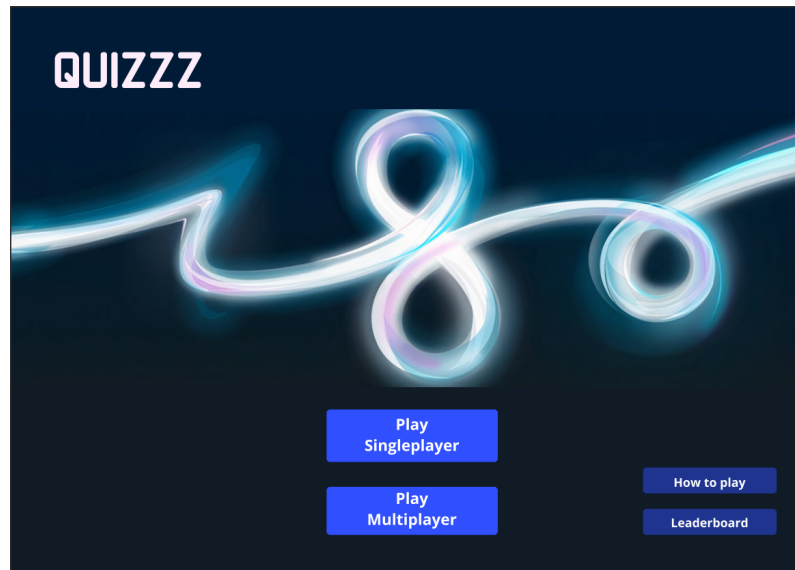


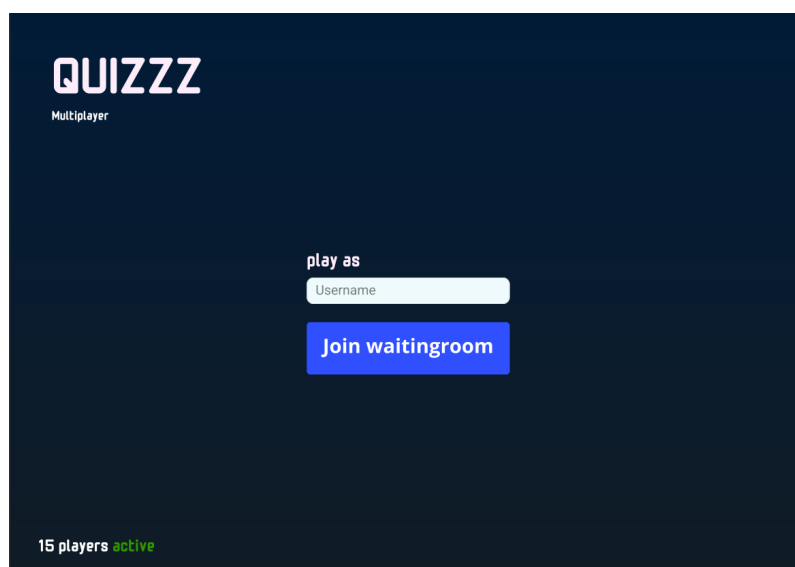
Introduction

The objective of the evaluation is to critically examine the prototype and find any usability issues or problems. It will show what needs to be improved and what is implemented well already.

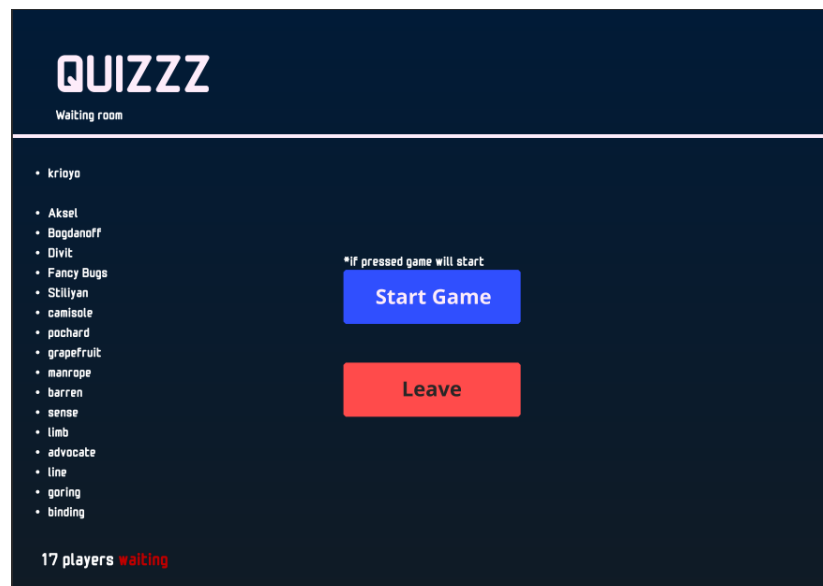
The prototype that is being evaluated is a GUI of the so-called “QUIZZZ” application. It is only in a visual, non-functioning format that can be examined through a PDF file. The file was documented for the evaluators so they can understand how the functionalities will be working.



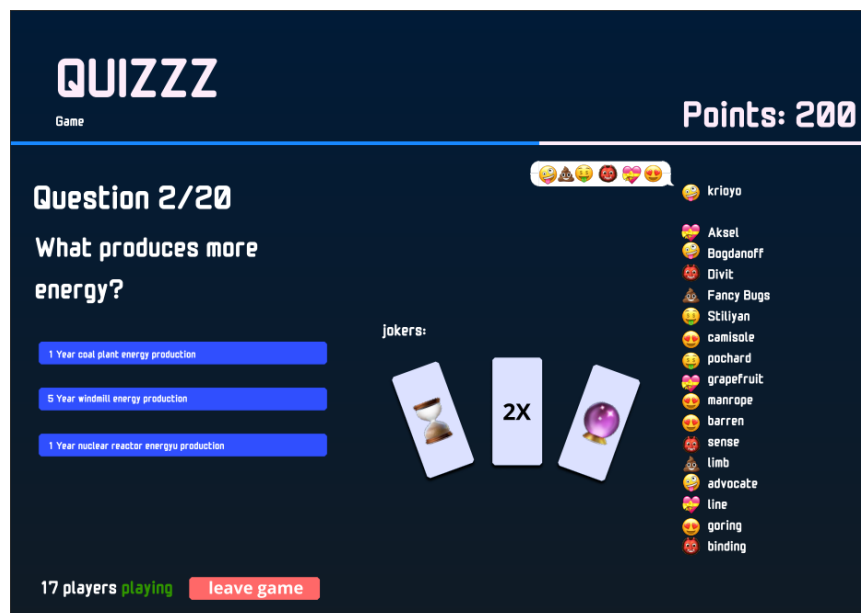
The first screen is the landing page which includes the buttons to start a singleplayer as well as a multiplayer game. It also has the possibility to look at the leaderboard and an option for a “How to play” button which explains how the game is supposed to be played.



If the client pressed the multiplayer button, they go to the following screen which requires the client to enter a username. After the username is entered the client can enter the waiting room. This page also shows the number of players that are playing the game.



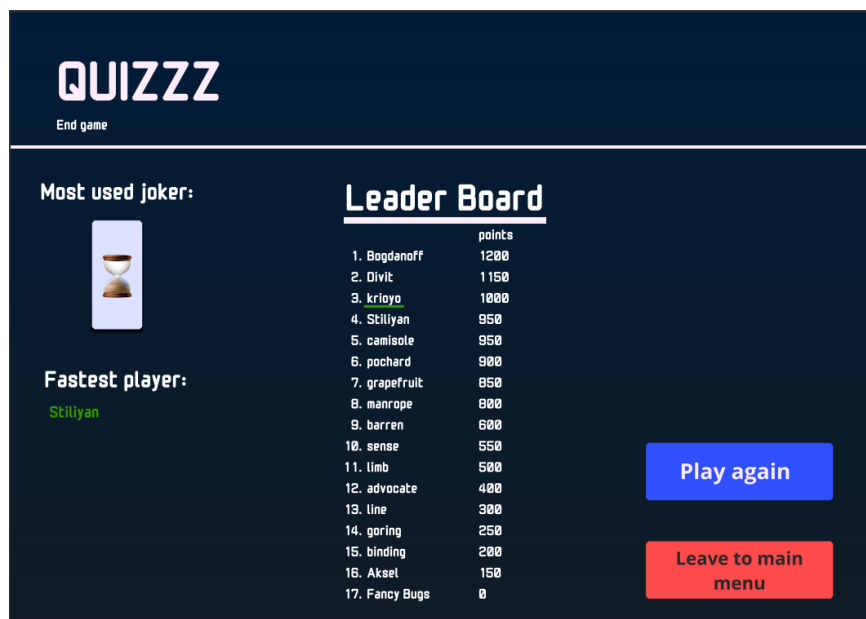
The next screen is the waiting room which shows all the players on the left that are currently waiting in the room. Any player can start the game by pressing the “Start Game” button. Each player has the possibility to leave the waiting room and get back to the previous page.



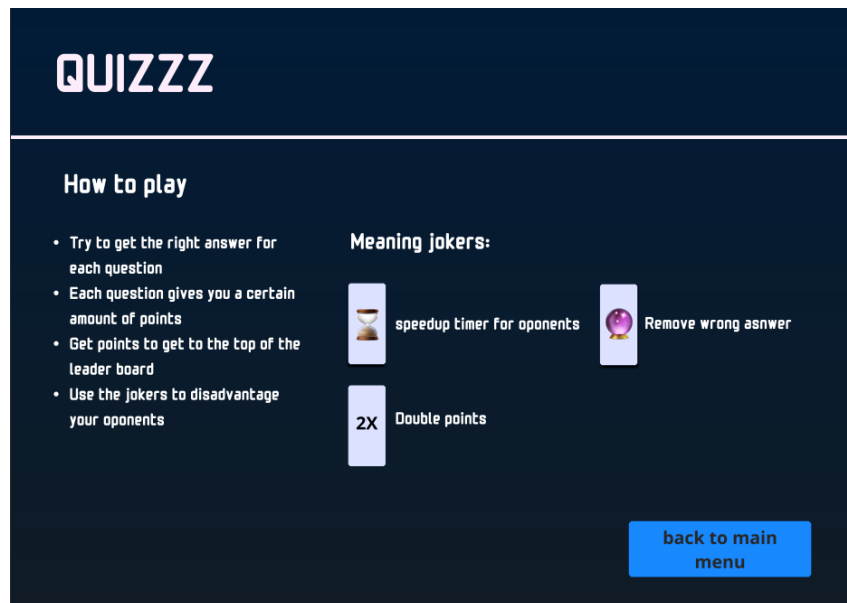
The next screen is the game screen. It includes the quiz questions as well as three possible answers which the user can choose from. The user is also allowed to choose from three jokers throughout the whole game. The players are able to use emotes which can be seen on the right of the screen. Each player has a given amount of time to answer the question which is shown with the blue line under points. The player is also able to leave the game by pressing the “leave game” button.



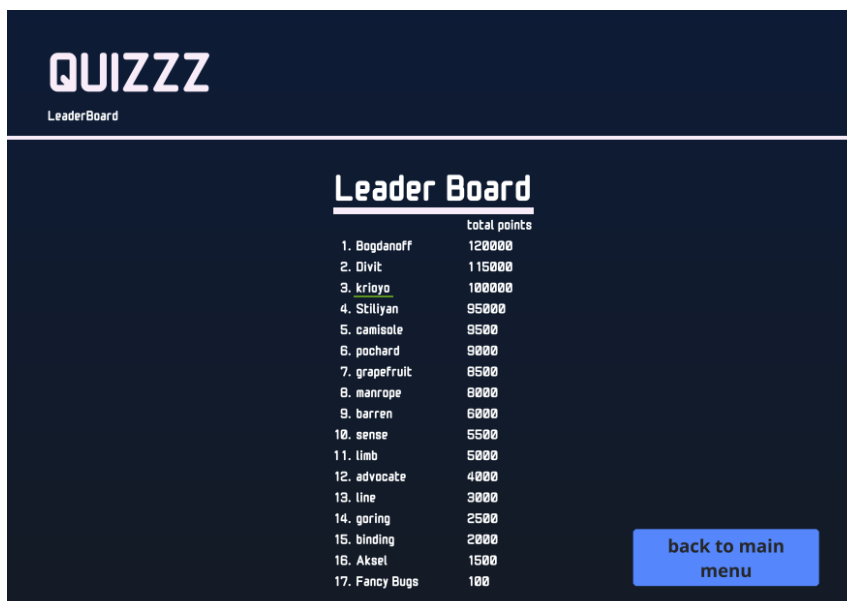
The next screen shows the right answer and also the players that got the answer right. On this screen the points are increased if the answer is right.



The next screen is the endgame, when there are no more questions left. The player can see the final leaderboard as well as some additional information. The player can go back to the main menu or play another game.



The how to play window can be reached from the main menu. It shows information about the game. The player can go back to the main menu from here.



The leaderboard can be accessed from the main menu. It shows the top points with the corresponding user that achieved the score. The player can leave to the main menu from this page.

Methods

Experts

We have recruited 6 novice evaluators - student colleagues from another group of the course. They are aware of Nielsen's heuristics model and how to interpret it.

Procedure

The experts received a mock document of the GUI layout: each page contained an image of a different game screen. They were asked to look over and assess the overall usability and design of each game screen (element positioning, visibility etc.) using the Nielsen's heuristics model, pointing out potential functional/UX issues along the way.

The evaluators were asked to give feedback in a specific format, with 4 sections:

- **Problem description:** give a brief description of the problem
- **Likely difficulties:** what are the consequences of this problem
- **Specific context:** in what situations will this problem arise
- **Assumed causes:** what elements cause this issue?

Measurements

We measured the overall usability of the game interface in terms of the amount of user issues found. The experts needed to report the issues they had found; these were formatted using the predetermined standard mentioned in the **Procedure** section and recorded into a document.

Results

There were a few problems that our experts found. Most of them were visual based since the only prototype we have of the application right now is in the form of screen sketches.

We got feedback on the choosing of the username, the emotes, lack of information on the how to play screen, lack of informing the player on gamestate.

Issues Found

1. Gamestate: The most notable of these is insufficiently informing the player on the gamestate. The two examples are not having a visible enough time reduction after a joker is used and not indicating when an answer is selected.

Improvement: The time reduction can be solved easily by having a small simple text to show that there is a 2x speed multiplier near the timer as well as having a color change of the timer to stand out to the player. The second change can also be done through a color change to show selection of the answer. The challenge will be doing this while keeping our minimalist theme.

2. “How to Play” Screen: the feedback was that there wasn’t enough information on how the jokers work, namely how much the time reduces after using the time reduction joker.

Improvement: This is also fixed by just adding more information on the “how to play” screen. We thought about reducing the time by 50%. Reducing the time by a fixed amount of seconds won’t work since this could lead to completely skipping the question for certain users.

3. Emotes: The experts thought that the emotes will clutter the game screen too much. We fully agree with them and also think that the questions don’t take center stage on the game screen.

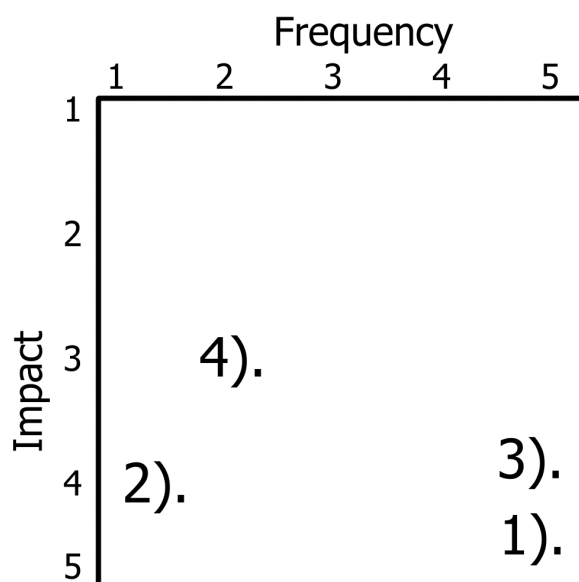
Improvement: We will redesign the game screen to fix this problem by centering the questions and putting the jokers . For the emotes we concluded that they should fade away after a certain amount of time.

4. Username: The experts pointed out that if a user chooses an already chosen username, this will cause some confusion on the leaderboard and also on the game screen.

Improvement: In the logic of the game we will make sure that the players in the same waiting room can’t choose the same username.

Issue Prioritization

We prioritized the issues collected using an impact-frequency matrix. The most frequent problems and the ones with the highest impact will be worked on first.



Conclusion

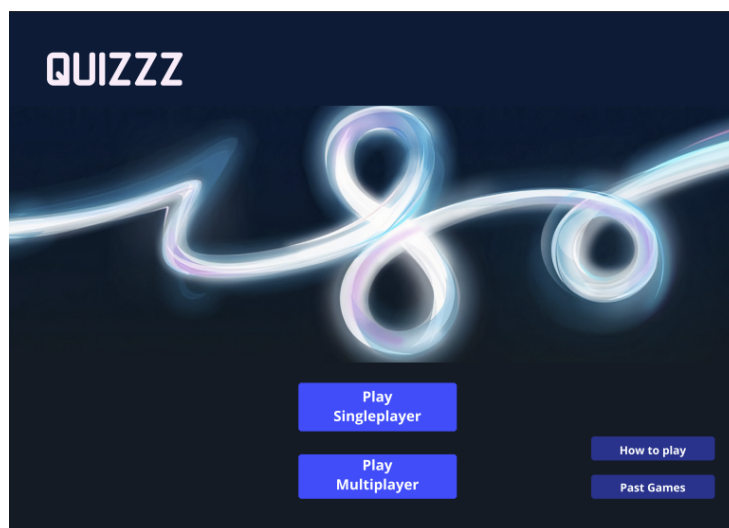
Upon the evaluation process of the user interface we have concluded that there are a series of issues that need to be addressed. Fixing them will lead to the improvement of the interface and the overall user experience.

Improvements

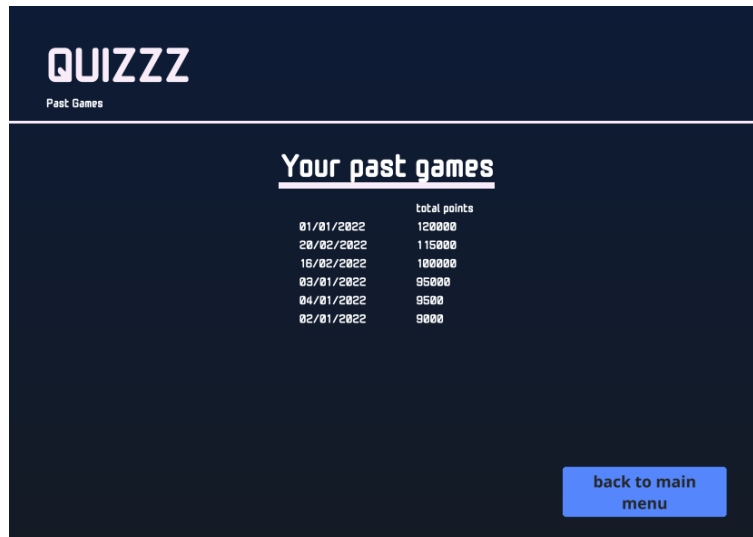
The improvements we will make are the ones mentioned after every issue presented in the **Issues Found** part of the **Results** section. The new version of the user interface will be better as it poses an improvement to the overall user experience - existing elements will be repositioned (i.e. the questions section on the game screen) and new ones will be added such that the user will have an easier time navigating the game screens, understanding the different game elements and playing the game in general.

Improved Game Screens

Below will be shown only the game screens that have been changed. The game screens that are not presented in this section look the same as the ones on the first pages and have not been modified.



The “Leaderboard” button has been replaced by a “Past Games” button that will show a singleplayer leaderboard. A leaderboard for multiplayer games will not be stored. The singleplayer leaderboard will show the number of points acquired together with the date of the respective game that was played.

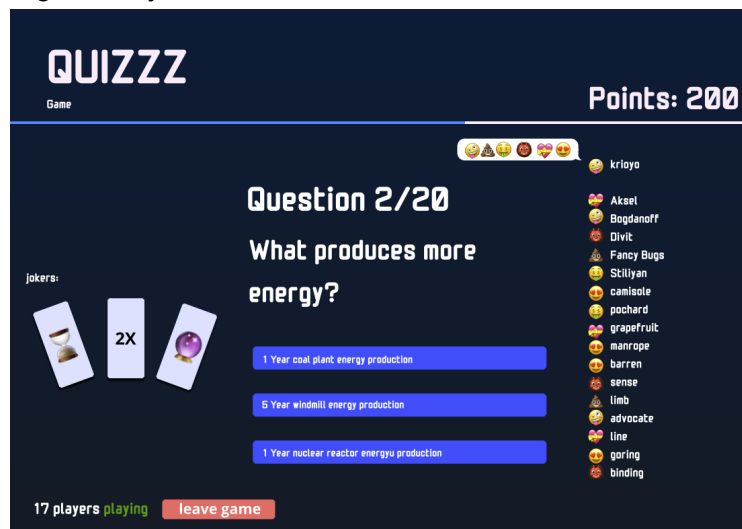


The screenshot shows the 'QUIZZZ' logo at the top left, with 'Past Games' written below it. The main heading is 'Your past games'. Below this is a table with two columns: dates and total points. The dates are 01/01/2022, 20/02/2022, 16/02/2022, 03/01/2022, 04/01/2022, and 02/01/2022. The corresponding total points are 120000, 115000, 100000, 95000, 9500, and 9000. At the bottom right, there is a blue button labeled 'back to main menu'.

	total points
01/01/2022	120000
20/02/2022	115000
16/02/2022	100000
03/01/2022	95000
04/01/2022	9500
02/01/2022	9000

back to main menu

The new game screen centers the questions to the main/middle section so that the user will recognize the main game objective easier as seen below:



The screenshot shows the 'QUIZZZ' logo at the top left, with 'Game' written below it. At the top right, it says 'Points: 200'. The main heading is 'Question 2/20'. Below this is the question 'What produces more energy?'. There are three answer options: '1 Year coal plant energy production', '5 Year windmill energy production', and '1 Year nuclear reactor energy production'. On the left, there are three cards labeled 'Jokers: 2X'. On the right, there is a list of players: krlayo, Aksel, Bogdanoff, Divit, Fancy Bugs, Stiliyan, camisole, pochard, grapefruit, manrope, barren, sense, limb, advocate, line, goring, and binding. At the bottom left, it says '17 players playing'. At the bottom right, there is a red button labeled 'leave game'.

QUIZZZ

Game

Points: 200

Question 2/20

What produces more energy?

1 Year coal plant energy production

5 Year windmill energy production

1 Year nuclear reactor energy production

Jokers: 2X

17 players playing

leave game

krlayo

Aksel

Bogdanoff

Divit

Fancy Bugs

Stiliyan

camisole

pochard

grapefruit

manrope

barren

sense

limb

advocate

line

goring

binding

Same improvements as above were made for the screen that shows once a question was answered.

