http://bjohnson.lmu.build/cmsi401web/sddesign.html

6.0 Architectural Design Document

6.1. Introduction F

This document presents the architecture and detailed design for LineGame. This project is an iOS-based game application that relies on user touch to control the movement of an avatar. The player's objective is to avoid obstacles as they approach with an increasing difficulty of speed and obstacle concentration. The game will be easy to learn and hard to master, and the motivation for playing will be to score high by "surviving" longer.

6.1.1 System Objectives

The objective of the application is to create a simple and easy to learn hard to master game with functional menu and scoring system. There will be four main screens, one for the main menu, the game screen, death screen, and high score screen. Each screen will hold to the app's minimal design theming adding to its simplicity and ease of use design principles.

6.1.2 Hardware, Software, and Human Interfaces

6.1.2.1 Main Menu: The main menu will have the title of the game, as well as three buttons under the title that allow the player to see the high score screen, the settings screen, or to play the game screen. The user will interact with the screen and buttons using their finger.

6.1.2.2 Game Screen: The game screen will be where the user spends most of their time. The game screen will have the player's avatar and the obstacles which the player is tasked with dodging, as well as display their score at the top of the screen. The only way to leave the game screen is to lose, which will load the death screen. The user will interact with this screen using their finger.

6.1.2.3 Death Screen: The death screen will be a dark screen that reminds the player of their failure to beat the game. It will display their final score on this iteration of the line game and will also have two buttons underneath the final score which will return the player to main menu, or bring them to the high score screen so they can compare their score. The user will interact with this screen using their finger.

6.1.2.4 High Score Screen: The high score screen will display the user's all time high score as well as compare their high score to all other players on the server. The score screen will also

display the player's personal top score and let them compare their most recent scores to all others as well. The user will interact with this screen using their finger.

6.1.2.5 Setting Screen: The settings screen will let the user change basic game settings. The user will interact with this screen using their finger.

6.2. Architectural Design F

The main classes of LineGame are the "screens" that appear with their own display function(s). Main Menu has 3 buttons (play game, settings, leaderboard) that each launch different classes at their selection.

The Game Screen displays 2 types of objects (avatars and obstacles). This class handles touch, which modifies the avatar's location. This class displays the location of obstacle objects that are created and modified by the object's own handlers(display avatar, display obstacles). It also tracks the player by monitoring the location of avatar and obstacle and launches the death screen upon sensing a collision(sense death).

The Death Screen is a menu with 2 buttons that allows the player to restart a new game (launch game screen) or return to main menu (launch main menu).

The Settings Screen displays a form that allows the user to input and submit a ScreenName and then returns them to the main menu(launch main menu).

The Leaderboard Screen allows the user to see Top 10 User or Top 10 Server Scores (display top 10 server scores, display top 10 user scores)with a button that returns them to the main menu(launch main menu).

6.2.1 Major Software Components F

The main software components will be displays (main menu with buttons, game with objects, settings form, scores, objects), launchers (to main menu, game screen, settings screen, leaderboard screen), and object handlers (sense touch, move avatar, move and create obstacles).

6.2.2 Major Software Interactions

The main software interactions will be the buttons on any screen of the game calling and subsequently loading the page. Besides the buttons, the only data sent between screen will be the

final score of the game passed from the game screen to the death screen and subsequently to the database which holds the user's scores and allows for comparison at a later time.

6.2.3 Architectural Design Diagrams F

[uploaded separately]