Teqnify1894

CS1D Project 2

Test Plan ID: 1

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I. Introduction

A. Purpose

1. The purpose of this test plan is to make sure our program is thoroughly tested to ensure that all requirements and functionalities are met for this product, all errors are dealt with properly, and that the team works in an organized manner.
2. The test plan will include our testing strategies, roles and responsibilities, test deliverables, training needed for testing, as well as a glossary of terms.

B. Scope

1. The overall scope of our testing will include contingency handling of our design, the Admin's and regular Baseball Fans' functionalities which consists of:
    a) Displaying information such as baseball team, major league teams and corresponding stadiums sorted by team name, American League teams, National League teams, etc.
    b) Planning a trip with the option to plan the shortest trip
    c) Option for a custom trip for baseball fan to visit their favorite teams for their dream vacation
    d) Purchasing souvenirs
    e) Login page with username and password to gain access to change, add, and delete components, as well as reading from an input file
    f) Navigation of user interface

II. Roles and Responsibilities

A. Description of Overall Roles

1. Product Owner

a) A single person that is very familiar with the project's requirements, customer's priorities, and has a clear vision of what is to be developed.
b) Manages backlog and determines when a feature has been implemented.
c) Answers any of the team's questions.

2. Scrum Master
    a) Considered a coach for the team, helps the team do their best work, and facilitates continuous improvement.
    b) Protects the team by making sure they don't over-commit and removes any blockers the team may have,
    c) Makes sure the team is utilizing Scrum practices and values.
3. Developers
    a) Establish ground rules and self organizes themselves.
    b) Responsible for performing software and design implementation and testing.

B. Team Members

Role	**Team Member**	**Responsibilities**
Product Owner	Yaseen Khan	Managing backlog, facilitating meetings, software implementation, testing
Scrum Master	Liam Knight	Facilitating meetings, software implementation, design, testing
Developer	Justin Bowen	Software implementation, testing, writing deliverables, design
Developer	Allison Chu	Software implementation, testing, writing deliverables

Developer	Quan Nguyen	Software implementation, testing, writing deliverables

III. Testing Strategies

A. Types of Testing

1. We will be using black box testing.
2. Overall Test Strategy: Use black box testing to ensure every function has a purpose, and every agile story meets the definition of done. When a Team member finishes a story, they will notify the team with an update on the Discord server. When an Agile story is finished, the product owner tests it to confirm it does not fail. If a submitted story fails, we then must all review the story as an entire team and make sure it does not happen again.

B. Features tested from a user's perspective

1. Planning a trip with the option to plan the shortest trip starting at Marlins Park
    a) Use Black Box testing where the tester enters in information to plan a trip. The test passes when the information for a trip is read in and the trip with the shortest distance is displayed on the screen.
2. Option for a custom trip for Baseball fan's dream vacation
    a) Use Black Box testing where the tester enters in information to plan a custom trip. The test passes when the information for a trip is read in and the custom trip information is displayed.
3. Login page with username and password to gain access to change, add, and delete stadiums or souvenirs
    a) Use Black Box test to take in a username and password. It passes the test when only the correct credentials log the user in and gives an error when the incorrect credentials are entered. Upon entering

the correct credentials, the admin screen will show along with admin functionality

4. Navigation of user interface
    a) Use Black Box testing to have the tester navigate through the program and report if any functionality doesn't work.

C. Features tested from the system's perspective
    1. Displaying information such as baseball team, major league teams and corresponding stadiums sorted by team name, American League teams, National League teams, etc.
        a) Use black box to have the tester look through the program's displaying functionalities. Testing is passed when all items are able to be printed and displayed on the screen.
    2. Purchasing souvenirs
        a) Use black box testing. Tester buys multiple souvenirs, no souvenirs, and one souvenir. Test is passed when the receipt displays the correct price and items bought, as well as total price from each stadium.

D. Entry Criteria
    1. A story will need to be completed and approved by the product owner before testing.
    2. Testing will commence within 48 hours of story completion to ensure regular updates and working functionalities.

E. Exit Criteria
    1. Testing will stop when the test meets the expected results of the test criteria and passes all test cases.
    2. At the program level, testing will end when the program functions run without any compiling issues.

F. Suspension Criteria

1. If a previously completed requirement is no longer working after testing then testing will be suspended until the previous requirement is fixed and approved by the product owner.

G. Testing Schedule
    1. Complete testing of stories from each specified sprint, unless there are some stories in the backlog.

H. Approval Process
    1. When a team member believes that they have completed a requirement, they must contact the product owner.
    2. The product owner will delegate the developer that completed the requirement to conduct testing as specified in the test plan.
    3. We are using the agile development methodology and each story must meet the definition of done determined by the product owner.

I. Assumptions
    1. It is assumed that all team members have the right environment to conduct testing.

IV. Environment Description

A. Hardware and software needed for testing
    1. All programming will be completed in QT using GitHub to store each developer's branch.

V. Test Deliverables

A. Deliverables
    1. Use Case Diagrams
    2. Activity Diagram
    3. Class Diagrams
    4. State Diagrams
    5. Project Code

B. Documents supporting the test plan

1. UML Diagrams
2. Backlog
3. User Stories
4. QT Documentation
5. SQLite Documentation

VI. Training Needed for Testing

A. Prerequisites for testers
    1. Have taken CS1A, CS1B, and preferably CS1C
    2. Understand C++, QT, and Git

VII. Configuration management (GITHUB) plan

A. All members will have their own branch on the Github repository
B. After all tests are completed and approved by the product owner, the person who completed their requirement will merge their branch into the master branch
C. After merging branches, the product manager will ensure all requirements are still satisfied
D. If a test fails, the product owner will delegate the developer to figure out the issue and fix it, the story will go to the backlog

VIII. Glossary of Terms

A. White Box Testing: testing method in which the internal structure/design/ implementation of the item being tested is known to the tester.
B. Black Box Testing: testing method in which the internal structure/design/ implementation of the item being tested is not known to the tester.
C. Unit Testing: Verifies if one unit is ready for use, ignoring all collaborations with other units. Goal is to isolate each part of the program to see if the individual parts are correct.