Software Design Description (SDD)

6.1. Introduction

This document presents the architecture and detailed design for the software for the "Unicat Escape" project. This project is a game that will perform on the web and mobile platforms and will feature click/touch capabilities in order to play. The project will also be constructed using many different outside platforms and software packages that will allow me to build and put together all aspects of this project.

6.1.1 System Objectives

The objective of this application is to provide a fun and addicting game that can be played across multiple platforms and will be accessible and easy to use for almost everyone. It will also serve to be a single touch game which will consist of an endless running unicorn cat that will need to be avoiding objects in order to not get caught and that can be achieved through the clicking/or tapping on a touch screen in order to operate the game.

6.1.2 Hardware, Software, and Human Interfaces

6.1.2.1 Mouse

Users will use a mouse to navigate through the application and be able to play the game by clicking on the screen and moving around the character that is in play.

6.1.2.2 Touch Screen

Users will use the touch screens on their touchscreen capable platforms, whether it is a computer, tablet, smartphone, etc.
The touch screen will serve just as a mouse and computer screen, except in this case, tapping on a desired place on the touch screen will move the character to that spot, just as a mouse click would.

6.1.2.3 Keyboard

A keyboard will be used in order to access the game on the website that it will be hosted on and most importantly, it will be used to type in your username for high score and leaderboard purposes.

6.1.2.4 Computer/Tablet

A computer or tablet, falling under the same category due to sizing purposes, will enable the user to play the game and will give them the opportunity to view the application in a larger size than a mobile device.

6.1.2.5 Smartphone

A smartphone will most likely be one of the most common interfaces due to the fact that it is one of the most common platforms for users at this time and will be easier to access and play the application on the go.

6.1.2.6 Internet Access

Internet access will be necessary for several reasons, such as accessing the online website where the application will be hosted. It will also be used in in order to be able to download the application to your mobile devices and to send and receive leaderboard statistics.

6.1.2.7 *Unicat Escape* Application

Most importantly, the *Unicat Escape* application will need to be used in order to play the application and be able to enjoy it's greatness!

6.2 Architectural Design

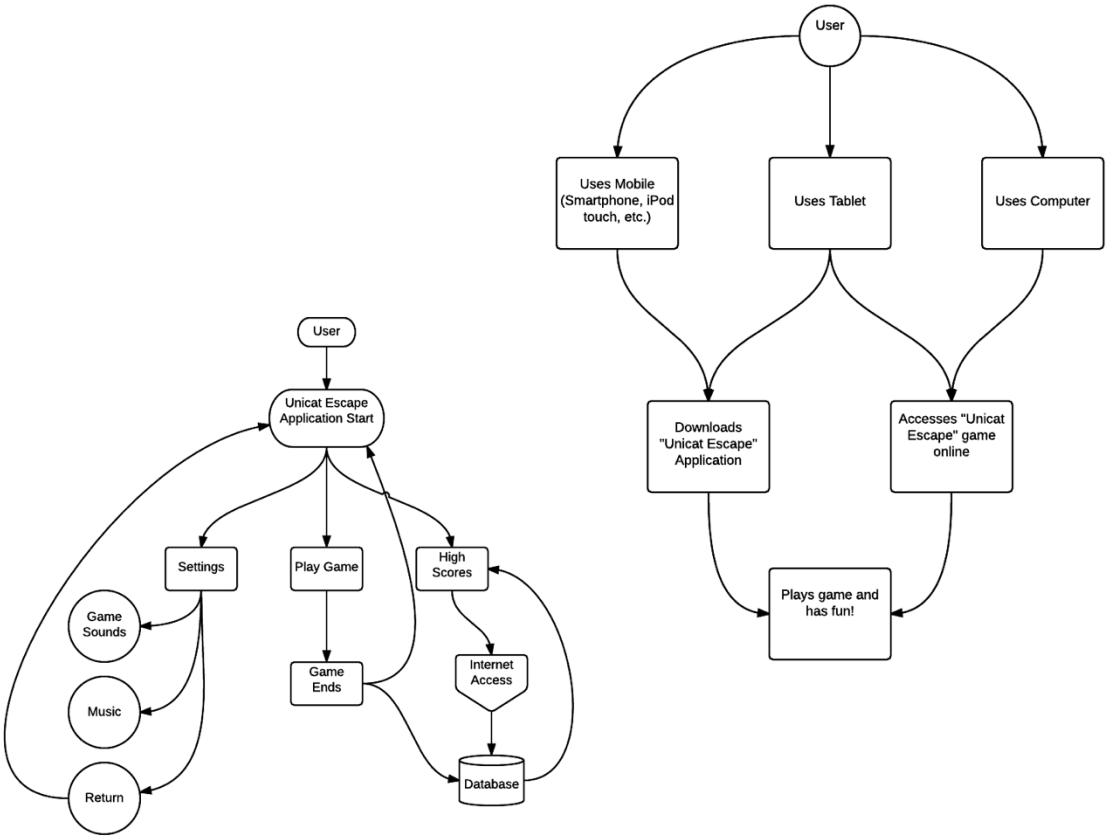
6.2.1 Major Software Components

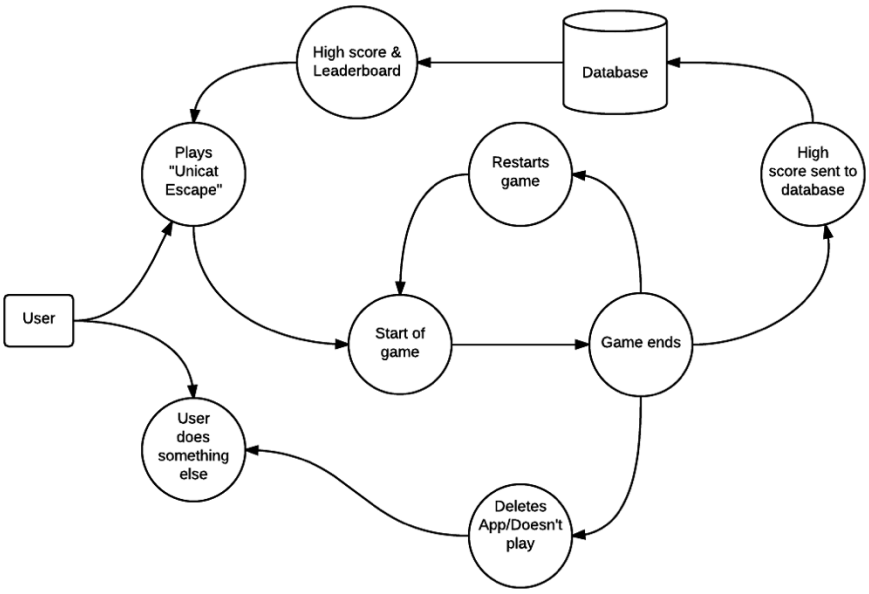
The Graphical User Interface (GUI) is the main functional requirement for this application. The major software components that are related to the GUI are going to be application itself and the way that each specific software/operating system of each design will interact with the GUI that is provided by the application. It will also include the database that is storing user high scores.

6.2.2 Major Software Interactions

The main software interactions that will be present in this application will be the database connections and the touch interface. The database interaction with the game will occur when the user is playing the game and their high score is being recorded and therefore the database will be communication to the online database in order to store these scores. Also, the touch interfaces will need to be in connection with the software that allows touch to act as an indicator/clicking mechanism in order to play the game.

6.2.3 Architectural Design Diagrams

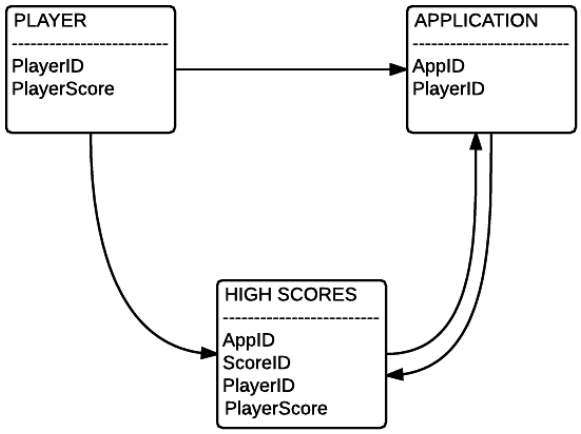




6.4 Database Design and Description

The *Unicat Escape* application will include a database that will be used to record players and their scores to an online database and therefore populate whenever a user opens up the application and looks at high scores.

6.4.1 Database Design ER Diagram



6.4.2 Database Access

This database will be accesses through scripts and API's from Firebase Database, who provides their own implementation and integration for applications.

6.4.3 Database Security

In terms of database security, I am letting Firebase Database take care of that on their own. I am leaving the security aspects up to them because they have a way more secure setup than I could ever implement and most importantly, they guarantee security for you application's database.