Proposal

Above The Grave Game

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Of the requirements of CSC-431
Software Engineering course project

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Preface

This is a proposal for a mobile card game application that will utilize augmented reality - for partial fulfillment of the requirements of a Software Engineering course (CSC431) project in the department of Computer Science at the University of Miami.

This proposal provides the scope and context of the project to be undertaken. It details the intended user group and the value that the system will have to them.

The intended audience of this document is the course professor and teaching assistants so that they can determine whether the project should be approved as proposed, approved with modifications, or not approved.

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1.0 Overview

1.1. Purpose, Scope and Objectives

The purpose of this project (Above The Grave Game) is to create an AR mobile card game that will enrich the user's interactive experience through augmented reality. This game will take the form of a trading card game similar to games such as the Pokemon Trading Card Game or Yu-Gi-Oh. But with the use of augmented reality this game will enrich that trading card game experience with the cards being used as Image Targets for this app to utilize with AR. The scope of this project will be mobile platforms, but the platform which it is developed for first is still to be determined. Mobile is the preferred platform because of its ability to utilize AR through a phone camera and the accessibility of it as a platform generally. The target user audience for Above The Grave Game is relatively large. It is anyone who uses a mobile device for entertainment, specifically ages 16 -35 due to them making up 57.8% of the market, but it could be enjoyed by any mobile game enthusiast or trading card game fan. Above The Grave Game should be both downloadable in the form of an app and used on any mobile device that possesses camera functionality. The hardware specifications are as follows: A high end graphics card, a CPU with the minimum clock speed of 3.5GHz, preferably a SSD, and an updated mobile device (Iphone, Ipad, Android phone, Tablet). For the creation of Above the Grave, we will need to use an Augmented Reality tool such as Vuforia.

1.2. Project description

We will develop a mobile application to accomplish the aforementioned goals. Above The Grave Game will utilize a phone camera to show characters/actions/animations all within the rules of its trading card game elements. The main benefits of an app like this will be standardized rules for users and the AR elements. With the use of an AR directional camera, each trading card will come to life in our app and will visualize to the user their choices within the game. More specifics about these rules/interactions will be determined as we work through this project. Above The Grave Game will utilize the Unity Real-Time Development Platform (exact version still not decided upon) [1.], Unity Teams/Collaborate [2.], Vuforia Engine [3.], Android Build Support with OpenJDK/Android SDK & NDK Tools [4.], and iOS Build Support [5.] among other potential system components. Above The Grave Game will be mostly written using languages such as C# and components currently available in tools being used in development.

References

[1.]https://docs.unity.com/
[2.]https://docs.unity3d.com/2021.2/Documentation/Manual/UnityCollaborate.html
[3.]https://library.vuforia.com/getting-started/vuforia-engine-package-unity
[4.] https://developer.android.com/games/develop/build-in-unity
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