clean (Skilliard 2016).

2.5 Parts of the WoW Classic user interface

World of Warcraft user interface can be divided into several different parts. Each of them has different purposes.



Figure 10. Action bars and abilities

In the standard user interface these bars can be found on the bottom of the screen. Box icons right next to each other are called action bars. Action bar is used to store players' spells, abilities, macros and items. Any of these buttons can have a unique key binding or mouse bind. They can also be interacted with by clicking. Action bars main use is to have quick access to combat abilities. Experienced players will give great attention to the layout of their Action Bar(s), as it represents the primary means of interface in combat, and is critical in allowing for quick action in an environment where 1–3 seconds delay can mean the difference between victory or a wipe (Wowpedia).

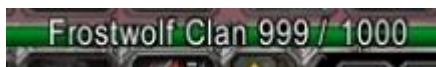


Figure 11. Experience bar

Between two action bars there is an experience bar. That is used to track experience of player character or reputation level towards different factions. Experience is gained in participating in several tasks around the game world.



Figure 12. Menus and bags

On the left side there are multiple small icons which open different menus when clicked on. Social menu, system menu, map and skill book can be found from this location. These menus can also be bound to different buttons.

Green vertical bar is used to tell the player's connection status. Hovering mouse over green bar player can see what their latency to the current server is. With a weak connection the bar turns into orange and with a bad connection it turns into red.

Clicking the icon with the key opens the keyring. This is a place where character's keys are stored. Keys are used to access different dungeons or raids inside the game. Keys are awarded through certain quests or clearing out dungeons.

Players' bags are items that hold items looted from the world. Different types of bags hold different amounts of items. Clicking over a bag icon opens the bag. One common way to modify this bag icon screen is to download an addon that opens up all of the bags at the same time.



Figure 13. Minimap

The minimap is a circular, zoom-able overhead view of the area around your character shown in the upper right corner of your screen (Wowpedia). This map can help players go to the right direction, find out new quests and track down profession related gatherables. On top of the map the name of the area is shown. Bottom of the map is a real time clock. When clicked on the map it pings the clicked location. This is a way to show a location to party members.

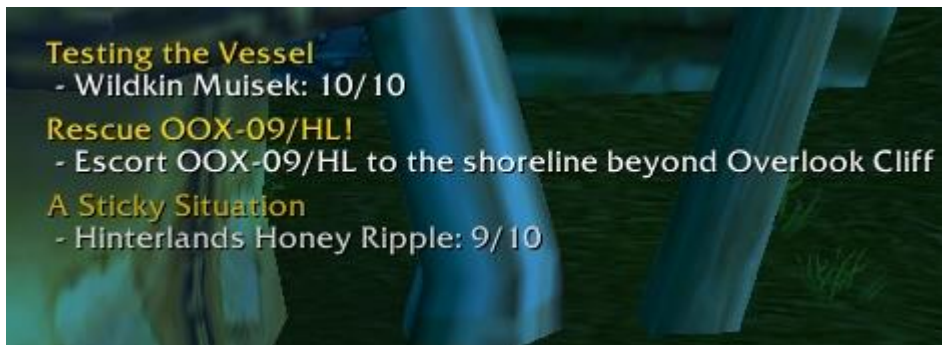


Figure 14. Quest list

Quest list is a hovering text object on the right side of the screen. It gives information about the name of the quest and lists down objectives needed to be done. This becomes active whenever a new quest is accepted, or a player is advancing one of their quests. Standard UI lets the player pin 5 different quests to the side of the screen. Separate quest log window can be opened by clicking one of the quests or quest log icon at the bottom of the screen. The Quest Log is a window in the default WoW UI listing the status and details of all currently active quests the character has not completed, or completed but not turned in (Vanilla WoW Wiki).



Figure 15. Buffs and debuffs

On top right can be seen a list of temporary status effects currently affecting player character. These are divided into two different lists. Positive effects on the top called buffs and negative effects at the bottom called debuffs. Hovering a mouse over a certain icon gives more information about that buff. Buffs can range in effect from simple personal shields to buffs which augment almost every category of stats a given player may have for their race or class (WoWWiki). Buff icons are shown at the top and the remaining time of that buff is seen below that. Unwanted buffs can be removed with right clicking on that icon. Debuffs can be only removed with certain character abilities in the game.

2.6 Customization

World of Warcraft Classics standard user interface gives players basic information for players to start off.



Figure 16. World of Warcraft UI without modifications

Information is placed on the sides of the screen. This way the player's vision is not cluttered. But players do have to look at the edges of the screen for information.



Figure 17. World of Warcraft UI with modifications

In this figure modifications are utilised to customise the user interface to players own liking. In this variation health bar and action bar are moved to the centred location of the screen. Modifications seen in figure 17 are publicly available to download from the internet.

2.7 Resolution problem

Monitors in 2004 had smaller scale resolutions than nowadays. That would mean user interfaces in World of Warcraft would be more packed in closer to the player's field of vision. With modern monitors and bigger resolutions, the user interface is pushed further away to corners of the screen. Players will have to look further away to look for information in their user interface.



Figure 18. Standard UI in 800x600 resolution (King, 2018)

In figure X action bars that are at the edge of a screen are close to the player's vision if they focus up in the middle. In the middle of the screen there is a player character which stays in the centre of attention.



Figure 19. Standard UI in modern resolution (King, 2018)

Figure 19 shows how far icons at edges of the screen move up when using bigger screen resolution. Therefore, having possibilities to modify the user interface is even more important than before.

2.8 Managing addons

Availability of addon management programs have made addon management easier. Keeping up to date with latest addon updates is easier with management programs. With one click all addons can be updated to the latest versions. For example, WowUp (WoWUp.io) is a tool that allows players to install addons from all addon provider websites. These kinds of programs make it easier for players to add customization features to their games in a simple way.

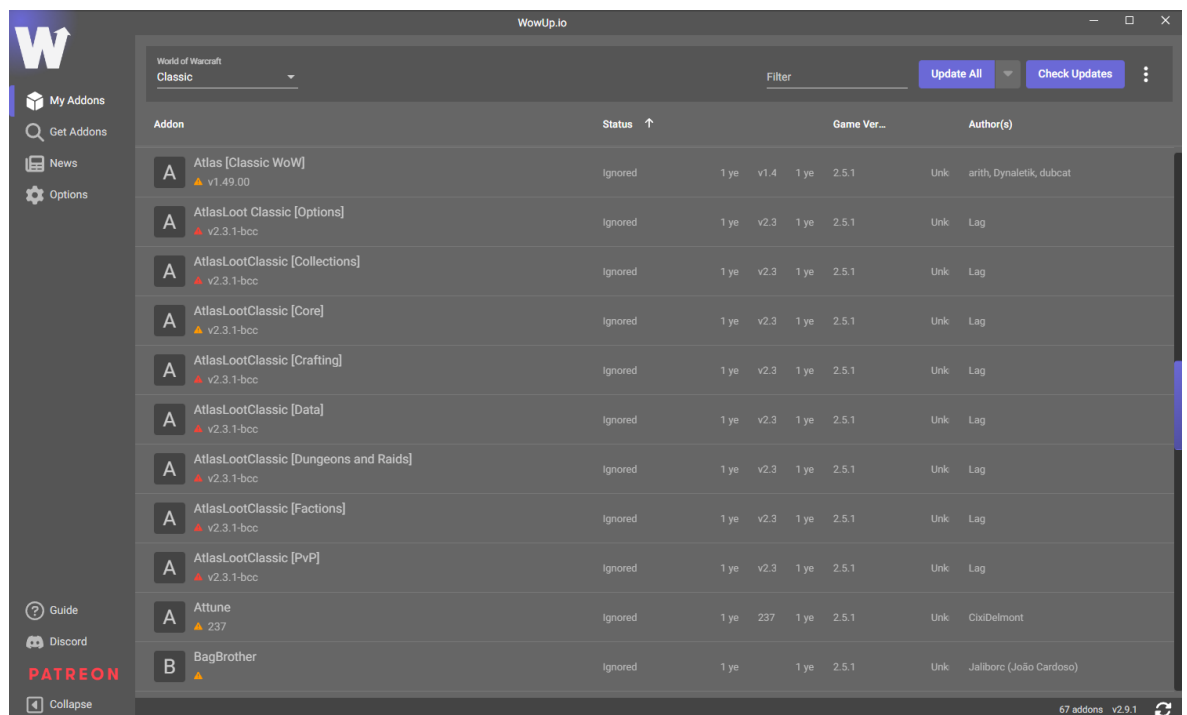


Figure 20. WowUp interface with addons

2.9 Building addons

For those players who are technically inclined or simply can't accept things being anything less than perfect, Blizzard has opened up its user interface to allow players to customize and change its overall functionality (Whitehead & Roe 2010, xxxvii). This allows players to create addons that can modify different parts of the user interface. Addons works as pieces of modifications in the overall UI schema.

The programming language that is used for World of Warcraft is Lua, a small yet powerful

scripting language that is easy to learn (Emmerich 2009, xxiii). Lua is used to build addons for World of Warcraft. Lua has its own documentation on its website. Guides and information on how to use LUA to build WoW addons are in various discussion forums and websites. Since Blizzard does not offer official support for addons.

Addons are represented via simple folders in C:\Program Files\World of Warcraft_retail_\Interface\AddOns or wherever your copy of WoW is located (Armak 24 October 2022). One folder there represents one addon. Within a folder there are all the files that are needed for an addon to run. It can also include guides, changelogs, or readme files.

> M2 SSD (F:) > World of Warcraft > _classic_ > Interface > AddOns > OneBag3

| Name | Date modified | Type | Size |
|-------------------------------|-----------------|---------------|-------|
| libs | 25.8.2019 23.17 | File folder | |
| localization | 25.8.2019 23.17 | File folder | |
| wiki | 25.8.2019 23.17 | File folder | |
| Changelog-OneBag3-v3.3.13.txt | 14.2.2011 13.19 | Text Document | 1 KB |
| LICENSE.txt | 14.2.2011 13.19 | Text Document | 1 KB |
| OneBag3.lua | 27.5.2019 3.02 | LUA File | 10 KB |
| OneBag3.toc | 14.2.2011 13.19 | TOC File | 1 KB |
| OneBag3.xml | 14.2.2011 13.19 | XML Document | 2 KB |

Figure 21. Contents of OneBag3 addon folder.

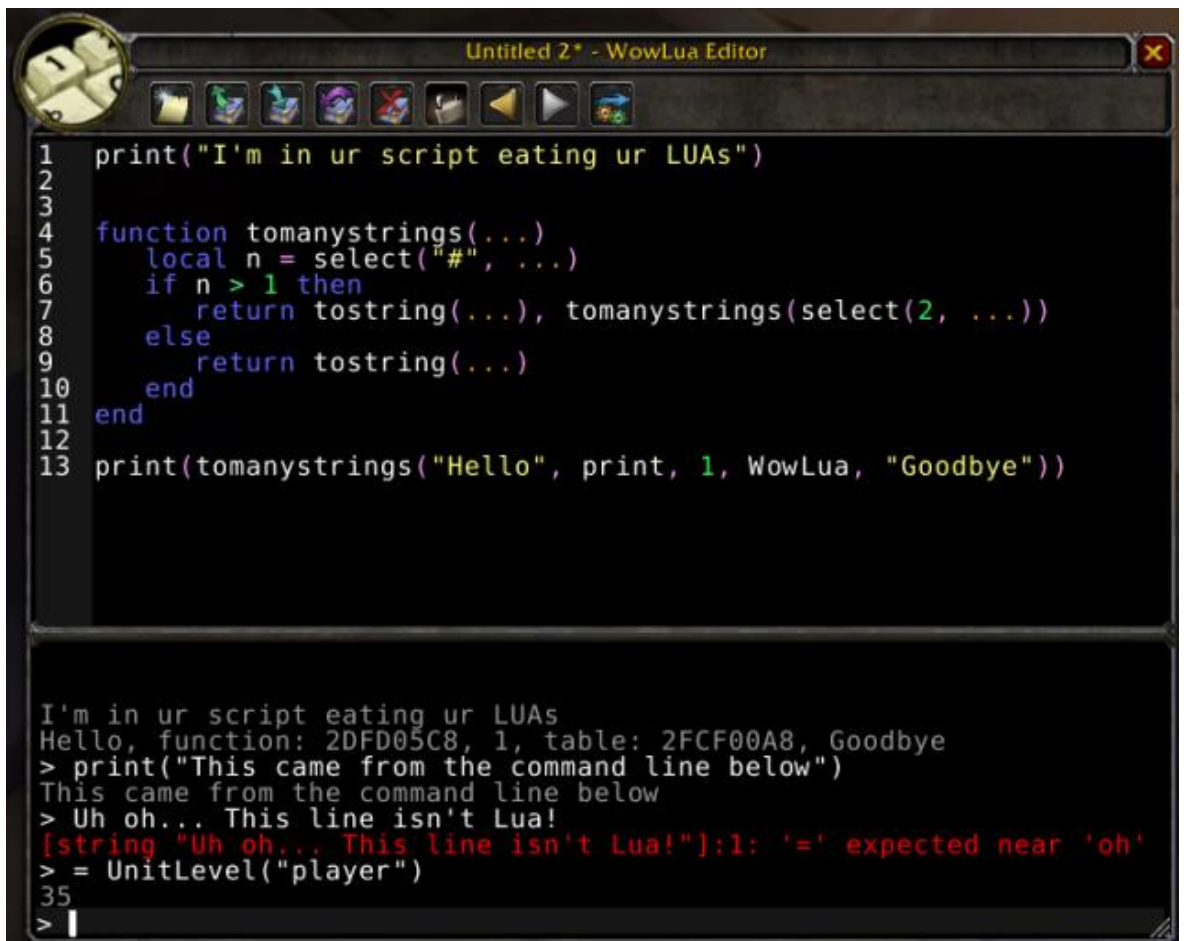
When World of Warcraft Classic is launched it loads up all the addons in the addon folder to the memory. Game must be restarted if a player wants to update their addons. In the retail version of WoW players can do /reload command to do complete reload of addons without exiting the game.

```
## Interface: 20501
## Title: HannesAddon
## Author: Hannes Parkkinen
## Notes: This addon makes your game great.
## Version: 1.0
## X-Website: haaga-helia.fi
visuals.xml
hannes.lua
hannesData.lua
```

Figure 22. Typical .toc file

Loading up an addon starts from a .toc file. Toc file is a table of contents file that contains basic information about the addon and files that will be loaded up for the addon. Usually what is loaded up with this is Lua scripts, XML files and media. XML is a markup language that can be used with Lua scripts together. Lua scripts are the base of the addon that define the behaviour of the addon. XML however works with the looks and visuals of an addon.

To test out Lua scripts functionality addon maker must run it through Lua interpreter or install an addon that can do it inside World of Warcraft. One of these addons is called WowLua. WowLua is an in-game Lua scripting environment that includes an interactive Lua interpreter as well as a multi-page script editor (Cladhaire). Running Lua inside WoW helps addon makers test out their addons functionality and edit at the same time. Changes to the UI can be seen after every run. Functionality alongside other addons is also important which can be tested when running addons in the game.



```

1  print("I'm in ur script eating ur LUAs")
2
3
4  function tomanystrings(...)
5      local n = select("#", ...)
6      if n > 1 then
7          return tostring(...), tomanystrings(select(2, ...))
8      else
9          return tostring(...)
10     end
11 end
12
13 print(tomanystrings("Hello", print, 1, WowLua, "Goodbye"))

```

```

I'm in ur script eating ur LUAs
Hello, function: 2DFD05C8, 1, table: 2FCF00A8, Goodbye
> print("This came from the command line below")
This came from the command line below
> Uh oh... This line isn't Lua!
[string "Uh oh... This line isn't Lua!"]:1: '=' expected near 'oh'
> = UnitLevel("player")
35
>

```

Figure 23. Lua scripting environment in WowLua addon (Cladhaire)

At the start of World of Warcraft players were not able to use Lua to create widgets on the screen. Both XML and Lua had to be used for this. Functions such as `CreateFrame()` have since enabled Lua to assert a more prominent role, but the XML schema remains an accepted -- and regularly updated -- approach for both custom AddOns and Blizzard's own default UI (Wowpedia). It is common practice for smaller addons to only use Lua or bigger projects with development frameworks like Ace3.

All add-ons must be distributed free of charge (Aerythlea 14 November 2018). WoW addons are mostly made as a hobby. But there are ways to gain money with addons. Asking

for donations in addons website is allowed. One other way is adding an addon to distributor websites which provides a cut from ad revenue to addon creators.

2.10 Lua script example

```

1  -- Printtaa tietoja hahmosta
2
3  function pelaajatiedot()
4      pelaajanNimi = UnitName("player")
5      pelaajanTaso = UnitLevel("player")
6      pelaajanPisteet = GetTotalAchievementPoints()
7      return "Moi! Mie oon " .. pelaajanNimi .. " ja mää oon levelillä " .. pelaajanTaso .. ". Mi
8  end
9
10 -- Luo painikkeen ruudulle jota painamalla saa infot pelaajahahmosta
11 local b = CreateFrame("Button", "MyButton", UIParent, "UIPanelButtonTemplate")
12 b:SetSize(84 ,22) -- width, height
13 b:SetText("Esittele ittes")
14 b:SetPoint("LEFT")
15 b:SetScript("OnClick", function()
16     SendChatMessage(pelaajatiedot())
17 end)
18
19 -- Piilottaa gryphonit action barien vierestä
20 MainMenuBarLeftEndCap:Hide()
21 MainMenuBarRightEndCap:Hide()
22

```

Figure 24. Example of Lua script

Figure 24 shows script that creates button to the game. This button allows player to click it which writes introduction of players character to the chat. Function "pelaajatiedot" gathers information of player character's name, level, and achievement points. This function combines it to a string which can be sent to chat through the button.



Figure 25. Addon running in game. Red button is seen on the left. Text line it sends to the chat is seen in chat box and above player character

3 Questionnaire

3.1 Research method

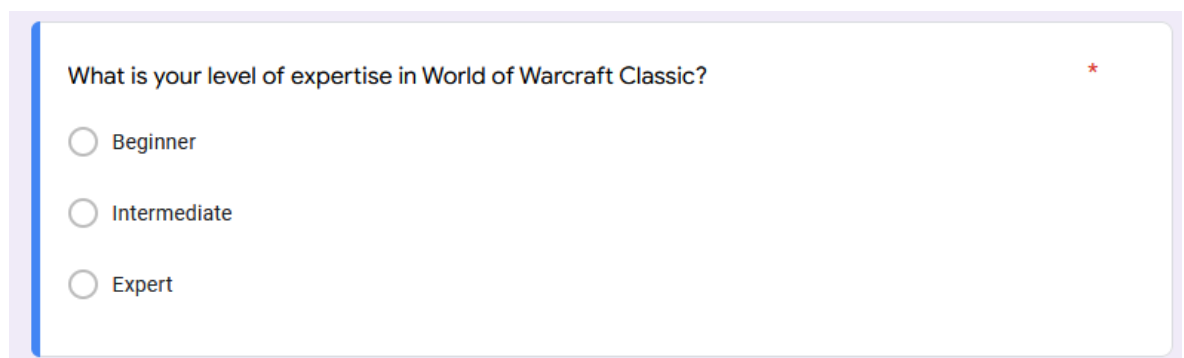
Questionnaire was the chosen research method for this topic. Questionnaire helps the researcher in getting quick or easy, cheap and efficient means of acquiring large amount of information from a greater sample of people (Etikan 2017, 219). Having questionnaire done online allows reach of many respondents who would have otherwise been unreachable. Receiving a lot of responses to the questionnaire was seen as a key point to successful questionnaire.

Closed answers were chosen style for the questionnaire. These tend to be quick to answer, easy to code and require no special writing skills from the respondent (Walliman 2011, 97). This style helps questionnaire to be qualitative since responses come in the same style that is easy to code for tables and charts. Quick to answer questionnaire helps with the number of answers the questionnaire gets.

Subject of the questionnaire was limited to asking questions about expertise, play hours and user interface customization. Target audience for the questionnaire was players who actively play World of Warcraft Classic. Active player base was reached through from different discussion platforms. One platform was Reddit and its /r/classicwow subreddit which has over 471,000 subscribers in 2022. Another platform used was Discord app and there specifically Earthshaker server which was active in 2020 whenever questionnaire was posted.

3.2 Questionnaire building

Questionnaire was kept short as 3 questions to attract more answers to it. Shorter surveys have higher completion rates, which means they have overall better data quality (Wrónski).



What is your level of expertise in World of Warcraft Classic? *

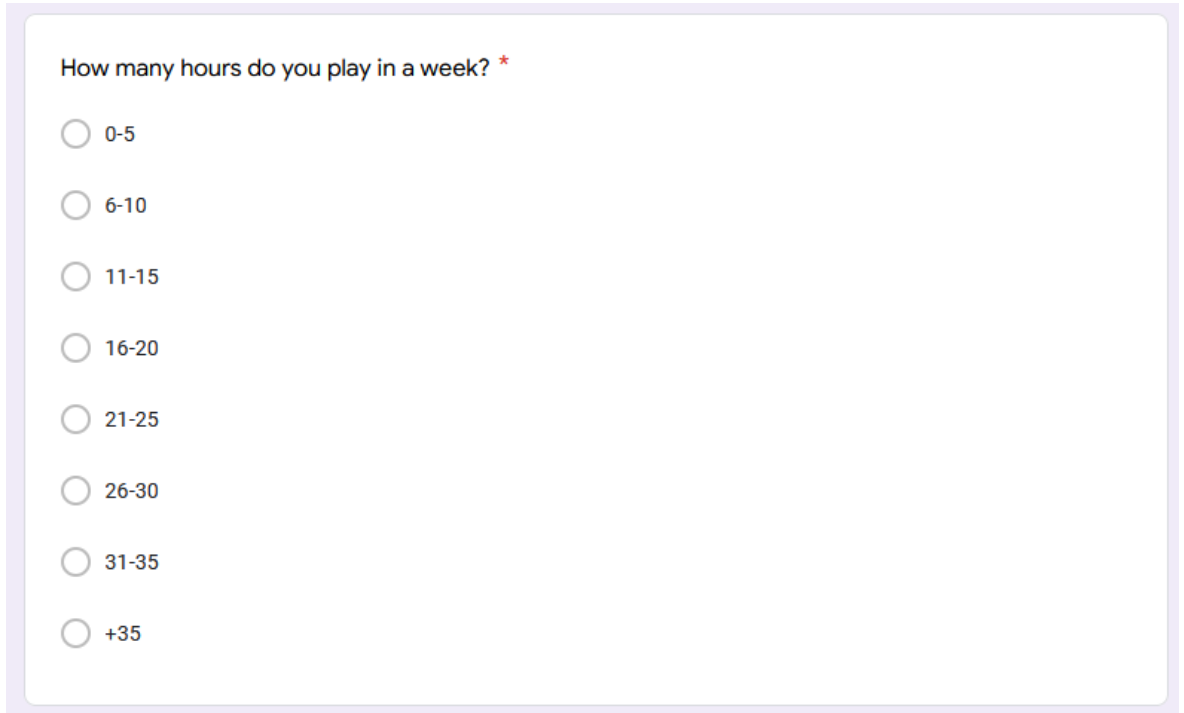
Beginner

Intermediate

Expert

Figure 26. First question in the questionnaire

First question was about expertise in the game. Question was “What is your level of expertise in World of Warcraft Classic?”. There were 3 possible answers to: beginner, intermediate or expert. Level of expertise was defined by players and wasn’t given any instructions what appropriate rating for anyone would be.



How many hours do you play in a week? *

0-5

6-10

11-15

16-20

21-25

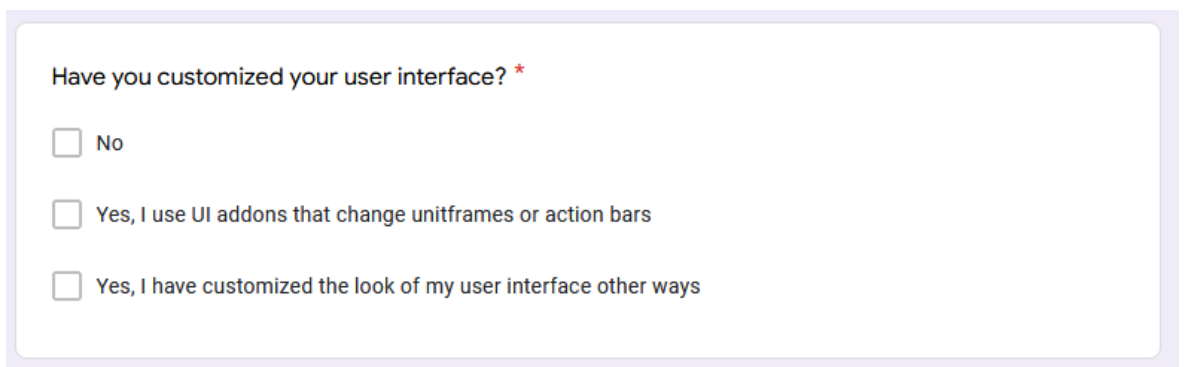
26-30

31-35

+35

Figure 27. Second question in the questionnaire

“How many hours do you play in a week?” was the second question of the questionnaire. Answers were split by 5-hour slots so each answer would be 0-5, 6-10, 11-15 and so on. Accurate time window is hard to give since the game does not provide information about how much you have spent on a weekly basis.



Have you customized your user interface? *

No

Yes, I use UI addons that change unitframes or action bars

Yes, I have customized the look of my user interface other ways

Figure 28. Third question in the questionnaire

Third question was: “Have you customized your user interface?” There were 3 possible answers to this question. “Yes, I use UI addons that change unit frames or action bars”,

“Yes, I have customized the look of my user interface other ways” or “No”. People were able to select multiple answers so anyone with a yes answer could have clicked both if it applied to them.

Link to the questionnaire was posted to World of Warcraft Classic subreddit /r/classicwow and to Earthshaker EU discord server in 2020 March.

3.3 Results

Questionnaire gathered a total of 236 answers in four days.

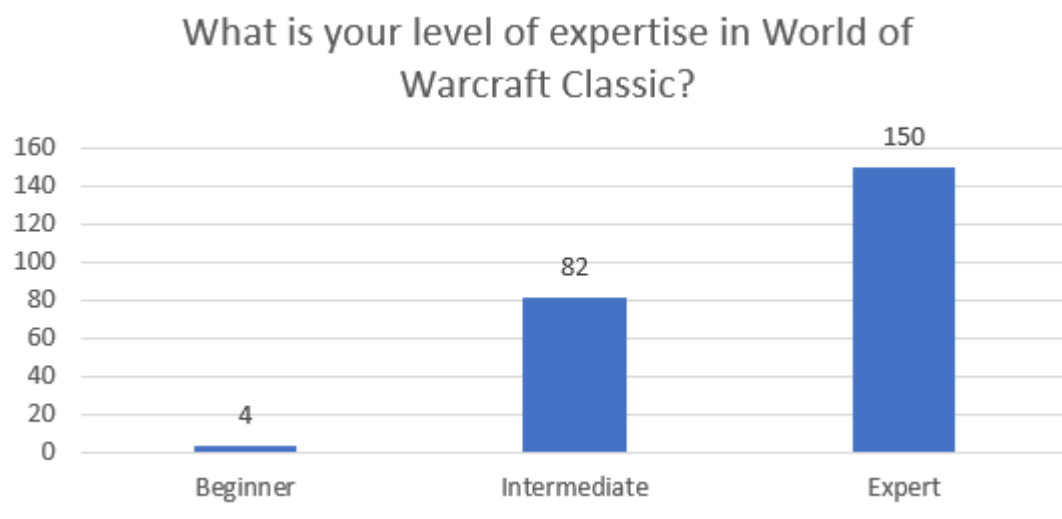


Figure 29. Results of the first question in the questionnaire

Majority of 150 questionnaire’s respondents viewed their expertise in World of Warcraft as expert level. There were 82 intermediate levels and 4 beginners.

Game time question had a lot of variety in the answers.

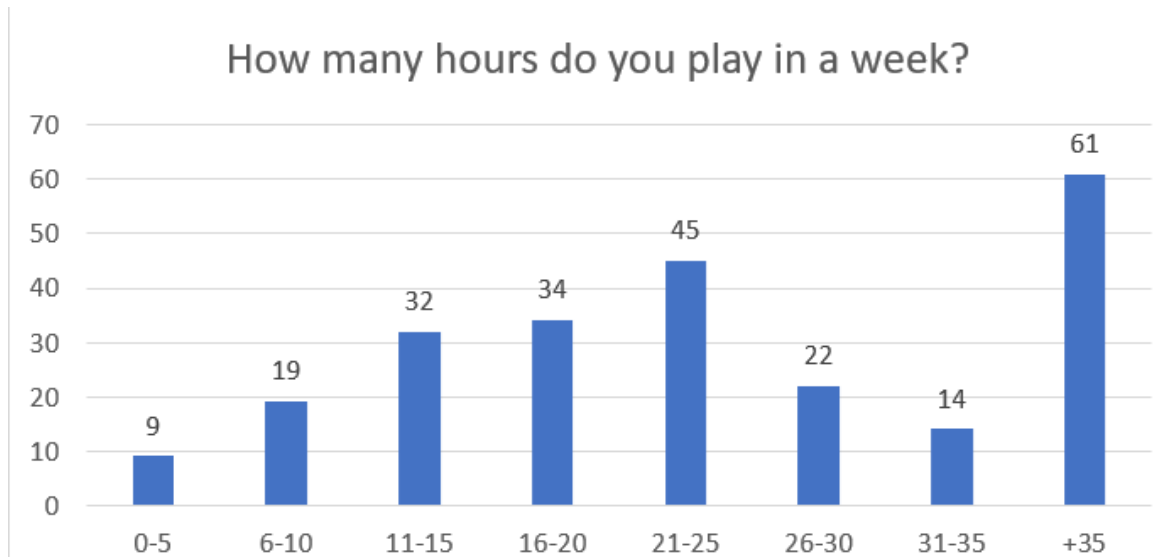


Figure 30. Results of the second question in the questionnaire

There were 61 responses with over 35 hours of gameplay weekly. Questionnaire had reached to the player base which are active with the game.

Have you customized your user interface?

236 vastausta

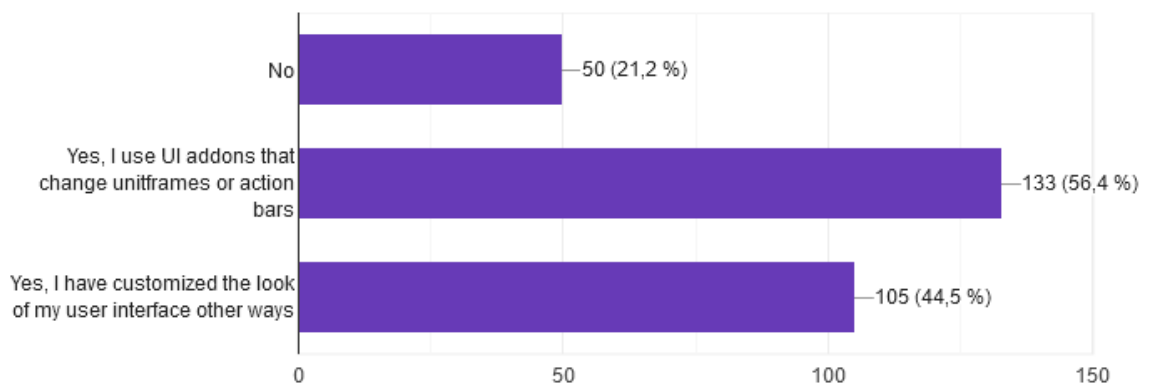


Figure 31. Results of third question in the questionnaire

From all responses only 21,2% answered no if they have customized their UI. This leaves us with 78,8% from total who have customized their user interface.

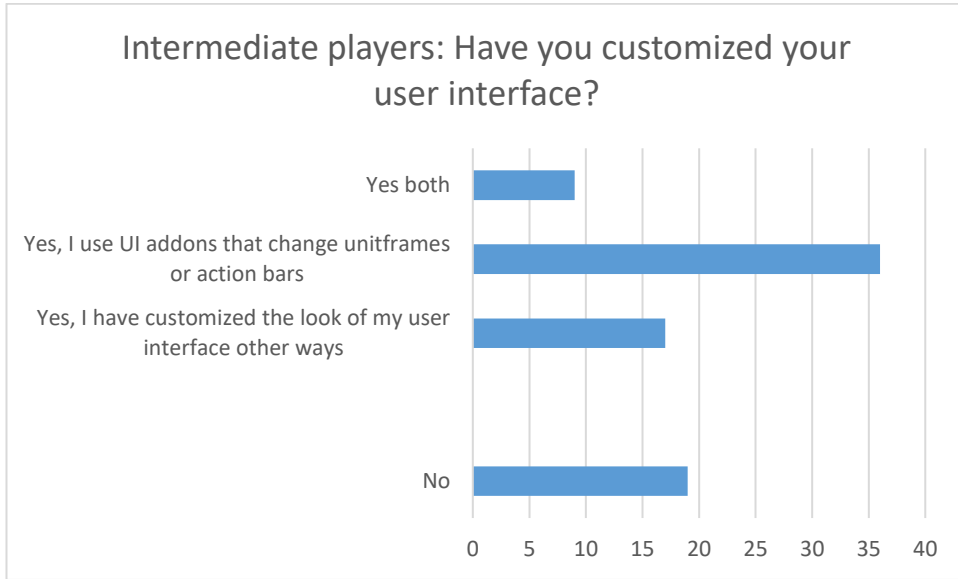


Figure 32. How intermediate players answered question 3.

Majority of players who answered as intermediate players have modified their user interface. Yes answers totalling of 77% of answers. Meanwhile no answers had 23% of the intermediate player pool. From intermediate players 62 answered yes to question 3. Only 18 intermediate players had not customized interfaces.

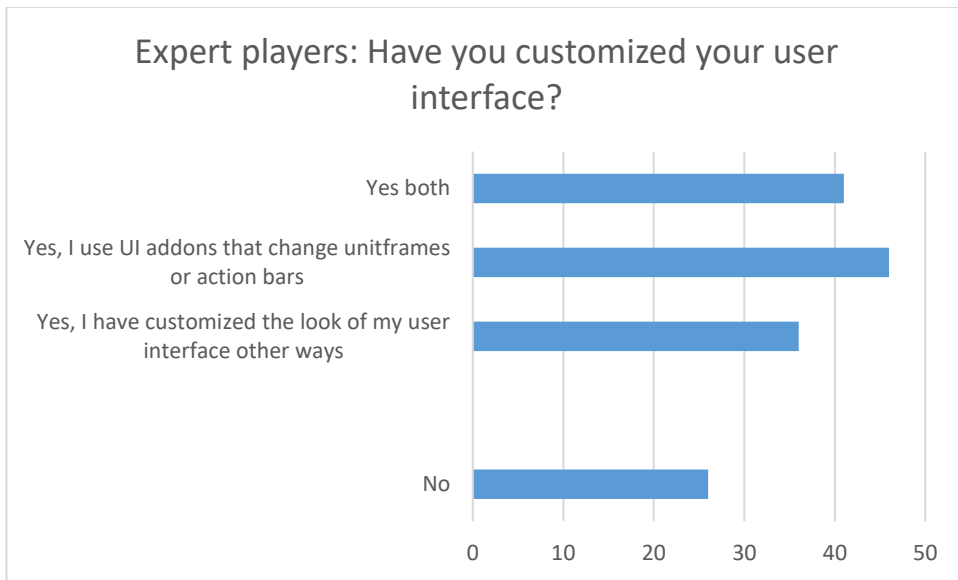


Figure 33. How expert players answered question 3.

Expert players had only 18% of players that did not change their user interface. Majority of 82% seemed to have some kinds of changes in their user interfaces. There were 123 expert level players that customized interface. No answers had 26 responds.

| Expertise level? | Play time in week? | Have you customized UI? |
|------------------|--------------------|--|
| Beginner | 26-30 | No |
| Beginner | 21-25 | No |
| Beginner | 26-30 | No |
| Beginner | 16-20 | Yes, I use UI addons that change unitframes or action bars |

Figure 34. All of 4 beginner players answers.

Only 4 beginner players ended up answering the questionnaire. Figure 34 shows how they answered to all questions. Most of beginners had not customized their UI.

4 Discussion

Questionnaire had reached good amount answers after four days. Receiving 236 answers to questionnaire gave good data for this thesis. Majority of the responders were intermediate or expert players. Questionnaire had reached to players that play the game actively and have some experience with the game.

Hypothesis presented at the beginning of the research was that more experienced players are more likely to modify their user interface. Gathered data suggests that expert level players modify their user interface more than intermediate level players. This comparison cannot be extended to beginner levels due to limited amount of data available for analysis.

In total 78,8% of players who responded to questionnaire had modified their user interface. Which is big amount of player base. Modifications are really big part of the way of how players want to enjoy the game.

5 Conclusion

The objective of research was to find out what percentage of World of Warcraft Classic players modify their user interface. This objective was met with a great number of answers in the questionnaire. Researcher also had a hypothesis that more experienced players are more likely to modify their user interfaces. Hypothesis presented was true.

Secondary research question investigated Lua scripting and how it is utilised to modify user interfaces. Researcher spent several hours getting into the basics of Lua scripting and made their first addon to get screenshots for this thesis.

This thesis suffers from several limitations. Notably related to the number of answers from beginners. Questionnaire investigated the number of players who modify their user interface. But didn't manage to quite catch newer players answering to the questionnaire. Only 4 beginner level players answered the questionnaire.

When questionnaire was made no expansion packs had been released for World of Warcraft Classic players. This should be considered in future experiments. Further research can be done to investigate motivations of why players modify their user interface.

Thesis was a great learning opportunity to study about user interfaces in video games. Especially looking into different games sparked new interest in this topic. Thesis writing was a long journey and not easy for the author. Many obstacles had to be passed to finish off the thesis. Seeing the amount of people who answered the questionnaire motivated to keep going.

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Appendices

Appendix 1. Questionnaire

<https://forms.gle/en4rBPVQXhPzjhRb9>

World of Warcraft: Classic User Interfaces

Lomakkeen kuvaus

What is your level of expertise in World of Warcraft Classic? *

Beginner

Intermediate

Expert

How many hours do you play in a week? *

0-5

6-10

11-15

16-20

21-25

26-30

31-35

Have you customized your user interface? *

No

Yes, I use UI addons that change unitframes or action bars

Yes, I have customized the look of my user interface other ways