UNIVERSITY OF VASA

FACULTY OF TECHNOLOGY

INFORMATION TECHNOLOGY

OCULUS QUEST COIN GRABBER GAME

SOFTWARE REQUIREMENTS SPECIFICATION DOCUMENT

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INTRODUCTION

1.1   Purpose

The purpose of this game is to pass a university course while learning VR game development.

1.2   Intended Audience

 The intended audience for this game would be anyone over 13 years of age that own an oculus quest headset. So the target is both casual and more "hard core" users of that platform.

1.3   Intended Use

The game should be played in either short sessions of a couple gameplay loops, or more lengthy ones with users either improving personal records, getting a fun workout, or just enjoying themselves without any stressing intents.

2 OVERALL DESCRIPTION

2.1 User Needs

The user needs an oculus quest headset and at least one touch controller, as well as enough height to reach 1.5 meters high.

2.2 Product Features

The game has a round based system, with each round ending in a menu where the user can either quit or start a new round. Each round is 15 seconds, and the user gets a point for each coin touched. The location of the first coin resets to a specific point each round, while the location of the new coins will be random, with the new position being a minimum of 10 cm and a maximum of 1m from the previous point in any direction horizontally, while the vertical position can be anywhere from 20cm to 1.5 meters.

A timer is physically located in a world so the user can see how much time is left at any moment.

At the end of each round the score is displayed in the menu.

2.3 User Class and Characteristics

users of the game should be able to play as many rounds as they desire, easily quit the game, as well as physically being able to reach the coins without problem.

The user needs to be wary of their surrounding so as to not hurt themselves or any surrounding people and/or objects.

There is nothing in the game requiring special administrative/superuser modes.

2.4   Operating Environment

The operating environment for the game is as listed below

- platform: Oculus Quest

- Operating system: Android

- Game Engine: Unity

- Programming language: C#

3   3. SYSTEM FEATURES AND REQUIREMENTS

3.1   Functional Requirements

- One oculus quest headset

- Minimum of one of the two of the accompanying controllers.

3.2   External Interface Requirements

- hardware interface: Android 7.1.1

- Software ecosystem: Oculus quest environment

  - CPU: Qualcomm Snapdragon 835

  - graphics chip: Adreno 540

  - RAM amount: 4GB

  - 4 cameras for 6 DOF inside out tracking

3.3   System Features

- World integrated timer and score tracker.

- Floating coins that vanish upon touching them.

- Random location coin spawner with distance constraints.

- Easy to use menu for starting rounds and quitting game.

- Starting a round spawns the first coin in a preset position, and resets the score counter.

- After the first round and each consequent round, the final score is displayed in the menu.

3.4   Nonfunctional Requirements

- The user should try to play the game with slower movements in order to have a safer play session.

- The user should have a cleared play are before starting the game, preferably a minimum area of 4 x 4 meters

- Avoid playing in crowded or dangerous areas to avoid injury or damages.