​



Test Report

Memory Magic App

Project name: Memory Magic Application

Date: November 2, 2021

Project Manager: Presley Muwan

Phase: Design & Implementation

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Version Number | Date | Description | Approved By |
| 1.0 | 11/02/2021 | Test Report | Presley Muwan |
|  |  |  |  |

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# Introduction

## 1.1 Purpose

The purpose of this test report is to document the testing strategy and results for the Memory Magic Application. The types of testing completed, items not tested, and results of tested features are also featured in this report.

## 1.2 Application Overview

The Memory Magic application was developed for the UMGC Software Engineering Project Fall 2021 term application team. The requirements for the project were presented by Dr. Mir Assaduallah, and further developed on suggestions by team as well as subject matter experts.

The purpose of the application is to provide an application in which the user can make notes to remind them of various activities. The application can also be used to create a calendar of events, and checklist of activities. Notifications can also be used within the application. In addition to English, this application supports several other languages, including Spanish, Chinese, Arabic, and Portuguese.

## 1.3 Technical Project Stakeholders

Table 1 shows the project stakeholders for the Memory Magic App:

**Table 1**

*Project Stakeholders*

|  |  |
| --- | --- |
| **Name** | **Role** |
| Dr. Mir Assadullah | Stakeholder (Project Owner) |
| Roy Gordon | Stakeholder (Project Advisor) |
| Presley Muwan | Project Manager |
| Teresa Balbi | Business Analyst |
| Karen Crumb | Lead Developer |
| Daniel Avery | Developer |
| Sami Salim | Developer |
| Christian Cruz Jimenez | Tester |
| Kevin Bell | UI/UX Designer |

# Types of Testing

To thoroughly test the application, team Mesmerize members did various types of testing. The types performed are as follows:

## 2.1 Unit Testing

Unit tests were written and executed by development team members. The code coverage expected by the unit testing is 80% as directed by the DevSecOps Team.

## 2.2 Integration Testing

Integration testing was performed for the integration of Team Tongue Twisters NLU application. The purpose of this testing was to confirm that the NLU was returning the proper response to spoken transcriptions from the Memory Magic application.

## 2.3 User Acceptance Testing

Functional tests were performed by team members to determine that the application was working as expected and that they met the predetermined requirements of the project. If any issues or errors were found, they were reported to the development team.

# Items Not Tested

The NLU software was tested by Team Tongue Twisters and was out of scope for this application. The encryption feature was not directly tested through user acceptance testing other than confirming notes were saved correctly.

# User Acceptance testing

The following sections show the User Acceptance Testing completed by team Mesmerize.

## 4.1 NLU Interaction

Table 2 shows the NLU Interaction test:

**Table 2**

*NLU Interaction*

|  |  |
| --- | --- |
| Test Name: | NLU Interaction |
| Test Type: | User Acceptance Testing, Integration testing (Memory Magic app and NLU) |
| Test Date: | 10/26/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In application, click the Microphone Icon 2. Speak a key phrase such as Make Appointment |
| Expected Result: | Application should ask for more information, such as date and time of appointment, and ask to create a note. |
| Issues: | None |
| Status: | passed |
| Screen Capture: |  |

## 4.2 Access Permissions to device resources

Table 3 shows the access permissions test:

**Table 3**

*Access Permissions*

|  |  |
| --- | --- |
| Test Name: | Access Permissions to device resources |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/26/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. Using new or wiped emulator, open the application. 2. Go through onboarding language. 3. On Permission screen, answer Yes to Do we have permission to access your microphone and resources? |
| Expected Result: | Application should ask permission to record audio and to use resources. |
| Issues: | None |
| Status: | Passed |
| Screen Capture: |  |

## 4.3 Activate and deactivate listening mode

Table 4 shows the activate/deactivate listening mode test:

**Table 4**

*Activate/Deactivate Listening Mode*

|  |  |
| --- | --- |
| Test Name: | Activate and deactivate listening mode |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/27/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In application click microphone icon and speak. 2. Click microphone again. |
| Expected Result: | The first click should turn microphone on and the application should be able to listen. The second click should turn the microphone off. |
| Issues: | None |
| Status: | passed |
| Screenshot: | Microphone is activated |

## 4.4 Type in notes

Table 5 shows the type notes test:

**Table 5**

*Type Notes*

|  |  |
| --- | --- |
| Test Name: | Type notes |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/29/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In App click the notes button. 2. In Notes screen, click the Add Notes button (+ button). 3. Enter the note text. Also enter the Make this a daily activity checkbox if it is a daily activity, and date and time if it is an event. 4. Click Save Note. |
| Expected Result: | The note should be saved. |
| Issues: | If a time is entered and the note is saved and reopened, the time is 0:00. |
| Status: | Found issue |
| Screenshot: |  |

## 4.5 Transcribe notes

Table 6 shows the transcribe notes test:

**Table 6**

*Transcribe Notes*

|  |  |
| --- | --- |
| Test Name: | Transcribe notes |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/30/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In application click microphone icon. 2. When microphone activates speak phrase such as Make Appointment. 3. Application will either ask for additional information or ask to save note, yes or no. 4. Click yes to save note. |
| Expected Result: | The application will listen to and transcribe the speech, and ask to create a note. |
| Issues: | None |
| Status: | passed |
| Screenshot: |  |

## 4.6 Edit and Delete notes

Table 7 shows the edit/delete notes test:

**Table 7**

*Edit/Delete Notes*

|  |  |
| --- | --- |
| Test Name: | Edit and Delete Notes |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/30/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In application, click Notes Icon. 2. In Notes screen, click on note text. 3. To Edit, make any changes in text box and click Save Note. 4. Click Delete Note to delete the note. |
| Expected Result: | If edited, the note will change. Delete the note will be deleted. Clicking Cancel will go back to the Notes screen. |
| Issues: | If a time was entered and the note saved, or if the time was entered, when you look at the note again, the time is 0:00 |
| Status: | Has issue |
| Screenshot: |  |

## 4.7 Onboarding

Table 8 shows the onboarding test:

**Table 8**

*Onboarding*

|  |  |
| --- | --- |
| Test Name: | Onboarding |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/26/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In new or wiped emulator, open the application. 2. The Choose Language screen should open with the default language English. 3. The permissions screen should open, if the option is Yes, it should ask for microphone and resource permissions. |
| Expected Result: | User should be onboarded, if the application is opened in the same emulator, it should not ask for onboarding steps again. |
| Issues: | None |
| Status: | passed |
| Screenshot: |  |

## 4.8 Support for multiple languages

Table 9 shows the support for multiple languages test:

**Table 9**

*Multiple Languages Support*

|  |  |
| --- | --- |
| Test Name: | Support for multiple languages |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/30/2021 |
| Test Conductor: | Karen Crumb and other Team Mesmerize members |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In application, click on Menu then Settings and find the Language dropdown (or during Onboarding go to the Language dropdown). 2. In Language dropdown change language (Default is English). 3. Click Save. |
| Expected Result: | The application text will change to the appropriate language. |
| Issues: | None found. Team members with knowledge of languages confirmed the translations are correct. |
| Status: | passed |
| Screen Capture | Shows application after changing language to Spanish and clicking Save. |

## 4.9 Notifications

Table 10 shows the notifications test:

**Table 10**

*Notifications*

|  |  |
| --- | --- |
| Test Name: | Notifications |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/30/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In application, click Notifications 2. Turn on some of the notifications |
| Expected Result: | A notification will pop up within a few minutes. |
| Issues: | None |
| Status: | Passed, working as expected. |
| Screen Capture |  |

## 4.10 Display Events on Calendar

Table 11 shows the display events on calendar test:

**Table 11**

*Display Events on Calendar*

|  |  |
| --- | --- |
| Test Name: | Display Events on Calendar |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/30/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. Confirm there are already notes with dates added to application. If there are not add some. 2. Click the Calendar Icon and go to the date of the event in the calendar. 3. Click on date with event. |
| Expected Result: | There should be a black dot under any date that has an event. Clicking the date will show the text of the note and time of event. |
| Issues: | None |
| Status: | passed |
| Screenshot: |  |

## 4.11 Display Events on Checklist

Table 12 shows the display events on checklist test:

**Table 12**

*Display Events on Checklist*

|  |  |
| --- | --- |
| Test Name: | Display Events on Checklist |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/30/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. Create a note with Make this a daily activity checked. 2. Click the Checkbox icon. |
| Expected Result: | The text of any notes with the Make this a daily activity should appear with a checkbox, you can click the checkbox to check them off. |
| Issues: | none |
| Status: | passed |
| Screenshot: |  |

## 4.12 Change Theme Settings

Table 13 shows the change theme settings test:

**Table 13**

*Change Theme Settings*

|  |  |
| --- | --- |
| Test Name: | Change Theme Settings |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/30/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In application, go to Menu. 2. Click Settings. 3. Find Theme dropdown, and select different theme 4. Click save. |
| Expected Result: | Theme should change to selection. |
| Issues: | None |
| Status: | passed |
| Screenshot: |  |

## 4.13 Change General Settings

Table 14 shows the change general settings test:

**Table 14**

*Change General Settings*

|  |  |
| --- | --- |
| Test Name: | Change General Settings |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/30/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. Go to Settings page 2. Change Font size settings and days to keep notes 3. Click Save |
| Expected Result: | Change in settings will save |
| Issues: | None found |
| Status: | passed |
| Screen Capture: |  |

## 4.14 Search notes

Table 15 shows the search notes test:

**Table 15**

*Search Notes*

|  |  |
| --- | --- |
| Test Name: | Search Notes |
| Test Type: | User Acceptance Testing |
| Test Date: | 10/31/2021 |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: | 1. In application, click Search on top of screen. 2. Enter search criteria to search notes |
| Expected Result: | If there is a note containing the search criteria, it should appear in the search results. |
| Issues: | None |
| Status: | passed |
| Screenshot: |  |

## 4.15 Help

Table 16 shows the help test:

**Table 16**

*Help*

|  |  |
| --- | --- |
| Test Name: | Help |
| Test Type: | User Acceptance Testing |
| Test Date: |  |
| Test Conductor: | Karen Crumb |
| Software Version: | Android Studio Artic Fox 2020.3.1 Patch 1 |
| Emulator Version: | Android Pixel 5 API 29 |
| Steps: |  |
| Expected Result: |  |
| Issues: |  |
| Status: | Feature not yet developed. |

# Unit Testing

The following unit tests were specified in the original requirements document and are listed here with its related status. In some cases, if a feature was not implemented due to time or technical restraints, the unit test was not constructed. In that case, such was documented below.

|  |  |
| --- | --- |
|  | **Unit Test Construction Status** |
| **General Tests:** |  |
| 1. **Application Opens Up**   Success case: Wait for the “Speak” button to appear which means that the application has successfully opened. |  |
| 1. **From any page, click Calendar**   Success case: Wait for anticipated elements to appear. |  |
| 1. **From any page, click on Settings**   Success case: Wait for anticipated elements to appear. |  |
| 1. **From any page, click on Notes**   Success case: Wait for anticipated elements to appear. |  |
| 1. **From any page, click on Home**   Success case: Wait for anticipated elements to appear. |  |
| 1. **From any page, click on Bell**   Success case: Wait for anticipated elements to appear. |  |
| 1. **From any page, click on Mic**   Success case: Wait for anticipated elements to appear. |  |
| **Home Screen:** |  |
| 1. Click on “Speak”   **Success case: Mic screen will appear.** |  |
| 1. Click on “Text”   Success case: Enter a note by text screen will appear. |  |
| **Mic Screen:** |  |
| 1. Click on “Press to Record (Mic)”   Success case: Speak dialog appears. |  |
| **Menu Screen:**   1. Click on sync to cloud   Success case: Enter state for enabling sync to cloud. |  |
| 1. Click on trigger   Success case: Wait for anticipated elements to appear. |  |
| 1. Click on general setting   Success case: Wait for anticipated elements to appear. |  |
| 1. **Click on help**   Success case: Wait for anticipated elements to appear. |  |
| **Note Screen:** |  |
| 1. Search for note – no results   Success case: No results appear. |  |
| 1. Search for a note - results   Success case: Searched for note will appear. |  |
| 1. Modify text after search note   Success case: Note is updated. |  |
| 1. Click on “Add A Note”   Success case: Wait for anticipated elements to appear. |  |
| **Delete a Note Screen** |  |
| 1. Click on Delete Note   Success case: Note is deleted from datastore. |  |
| 1. Click on Cancel |  |
| **Edit a note Screen** |  |
| 1. Click on Save Changes   Success case: Note is saved in datastore. |  |
| 1. Click on Cancel Changes   Success case: Note is not saved in datastore. |  |
| **Trigger Screen** |  |
| 1. Change all inputs and save   Success case: Triggers are saved in datastore. |  |
| 1. Change all inputs and cancel   Success case: Triggers are not saved in datastore. |  |
| **Sync to Cloud Screen** |  |
| 1. Mock login to google cloud   Success case: After mock response, user is linked to google cloud |  |
| **General Setting Screen** |  |
| 1. days to keep notes and save   Success case: Settings are updated for the user |  |
| 1. Change font size notes   Success case: Settings are updated for the user |  |
| 1. Change font size menu |  |
| Success case: Settings are updated for the user |  |
| 1. Change language from English to Arabic   Success case: Settings are updated for the user |  |
| 1. Change language from English to Arabic back to English, then save   Success case: Settings are updated for the user |  |
| **Security Setting Screen** |  |
| 1. Setup fingerprint   Success case: Settings are updated for the user |  |
| 1. Reset fingerprint |  |
| Success case: Settings are updated for the user |  |
| 1. Press Cancel Button   Success case: State is unchanged |  |
| **Calendar Screen** |  |
| 1. Click a calendar event   Success case: Wait for anticipated elements to appear. |  |

# Defects Identified

A defect was found in user acceptance testing in which if the notes are edited or type notes are saved, the time does not save correctly and saves as 00:00 instead of the entered time. This defect is a low severity as it does not affect the overall function of the application, and time is not a required field.

# Exit Criteria

The exit criteria for the completion of testing are the following:

* That all user acceptance testing has been completed and any issues are reported to the development team for correction.
* That all unit testing is performed with 80% coverage.
* Any issues found in testing are documented.
* No other test cases are determined as necessary by the team.

# Appendices

## 7.1 Credits & Contributions

Below are the members that contributed or will contribute to the development of this application in alphabetical order by last name:

* Aboagye, Prince Antwi
* Ahmed, Christian
* Avery, Daniel
* Baileys, Alec
* Balbi, Teresa
* Ballo, Nicholas
* Bell, Kevin
* Benavides, Raul
* Broggin, Chauntika
* Cabrales, Andreas
* Chari, Firehiwot
* Crumb, Karen
* Cruz Jimenez, Christian
* Cushing, Benjamin
* Drammeh, Mod
* Dunning, Maddison
* Endashw, Eskedar
* Famudehin, Ayodeji
* Girma, Endalkachew
* Gordon, Roy
* Jena, Debashis
* Johnson, Austin
* Johnson, Rebecca
* Kalfus, Joseph
* Kelly, Shawn
* Kimbi, Didimus
* Le, Michael
* Lockhart, Johnny
* Mesfin, Elshaday
* Monfort, Michelle
* Muwan, Presley
* Okonkwo, Obinna
* Olshansky, Mitchell
* Puschinsky, Tyler
* Rohn, Andrew
* Salim, Sami
* Setiawan, Matthew
* Sevilla, Damion
* Soeurt, Jeroen
* Subramanian, Leela
* Webster, Malik
* Wilson, Robert
* Worku, Addisu
* Dr. Mir Mohammed Assadullah