

## **User Study Results for Functional Prototype**

### **Game Scenarios:**

#### One vs. one:

- In this scenario, the two players will be able to differentiate their character from the enemy with ease. We will be able to get a good observation on how players react and how their strategies change when it is between them and one other player.

#### Free for All:

- In this scenario, as many players as wanted can play. It will be interesting to observe how difficult it is for players to differentiate which character is theirs when dealing with four players. This will also show us how players react and how their strategies may change with more players in the arena. This game type scenario will also test the overall functionality of our game in terms of how it deals with multiple clients connecting to the server. Most likely, the remote players will lag on the local screen, but it should still work.

### **Questionnaire for our Users to answer:**

1. What was your strategy in the one vs. one environment?
2. What was your strategy in the free for all environment?
3. Did you enjoy one game scenario more than the other?
4. Did the arena feel too large or small in either environment?
5. How did you feel about the game mechanics such as: moving left or right, jumping, or attacking with weapons around the arena?
6. Were you able to clearly differentiate which character you were controlling?
7. Was your overall experience with our game positive and enjoyable?
8. Were there any major flaws or shortcomings that come to mind after playing our game?

### **Questionnaire Responses:**

We had 4 people play our game. Here is a summary of their responses to the questionnaire:

1. Only 1 person had a genuine strategy other than “fight,” and it was to wait on ledges for other users to come to them, then attack as they approached.
2. Same responses as above, the same one person had the same strategy.
3. All of our players enjoyed the one-on-one scenario best, since this was the least laggy.
4. No complaints here.
5. People complained about the other players (the remote players) moving jerkily, and thus hard to hit.
6. All of our players said mostly yes, the only issue was when the game lagged and you couldn't move.
7. Enjoyable, but wouldn't recommend due to lag. “Needs polishing”

8. Everyone people complained about lag, 1 complained about there being too many blocks on the map (easy fix, just need more maps), and the 2 complained about the “sluggishness” of it (as in the character movement itself was too slow and slippery. Perhaps change acceleration and drag to simple velocity for more defined movement?).

## **Keystroke Log:**

Here is a copy of our keystroke log, obtained using the Macbook’s application “Automator”:

-- Drag the scroll thumb in the scroll area.

delay 1.294625

-- Drag the scroll thumb in the scroll area.

delay 0.649514

-- Drag the scroll thumb in the scroll area.

delay 1.403508

-- Type Left Arrow

delay 1.073912

-- Type 'a'

delay 1.073912

-- Type Up Arrow

delay 1.073912

-- Type Left Arrow

delay 1.073912

-- Type Right Arrow

delay 1.073912

-- Type Right Arrow

delay 2.280508

-- Type Up Arrow

delay 1.339088

-- Type 'a'

delay 1.254135

-- Type Left Arrow

delay 1.471660

-- Type Right Arrow

delay 1.698147

-- Type Right Arrow  
delay 3.838531

-- Type Up Arrow  
delay 2.769281

-- Type Right Arrow  
delay 0.006704

-- Type 'a'  
delay 7.837678

-- Type Left Arrow  
delay 1.515188

-- Type Up Arrow  
delay 1.353355

-- Type Right Arrow  
delay 0.993227

-- Type Left Arrow  
delay 1.993227

-- Type 'a'  
delay 1.652231

-- Type Left Arrow  
delay 1.864123

-- Type Up Arrow  
delay 1.534657

-- Type 'a'  
delay 1.845800

-- Type Right Arrow  
delay 1.528126

-- Type Up Arrow  
delay 2.450346

-- Type 'a'  
delay 4.082974

-- Type 'a'

delay 1.282369

## Log Analysis:

The data above was logged when Cory's roommate played the game against him. The first three actions are clicks on our webpage to start the arena game state. After that began, he (the roommate) began to move around, using the arrow keys. As of this moment, the only input our game is accepting is the 4 arrow keys and an attack key "a." He used all of these keys as he engaged in battle against Cory, figuring out rather quickly that the attack key can be held down in order to continually attack (the game limits this to 1 attack per 0.7 seconds). The round was relatively quick, about a minute in length.

## Video Recording:

A video recording of one of our players playing the (new version) game for the first time can be found here: <https://www.youtube.com/watch?v=vpc6PAbjPCE&feature=youtu.be>.

## Conclusion

Our game is functional and fun; players seem to enjoy the game. When we started this study, we still had Arenas and the core mechanic was just fighting. As of this week, we have switched this to a continually flying tumbleweed scenario: players must never touch the ground and fight in the air, while dodging moving obstacles (cacti) or risk losing health. After this switch was implemented, player satisfaction also increases.

- One of the main complaints was that the users were thrown into the game without knowing how to play, and they died instantly. We need to add a platform or a countdown so the don't die instantly, and also add a "how to play" section somewhere.
- We need to polish some of the mechanics to provide a smoother gaming experience, and also change the color of the different players so they can differentiate which character they are.
- We could also add more weapons than just the katana. We have artwork for a gun, but it has yet to be implemented. It wouldn't be hard: our weapon class is abstract enough to support different kinds of weapons - we just need to add the artwork to the preloader.
- On the topic of artwork, our tumbleweed art and animations was pointed out as poor. Again, we already have updated artwork, but it has yet to be implemented, as the focus of this study was to see if the players enjoyed the game's mechanics.

Thus, most of the improvements at this point are all visual-related. The game itself is 100% functional.