**Ho, Ou, Mei - ICS 61 – Design Document**

Students:

Edwin Ho – 73901628 – [eaho1@uci.edu](mailto:eaho1@uci.edu)

Mingxin Ou – 85067311 – [mingxino@uci.edu](mailto:mingxino@uci.edu)

Han Mei – 31093000 – [meih1@uci.edu](mailto:meih1@uci.edu)

Discussion session time: **Monday – 2:00-3:00p**

**Section 1:**

**What is the goal of the game and what you want to accomplish with this game?**

The goal of the game is to get people to exercise but not hinder the playability of the game itself if players are not able to exercise. It also aims to encourage people to explore the UCI campus by exercising in various parts of the campus.

**UPDATE:** The goal of the game now is to enhance peoples’ reflexes. The object of the game is to reach the highest level while maintaining a perfect combo. Players are still encouraged to exercise to make it easier to achieve these objectives.

**Game synopsis:**

The game will display the UCI campus divided into four quadrants representing the four elements: air, water, fire, earth, in which players will be able to gather energy to use in the game by visiting each of the four regions. The rate at which energy is gathered will be dependent on how active the player was in that region, more if they have “Very High” activity and less if they have “Low” activity – so that energy can still be collected by sitting in class.

The energy gathered will be expended in the game in the form of elemental spells which the player will use to destroy elemental targets which are weak to a certain elemental spell. For example, players can exercise in the water region of UCI in order to gather water energy which they can then use to shoot their water spell at an elemental target. Our tetrad of which element trumps which is: Water > Fire > Air > Earth > Water. Any spell can be used to damage targets and will reward the player with points. Spells which are effective against their opposing elements, however, will reward extra points and do more damage to the targets whereas spells which are neutral will do less damage and spells which are weak will do even less damage, making the management of spell energy encouraged but not mandatory. An example of the tetrad in action is an earth spell would do 1x damage to a fire target and reward 1x the amount of points, whereas a water spell does 2x damage and rewards 2x points to a fire target, and air 0.5x damage and points. We also plan to add a critical damage system that is random which will allow for flexibility and luck in completing levels, making it possible to still beat the level without the need to gather more energy.

**UPDATE:** ***We trashed the elemental idea but retained the color idea, because we felt it was too hard to keep track of which buttons to use as well as decipher each elemental weakness; instead we decided to use a simpler matching mechanic.*** Players now match colors against each other. The challenge of the game is that it increasingly speeds up while the player strives to chain combos together. Players who want to do well are encouraged to exercise to gain slowing energy which allows them to decrease the speed of the game (the game, however, is 100% playable without exercising). Players are discouraged from using the incorrect color by penalizing their score and stripping them from an ultimate charge. The ultimate bar, which is a mechanic that helps a player clear a level, was added to help balance the game and make it playable without the slowing energy; as well as further encourage players to keep their combo up.

**Section 2:**

**What sources of data that will be used for interaction by players?**

Players will use the Data Collector app provided in class. The game will then download and process the data according to which regions the player visited and their activity level in that region. The game will use the activity, latitude, and longitude values provided by the app.

**UPDATE:** The activity level provided by the Data Collector app will allow the player to slow the speed of the game if they have achieved ‘High’ and ‘Very High’ activity levels. This encourages players to exercise diligently.

**Section 3:**

* **What is the main objective of the game (Entertainment, health improvement, social life improvement …)?**
  + Our main objective of our game is encouraging health improvement as well as exploration.
  + The goal to winning the game itself is to complete 100 levels with as many points as possible.

**UPDATE:**

* We still want to encourage the players to exercise, but allow the game to be playable without it.
* The new goal of winning the game is simply to achieve the highest possible combo and level before you lose.
* **How will you use reward/punishment in this game?**
  + Reward: The reward for continuing to play this game as well as exercising to gain more energy is the ability to continue to higher levels and achieve more points. These completed levels can then be compared with other players to see who has ventured the farthest in the game and who has acquired the most points.
  + We hope to give intrinsic rewards such as players feeling good about having exercised as well as honing the skill to discern between game states and tactics to exploit the weaknesses of enemies.
  + Punishment: The punishment for not exercising is a lack of energy which may not be enough to continue on at higher levels in the game.

**UPDATE:**

* Players are rewarded for exercising by gaining special powers.
* Players are also rewarded ultimate charges and higher combos for using the right color.
* Players are punished for using the incorrect color by having their combo counter reset and losing one of three ultimate charges.
* **What actions can your players take?**
  + Players will shoot at targets using four different elemental spells which are limited by how much energy is stored for each element.
  + When all targets are eliminated, the player may proceed to the next level.
  + Players will gather energy through exercising in certain regions of UCI. The campus will be divided into four quadrants: fire, earth, water, air. When they spend time in a region and they will gather energy for that element at a rate based on their activity level.
  + Players start with 10 base energy for each of the four elemental spells at the beginning of each level, allowing them to play the game early on without the need for exercise.
  + The possibility of random critical damage will also allow for the possibility to complete the higher levels where energy easily becomes scarce without exercise.

**UPDATE:**

* Players still shoot targets and move on to the next level after the targets are cleared.
* Players now instead match colors with each other, rather than decipher which element is weak to which.
* Player exercise can now be global (not constrained to UCI). The exercise helps to make the game easier.
* **How will you display the current state of the game?**
  + The display of the game will show four bars representing how much energy remains for each spell.
  + The player will control an avatar on the left side of the screen which will move only along the y-axis.
  + Targets will spawn on the right side of the screen. Colors will represent the element of the target, making certain player elemental spells effective and not effective against that target.
  + When the player presses buttons representing spells, a colored shot will travel horizontally across the screen until it makes contact with a target which will then be affected accordingly based on the spell used and the element of the target.

**UPDATE:**

* Our game still displays all of the above
* Our game now also displays the current level, the combo counter, a new ultimate bar, and a new slowing power bar.
* **Does the game set goals for a player or do you give option to the player to set her goals or is it a combination of the two?**
  + The game sets the goals for the player in the sense that they need to destroy a set number of targets.
  + The player, however, can set his own goals of how much he wishes to exercise and how much energy he wishes to gather.

**UPDATE:**

* The player also sets goals with other players or himself by trying to reach higher levels and maintain a higher combo counter.
* **What kind of choices will your game provide?**
  + The player can choose which spells to use, however, certain spells will do more damage against certain targets. For example, a water spell would do extra damage to a fire target, but a fire spell will do less damage to a water target.
  + The player can also choose which region he wishes to exercise in, resulting in what kind of energy he wishes to gather.
  + The player can also choose how intensely he wishes to exercise in that region, which will then be conveyed by the Data Collector app as: Very Low, Low, Medium, High, and Very High.

**UPDATE:**

* Players still choose which attacks to use. Players no longer choose a region to exercise in. Players can choose how intensely they wish to exercise, but ‘High’ and ‘Very High’ levels are encouraged.
* Players have the new choice of deciding when to use their ultimate and new slowing power.
* **Is it a single player game, two player game, or a social game?  Why did you decide to select this direction?**
  + The game is single player because we decided that it would be too complicated with two players. Players can interrupt each other, or one player might destroy a target which another player was also aiming for, resulting in an expense of more energy than expected.
  + Player avatars would also collide with each other or get in the way of one another if both were placed on one side.
  + We considered a PvP type of game, but figured it would be too complicated to implement elemental strengths and weakness (e.g. we only have spells vs set elemental targets. A PvP type game would require each player use different spells as well as have different elemental weaknesses to the other’s spells.)
  + This game could however be a social game in which players decide gather energy in similar regions together.

**UPDATE:**

* Players no longer exercise with each other. Instead they can challenge each other to see who can achieve the highest combo and reach the highest level.