Project Team – 03

ShootAR Game

Quality Assurance Plan (Milestone-2)

Object:

Document Title
Quality Assurance Plan

Submitted To:

Project Director
Ms. Simranpreet Kaur

Project Customer
Ms. Shivani Kapadia

Submitted By:

Team Members
Kameswara Saidatta Srinivas Peddada - 110081329
Kartik Peddinti – 110086484
Keneel chirag shah – 110073464
Krishna Sravanthi Telapudi - 1100727725 Mrinal Walia - 110066886
Varnita Sharma - 110074272
V V R Sricharan Apparayacheruvu – 110086372
Venkata Sai Vardhan Seepala - 110074717

Date : **20-March-2022**
State : **Sprint – 2 and 3**

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1. Introduction

1.1 Document Overview

This QAP (Quality Assurance Plan) outlines the fundamental quality attributes in detail.

1.2 Product Scope

Although augmented reality (AR) may appear to be a futuristic vision or a breakthrough technology, the facts show that it has been around for more than five decades. ShootAR is an augmented reality game that identifies virtual items in the real world to bring your digital environment to life. Our game accurately recreates the actions of a human hand, while also providing entertainment value.

Our project will look at the impact of augmented reality mobile games on fine motor abilities in young adults, which is a field with a lot of unanswered concerns. We anticipate that ShootAR will help users improve essential motor skills like precision, aiming, speed, agility, and tremor. Our game players will be much more precise in their arm-hand actions, with far less time and mistakes.

1.3 Intended Purpose

This document attempts to gather, analyse, and provide to our professor, project manager, and customer an in-depth understanding of the features we have created till milestone 2. We'll go over the game's features, traits, and design implementations. This document outlines the ShootAR system's requirements in depth.

2. Quality Assurance Plan

This section will discuss how our finished product will meet all the criteria to deliver the best possible quality product.

2.1 Procedure

Scrum framework will be used throughout game development. We'll employ an iterative approach. In this model, our team coordinate to discuss the requirements and develop the solutions.

Tasks will be given to the appropriate team members in one iteration. Jobs will be completed according to the projected completion date, and unit testing will be performed.

Quality Assurance Testing will be performed on the completed functions (QAT). Finally, User Acceptance Testing will be performed on the completed items. The product will be sent to production once the user approves it.

2.1.1 Scrum

Till milestone 2, we have organized scrum meetings every day for 15 minutes. Every team member updates their status about:

- Update about yesterday's task.
- Tasks that are to be completed today and any challenges faced by them.

2.2 Testing

Testing is an important component of the software development process. This is because software defects can sometimes result in fatal errors, which can be costly and even lethal.

To eradicate bugs before deploying to the production environment, we use the following testing techniques throughout our development process.

Types of tests planned:

- Unit testing
- Integration testing
- User acceptance testing
- Black box test
- Compatibility testing
- UI Testing

Game Testing:

- Different camera angles when implementing the AR feature
- Animation features like sound effects, background music.
- Game flow features like testing the levels of difficulty, checking the conditions which are needed to be satisfied in order to go to the next levels.
- Checking the timer implementation.
- User interactions
- Battery optimization
- Game’s responsiveness.

Validation & Verification:

1. Identification: For testing purposes, any inconsistencies in the game must be found, and each response must be analysed and reported as a bug.
2. Issue reporting: When an issue is detected, it is identified and the bugs that follow it on the list are prioritised. Then, using JIRA software, we assign tickets to the developer's team and report it to them.
3. Analysis: After reporting defects to the developers, we examine the game's features for any additional important issues. The analysis is carried out by the other developers. The

testers will continue to keep an eye on the flaws that have already been found in the game.

4. Confirmation: The testers will check over the game version to see if the bugs are still present after the development team has reviewed the game features for bugs and addressed the reported bugs.

2.3 Roles & Responsibilities

Name	Responsibility
Kameswara Sai Datta Srinivas Peddada	**Game Development**
Kartik Peddinti	**Quality Assurance**
Keneel Chirag Shah	**Game Development**
Krishna Sravanthi Telapudi	**Quality Assurance, Game Development**
Mrinal Walia	**Game Development, Technical Writing**
Varnita Sharma	**Scrum Master**
Venkata Varaha Rama Sricharan Apparayacheruvu	**Game Development**

*These are generic roles; they may change tailored to the needs.

2.4 Future Action Plan

Action	Assigned To	End Date
Implementing Level 2	**Kameswara Sai Datta Srinivas Peddada**	**1st April 2022**
Game won pop-up window	**Venkata Varaha Rama Sricharan Apparayacheruvu**	**1st April 2022**
Custom 3D enemy models	**Krishna Sravanthi Telapudi**	**1st April 2022**
****Adding Scoreboard**	**Venkata Sai Vardhan Seepala**	**1st April 2022**
****Adding custom guns**	**Keneel Chirag Shah**	**1st April 2022**
****Saving the Queen and defeat all enemies in the given time.**	**Varnita Sharma**	**1st April 2022**
Testing the features implemented.	**Kartik Peddinti/Mrinal Walia**	**1st April 2022**

** These are extra features and maybe implemented if time permits.

All these assignees are temporary and may change as per the requirements.

2.5 Standards

We will review every submission to JIRA and GitHub before adding it to the project. After that, we will successfully test that code block, and then it will be merged into the project code.

Every code block will follow the defined rules and coding standards (below).

With all the updates and modifications to the coding scripts, comments will be added. The software methodology will increase engagement, enthusiasm, and transparency from our daily scrum meetings and team interactions.

Below are the set of standards used for this QAP:

1. [2]IEEE Std 830 IEEE Recommended Practice for Software Requirements Specifications
2. C# https://docs.microsoft.com/en-us/dotnet/csharp/fundamentals/codingstyle/coding-conventions
3. Unity https://docs.unity3d.com/Manual/UnityManual.html