**Test Plan**

[Fid’Lin]

Version 1.0

[2/4/2019]

CPSC 4900 FA18

Prepared by:

TEAM 2

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1. **Introduction**

This test plan’s main purpose it to describe the approaches as well as the overall framework that will help us in testing our software. Included in the plan are: a test strategy, a table including a rough estimate of how many test cases we will need, an explanation on how we handle test management, possible criteria for passing/failing the testing phase, and also possible risks associated with testing and how we plan to mitigate said risks.

**1.1 Test Strategy**

The procedures and methods involved with our test process are all for the sake of verifying that our Fid’Lin software functions appropriately, according to our specifications. Our test will consist of several, smaller test cases that will execute and verify that all requirements are met/working accordingly as well as test cases for identifying obscure defects or errors. If errors do arise, problems will be address, fixed, and testing will be executed again.

**1.2 Test Cycles/Duration of Cycles**

There are 4 iterations of our application, however, the initial iteration does not have significant progress to warrant a test cycle. Therefore, there will be only 3 testing cycles, one starting after this first iteration due 2/7 and continuing throughout each initial iteration. This means the first testing cycle will be a month, the second 3 weeks, and the final 2 weeks. The first cycle, being the longest, will focus on testing all critical features of our application (as they are implemented). Priority will be based on first come first serve as we do not yet have enough features implemented to warrant sorting by priority. Towards the later end of the cycle is when the critical features will take priority over finishing old tests (ie: a new critical feature is released yet the previous 4 features have not been tested, then those 4 will go on hold). The first few test cases are likely to be finished in the first cycle as they can be done without the software being complete. Things like testing the menu navigation and user account creation will be in the first cycle as well as critical tests related to the metronome, playing scales and tempo. The tests that are deemed low priority will likely be handled in the second test cycle while the third test cycle will be allowed to fix any new bugs that arise towards the end of development. It is important to have ample time allocated in case critical defects late in production as those can completely derail a project.

**1.3 Test Cases**

*Since this is still early in development, these are more like a broad set of test case examples. Within the next few weeks, a much more detailed list of test cases can be written once we have a better understanding of the layout for our application.*

|  |  |
| --- | --- |
| **Test Case** | **Associated Feature or Requirement** |
| **1** | **Tabbing between the different features on the home menu** |
| **2** | **Changing options in Metronome works correctly** |
| **3** | **Changing options in Scale Practice works correctly** |
| **4** | **Tuning options set correctly** |
| **5** | **Unit Test for creating and switching accounts** |
| **6** | **Test that data is stored between different sessions** |
| **7** | **Audio output only occurs at times when it is required/wanted** |

**Test Case Example:**

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| --- | --- |
| **Test Case Field** | **Description** |
| Test Case # | 1:Tabbing between the different features on the home menu |
| Priority | High |
| Designed by | Dylan Brownell |
| Date of Design | 2/1/2019 |
| Executed by | Derek Pendleton |
| Date Executed | 2/25/2018 and 2/26/2018 |
| Test Title | Menu Tabs |
| Summary of Test | Tests the functionality of tab on the main menu to ensure that each feature can be accessed easily by the user |
| Pre-requirements | We need to implement our application code to setup a main menu framework |
| Steps | 1. Launch App 2. Select Metronome Tab 3. Select Main Menu 4. Select Tuning 5. Select Main Menu 6. Select Scale Practice 7. Select Main Menu 8. Now test all different combinations of the above steps at varying speeds |
| Expected Results | Transition between any of the tabs of the application should be smooth and quick. No errors should arise, nor should there be an extended loading time |
| Pass or Fail | Complete Pass (3/23/2019)  Partial Pass (3/20/2019)  - not enough time for full test |
| Automation | No |

**1.4 Test Management**

Our team is utilizing a message board known as “Trello” in order to communicate our progress, what tasks still need to be tackled, and also the importance of said tasks. We also have a section in there specifically for testing. This way, it can be managed easily as everyone can check the progress of test anytime, and the high priority tests can be marked accordingly. SImilarly, if a certain test has been eating up too much of our resources, but is not high priority, a call can be made to put that on hold and flag it as not important so that we can better allocated our time to the essential testing first.

*Note*: In addition to trello, we are utilizing a github repo so that we may all be up to date on any additions to the code and easily grab the most up to date renditions. We also use both discord and groupme for group messaging so that if any new cards are added to trello or the github is updated, we can all be informed quickly through these messaging platforms.

In this trello message board, this is where defects will be reported by the “tester” so that a “developer” can fix said defects in order to have them tested again and then finally approved. Chain of events: testing reports defects to trello, developer sees defects and fixes it and then posts to trello to notify tester, tester sees notification and then checks the github to then re test the newly fixed code, if the defect is gone then the tester marks it as approved and marks the trello card appropriately. High priority tests will be marked as such and will taken care of first.

**1.5 Test Risks**

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| --- | --- |
| **Possible Risks** | **Mitigation Strategy** |
| **Schedule**  Chance the schedule is too tight if we get held up on design tasks. | Having good preparation for testing will make it so that it can be done much more quickly. Knowing to pull back on design tasks and simplifying a feature that is not essential will allow for appropriate testing time as well. |
| **Defects**  Finding a major defect in a late stage of our testing cycle could be disastrous. Very time consuming to solve and can delay the other cycles or can cause a deadline to be missed. | Prioritizing the identification of high priority defects, mostly by testing vital pieces to software first, will decrease the likelihood of a surprise defect arising in the final stages of testing. It would be be better to discover these early and then run out of time for the more minor testing parts. |
| **Scope**  Scope should be defined already and there should not likely be any changes or additions to the requirements, it is more if we have time to add additional features that are not necessary as a functional or non-functional requirement. | Having our first cycle focus on only the test that can be performed now and doing these tests extensively will allow us enough time in the second cycle to focus on the new issues that may arise due to the addition of new features that we may have been unsure if we had time to implement. |