**Software Testing Document**

for

TalkBox

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EECS2311 Software Development Project

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**Chapter 1**

**Introduction**

**1.1 Purpose**

This document provides information on test cases for the TalkBox application. This document covers the several test cases the application has, as well as justified derivation of each of these test cases. Test case derivation is justified thoroughly for both the simulator component of the TalkBox, as well as the configuration application component. The sufficiency of each test case is provided through this document as well as test coverage.

**1.2 Testing Checklist**

There are two testing checklists in the Testing Checklist chapter, one for the TalkBox configuration application and another for the TalkBox simulator application. These checklists are broken into two subsections of the chapter.

**1.3 Testing Case Derivation**

In the Test Case Derivation chapter of this document, a through description of how each testcase was derived is provided. There are two subsections to the Test Case Derivation chapter, one for the configuration application and another for the simulator application. In each of these subsections the respective applications test case derivation is provided.

**1.4 Testing Case Sufficiency**

In the Test Case Sufficiency chapter of this document, a justification for each test case from the Test Case Derivation chapter is provided. There are two subsections to the Test Case Sufficiency chapter, one for the configuration application and another for the simulator application. In each of these subsections the respective applications test cases are justified with proven sufficiency

**1.5 Testing Case Implementation**

In the Test Case Implementation section of this document, a description of how each test case is implemented is provided. There are two subsections to the Test Case Implementation chapter, one for the configuration application and another for the simulator application. In each of these subsections, the respective applications test case implementations are shown and justified.

**1.5 Test Coverage**

In the Test Coverage chapter of this document the entire Test Coverage will be shown after running all tests. Individual unit tests will also have their Test Coverages shown per test class.

**Chapter 2**

**Overall Description**

**2.1 Testing Documents Description**

Throughout this document there are several chapters that show different test cases as well as the respective derivation, sufficiency, and implementation of each of these test cases. A test coverage is also provided in this document. An understanding of the testing done and developed during the making of the TalkBox are thoroughly explored and conveyed throughout this document.

**Chapter 3**

**Testing Checklist**

**3.1 TalkBox Configuration Application**

**Recorder Class Tests:**

|  |  |  |
| --- | --- | --- |
| **Tests** | **Pass / Fail** | **Comments** |
| setup() | pass | Setting up objects and fields. |
| testInitialFields() | pass | Testing the initial fields of recording class |
| testRecording() | pass | Testing recording an audio file using the system and saving it to a directory |
| testButtons() |  | Testing the feature of changing the amount of buttons of the application |
|  |  |  |
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|  |  |  |

**Simulator Preview (SimPreview) Class Tests:**

|  |  |  |
| --- | --- | --- |
| **Tests** | **Pass / Fail** | **Comments** |
| setup() | pass | Setting up objects and fields. |
| testingUpdatingButtons() | pass | Testing update button method for the sim preview |
| testPlayingSound () | pass | Testing audio output of application audio files |
| TestErrorPlayinSound() | Pass | Testing failure to play audio file due to wrong file or mic not found |
| testPlayinMissingSoundFile() | Pass | Testing playing audio if file is missing |
|  |  |  |
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**PlayEditToggle Class Tests:**

|  |  |  |
| --- | --- | --- |
| **Tests** | **Pass / Fail** | **Comments** |
| setup() | pass | Setting up objects and fields. |
| testAddingAudioToButtons() | pass | Testing adding audio to buttons in “Edit Mode” |
| testChangingButtonLabel() | pass | Testing changing the name of a button using naming feature in “Edit Mode” |
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**ProfilesPanelTest Class Tests:**

|  |  |  |
| --- | --- | --- |
| **Tests** | **Pass / Fail** | **Comments** |
| setup() | pass | Setting up objects and fields. |
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**TalkBoxConfig Class Tests:**

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| --- | --- | --- |
| **Tests** | **Pass / Fail** | **Comments** |
| setup() | pass | Setting up objects and fields. |
| testSetNumAudioButtons() | pass | Testing update number of audio buttons on the TalkBox |
| testInitialFields | pass | Testing the intial set fields of the TalkBoxConfig app. (ex. Number of buttons) |
| TestJPaneSplits | Pass | Testing the different instances that are created by the configApp through JSplitPane components |
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**3.2 TalkBox Simulator Application**

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| --- | --- | --- |
| **Tests** | **Pass / Fail** | **Comments** |
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**Chapter 4**

**Test Case Derivation**

**4.1 How Test Cases Were Derived: TalkBox Configuration Application**

**4.2 How Test Cases Were Derived: TalkBox Simulator Application**

**Chapter 5**

**Test Case Sufficiency**

**5.1 Why Test Cases Are Sufficient: TalkBox Configuration Application**

**5.2 Why Test Cases Are Sufficient: TalkBox Simulator Application**

**Chapter 6**

**Test Case Implementation**

**6.1 How Are Test Cases Implemented**