

Introduction:

The objective of the evaluation is to receive impactful feedback from possible users that examine our user interface and identify possible problems and design flaws that could impair the user experience. With this information we will try and improve our design such that the user regards the time as pleasant and enjoyable.


The prototype was made with Microsoft PowerPoint software. We constructed two possible gameplay interfaces, A and B.

The links are attached here:

A:

 BasicUI (Variant A).pptx

B:

 BasicUI (Variant B).pptx

Methods:

Experts:

For our heuristic evaluation we attempted to recruit an adequate amount of experts. We avoided having an insufficient amount of experts because this could lead to major problems not being recognized and still being in the user interface. Additionally we also avoided recruiting an exaggerated amount of experts because this would leave us with a disproportionate amount of data that would not add value to our design. That is why we decided to ask eight evaluators to evaluate our prototype design. We believed this amount would bring all major problems and most of the minor problems to our attention and we would obtain a workable amount of data.

Our eight recruits are all Computer Science and Engineering students at TU Delft in their first year of the bachelor programme. This implies they all have a relatively high level of expertise since they all followed and participated in the lecture in which we gathered our first experience with heuristic evaluation.

Procedure:

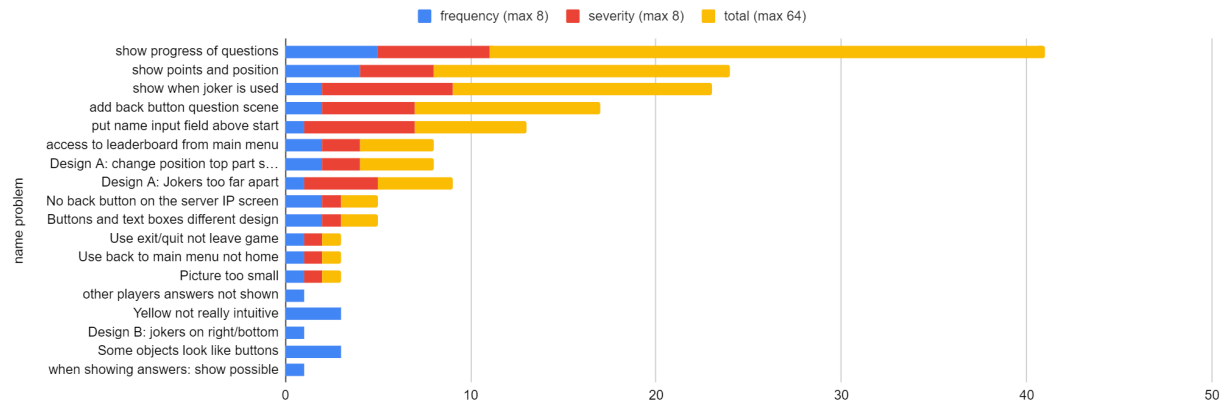
The experts were given the presentations with both variants of our User Interface (a design) and were instructed to go over all the slides and instances of the application: a home screen, waiting room, multiple choice questions and open questions, leaderboards and visualise playing the game in order to find out any hypothetical unpleasanties or elements which could create confusion or impair their in-game experience. The experts were given multiple designs from which they could choose their favourite in order to make their experience familiar and enjoyable. The they used heuristics are: visibility of system status, match between system and the real world, user control and freedom, consistency and standards, error prevention, recognition rather than recall, flexibility and efficiency of use, aesthetic and minimalist design, help and documentation, recognition, diagnose, recovery from errors.

Measures:

The experts were asked to try and mimic performing tasks that are to be features of the app. They were familiar with them since they are also designing similar applications. They were asked to outline the problems they found, the explanations behind their decisions and if required, possible fixes. For example an issue describing a missing back button will not contain a reporter's solution, whereas a misplaced part of the user interface is a more subjective matter requiring further insights. The evaluators were then asked to write out their issues, which we later combined into our dataset.

Results:

frequency (max 8), severity (max 8) en total (max 64)



After we obtained the evaluations from our experts, we made a spreadsheet in which we sorted all the problems divided into the heuristic categories. Our next step was eliminating duplicates and adding frequencies. Our frequencies had a scale from one to eight. Afterwards we discussed the severity of each issue. For the severity we also had a scale of zero to eight. After we obtained these numbers we multiplied the frequencies and the severities. This gave us a total problem severity index from 0 to 64. This approach allowed us to identify severe problems that rarely occurred and small issues that occur frequently and the types that lie in between.

Conclusions and improvements:

Conclusions:

After the processing of the data we were able to draw some conclusions. In general we were able to deduce that our design was aesthetically pleasing and relatively intuitive to use. We also were able to conclude that we had our most severe and frequent issues in the visibility and system status category. Our issues in this category related to the user not having enough information about the game status and how far they advanced in their current game. The most frequent problem we found is that they don't know their position in comparison to the other players and what question they are on. Our evaluators also pointed out that we don't provide them with a visual manner to inform them that they have issued a certain joker already.

Furthermore we also had some problems in the user control and freedom heuristic. The most severe and frequent problem we found is that we don't give users the option to quit or navigate back. Concretely they indicated that the most critical problem is on the question screen where they have no option to quit the game and get back to the main menu.

Additionally some evaluators noticed there was no reserved space for the emoji system.

Finally in the heuristic of aesthetics and minimalist design, our evaluators mentioned one severe issue and some personal preferences. The severe issue consisted of the input field of the player name was not placed in the best way. The personal preferences were in regard to colour and some placing of buttons.

As stated before we gave our evaluators two designs and asked them to notify us of their favourite design. The results were in favour of design A.

Improvements:

Concretely, we are going to add the feature that enables users to keep track of what question they are on. This will be implemented by adding a text field that will display the number of the current question. The changes will be made so that our interface adheres to recognised usability principles to a greater degree, in particular to the following guideline: visibility of system status. Adhering to the same guideline we will also add a feature that enables users to see what their current rank and points are in the game, which will give them more control and orientation.


To aid user control and freedom we will add features to improve user navigation. Concretely we are going to add back and home buttons more often. Users often perform actions by mistake. They need a button to leave the unwanted action or situation without having to go through an extended process.

Input field for the name will be moved above play buttons as requested by the evaluators since they have communicated that this order is more familiar.

Another feature that was requested was that in multiplayer mode, players are notified when another player uses a joker. This increases visibility of system status.

At last, we were also notified that we didn't include an emoji system for players to react to questions and see other players' reactions. Therefore we will implement such a system.

After the analysis of the evaluations we improved our design to the following version.

 BasicUI (final).pptx