**Meaningful Play**

**Rules:**

This game is designed as a slide scrolling, racing game with challenging obstacles and multiplayer functionality. The player navigates his way through a course while avoiding the barriers. The course is a black environment with green lines that make up blocks. Hitting a barrier will result in moving back a checkpoint. In future prototypes there will be the different courses, different environments, obstacles, sounds, enemies, and gameplay (i.e., the intensity of gravity).

* In time trial mode, the player has infinite lives to get to the finish line. In the future prototype there will be a scoring system.
  + Points will be given for completion speed and for each remaining life at the end of the game (i.e., 5 second bonus).
* In challenge mode, the player will begin with 1 life.
  + The player has to move faster than the screen which moves at a constant rate, as opposed to scrolling with the player.
* In multiplayer mode, players will have infinite lives.
  + Points will be deducted for each death (i.e., 10 second penalty).

**Evaluative**

The way that our Functional Prototype 1 communicates the outcome of the player’s decisions is by sight. First our game asks the user to provide a username. This will be used in future prototypes to keep track of the scores and records of the games. The prompt in the red text will first say “Connecting to the game server” saying it is in the process of connecting the socket from the server to the client. Once our socket is connected the prompt changes to “Welcome to the game,” and then the one button on the screen will appear signifying that the button is enabled. Upon log-in, our game starts by showing our intro screen with the text as a dim green. When the player moves the cursor over a certain text, the text turns to a bright green signifying that it is a clickable text. The user has to choose between Single Player Time Trial, Single Player Challenge Mode, Multiplayer Race, or Multiplayer Challenge mode. Also there are two important buttons for the returning players at the bottom, which are used for viewing the instructions and another for viewing the high scores.

**Game Mechanics**

Once the user clicks any of these six texts, the screen changes to the corresponding environment. For this prototype, the instructions and high scores text takes the user to a blank screen with the proper title and a clickable text that will take the user back to the main menu. In future prototypes these texts will show the instructions and past high scores. For the four game choices, the user will be brought to the game they chose.

The game will start with the player’s red ship in the middle of the screen, with the green blocks all around the piece except for the right side. This tells the user to move to the right. When the user hits the arrow keys on the keyboard, their red piece will move with the user as he presses the arrow keys. (The up arrow key add thrust while the left and right arrow keys steer the ship). The player’s piece will also emit “exhaust” in the opposite direction of the piece’s motion to show the user that the up arrow key is the thrust control. The user will then see a series of obstacles built with the same blocks as the walls. This will tell the user to avoid these blocks and go around them. If the player’s piece collides with one of these blocks, the player’s piece will be moved back to a checkpoint. The user will see even move to avoid the green blocks. The user will then move through the series of obstacles (if he has the skills) until the end of the track. This is when the user will encounter a wall on the right side of the screen. Right now this is what our prototype does, but with the finished project, the game will have a finish line and a pop-up with the player’s score and time once he crosses the line. Also the user can hit the ‘P’ key on the keyboard to pause the game. Pressing the ‘P’ key again will resume the game or the user will have the choice to restart the game or go back to the main menu. The game being paused is perceived by a pop-up window showing the word “PAUSED” with the words “Main Menu” and “Restart” under it, giving the user the ability to choose between these different options.

For multiplayer mode, the prototype currently can only handle two players at a time. The server,js doesn’t yet have a data structure that can handle multiple games. The server.js must be started before the players can login in. The first player can choose multiplayer mode. Currently the game gives no feedback on that action unless the player looks at the Google Chrome Developer’s console. When the second player clicks the multiplayer mode, both players’ screens go to a new game. They will see on their own screen two games. They will perceive that they have control of the top one as the ship responded to them pressing the arrow keys. The bottom screen is the opponent’s screen. Now both of the players can comprehend whether they are winning or not.