

Functional Iterations

Improvements

After doing our study analysis, we quickly realized that our intro page needs a lot of improvement. We had too many people clicking on objects that were not clickable. We added different color text in the introduction screen and had the clickable text change colors as the user rolls their cursor over the text. Even implementing this and the user seeing the clickable text changes colors, the users still have clicked on non-clickable text (we have continued user study tests). We then made the cursor change from the default arrow to the finger pointer when the user rolls in hopes that it will make the user click on these text. We have future plans to meet with Andrew Webb (PhD student) to give us advice on how to solve this issue.

An issue that is still in the process of being created is the canvas size being relative to the user's screen size. We had the canvas size at a set size for all screens, but that was a waste for users that have large screen to look at the top left corner to play our game. We made a minor fix to use up the browser's screen estate, but it is not completely robust. We have most of the menus set to scale the buttons and various text statements based on the screen size, but it is not completely perfect yet for all screen sizes. The game play has difficulty performing when the user resizes the screen and when the user play multiplayer.

From the test, we have seen that controlling our ship can take a while to get used too, so we placed a ship in the instructions menu. The reason for this is so that the user can go to read the instructions and be introduced to the ship they will be playing with. In this menu the user will have no boundaries so they can play with the ship and understand how to control it without consequences.

Another issue that we found was once the users found the clickable text to enter into a game mode; they did not know what to do. This is because most of them didn't read our instructions. The users were presented with green wall around the canvas and a red triangle. We pointed the top of the triangle to the right to signify to move to the right but understandably, this was not enough. We added text to the screen when they enter into a game mode. The text describes the purpose and is displayed for the appropriate game mode. Another graphic that we added was a finish line. We only have one record of a user completely winning a game. This user was confused for a second because he didn't see any more obstacles; however, as his ship continued to move forward, our winner screen popped up. To make it more clearly to the user that he has won, we added the finish line at the end of the track.

We also changed the ship so that it starts facing to the right. Almost every single person in our user study complained about this. Also, the ship now starts and respawns in the middle of the screen (in terms of height). This was also a major complaint from our user study.

On the design side, we changed our login page from the plain login that was given to the whole class to one that matches own theme of **SPACE ESCAPE!** We added this also to the top of our menu screen since this the name of our game.

Also, the high scores menu has been completed since the last prototype. Currently, this is only for the overall high scores. Right now it shows the top ten challenge scores and the top ten time trial times. Once difficulties are added, the times for each difficulty will be available. However, right now clicking on any of the time trial difficulties will just show the time trial times in general. Also, we will add an option for multiplayer ratings.

Another major improvement from the previous submission was the support for multiple multiplayer games at the same time. This required a lot of re-writing of our server code. It can be a little laggy depending on the number of games and the strength of the network signals.

Future Improvements

For the final presentation, we plan on making much more improvement based on our user studies and on what we see as increasing meaningful play and enjoyment. One of the first concepts we want to have is giving the user the ability to choose the difficulty of the game. We had people, who are not much of the gamer type, get absolutely nowhere in our game. We decided that our current default difficulty is a medium level. We plan to make easier levels for these people so that our game can be enjoyed by all people. This is also why the bullets are currently turned off; they will probably be something for hard difficulty. We also have plans to make more difficult level by adding in gravity which will come with a design that reveals the user is on a planet instead of in space.

Another major addition to the game that we are working on is a tutorial mode. This will introduce the player to the game concepts in a guided manner, allowing them to discover how the game works without resorting to a trial and error method. We have added a lot of the code for this already; however, it is not finished yet so it is not a usable feature at the moment.

Another addition we plan to add is the ability for the player to view their own personal high scores on the high score screen in addition to the overall high scores that are displayed now. A lot of the framework for this is already in place, but it just needs some polishing.