CHAPTER 5
TESTING AND IMPLEMENTATION

5.1. Introduction

This chapter will basically discuss the result of the user acceptance testing of the prototype. The comments and suggestions retrieved from the respondents or testers shall be analyzed properly in order to measure the effectiveness of tab navigation system and exclusive sharing system. The scoring and the good response will be listed down and discussed in order to improve it into a much better one or at least implement it in the release candidate. Meanwhile, the other responses (especially the negative one) will be examined its possibility of why such responses are given. The conducted study on the negative responses is possible to lead to the conclusion that what the author develops will not bring any benefit to the bible application users. However, the possible conclusion of the prototype cannot bring any advantages can be studied further, so that some modification to the prototype can be done later in the future. The modification meant by the author is the one that the author hopes can change the opinion of the respondents. The altered opinion can eventually turn into the reasons to redevelop the prototype into something that is ready for the end user.

The negative responses collected from the respondent’s idea is also possible to derive from the fact that the system is helpful but the development plan put into it is not making the system as effective as it should be. This matter will also be examined in order to make the planned system really bring the benefits described in the first chapter.
5.2. The Prototype Version

The mobile bible application is developed by the author under API Level 9. Each API is basically the representation of certain Android versions. In order to make the readers understand the correlation between API level and Android version, the author will put the table that will explain about this matter [60]:

Table 5.1 Table of Android Version, API Level, and Version Code

<table>
<thead>
<tr>
<th>Platform Version</th>
<th>API Level</th>
<th>VERSION_CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Android 4.1, 4.1.1</td>
<td>16</td>
<td>JELLY_BEAN</td>
</tr>
<tr>
<td>Android 4.0.3, 4.0.4</td>
<td>15</td>
<td>ICE_CREAM_SANDWICH_MR1</td>
</tr>
<tr>
<td>Android 4.0, 4.0.1, 4.0.2</td>
<td>14</td>
<td>ICE_CREAM_SANDWICH</td>
</tr>
<tr>
<td>Android 3.2</td>
<td>13</td>
<td>HONEYCOMB_MR2</td>
</tr>
<tr>
<td>Android 3.1.x</td>
<td>12</td>
<td>HONEYCOMB_M1</td>
</tr>
<tr>
<td>Android 3.0.x</td>
<td>11</td>
<td>HONEYCOMB</td>
</tr>
<tr>
<td>Android 2.3.4</td>
<td>10</td>
<td>GINGERBREAD_M1</td>
</tr>
<tr>
<td>Android 2.3.3</td>
<td>10</td>
<td>GINGERBREAD</td>
</tr>
<tr>
<td>Android 2.3.2</td>
<td>9</td>
<td>GINGERBREAD</td>
</tr>
<tr>
<td>Android 2.3.1</td>
<td>9</td>
<td>GINGERBREAD</td>
</tr>
<tr>
<td>Android 2.3</td>
<td>9</td>
<td>GINGERBREAD</td>
</tr>
<tr>
<td>Android 2.2.x</td>
<td>8</td>
<td>FROYO</td>
</tr>
<tr>
<td>Android 2.1.x</td>
<td>7</td>
<td>ECLAIR_M1</td>
</tr>
<tr>
<td>Android 2.0.1</td>
<td>6</td>
<td>ECLAIR_0_1</td>
</tr>
<tr>
<td>Android 2.0</td>
<td>5</td>
<td>ECLAIR</td>
</tr>
<tr>
<td>Android 1.6</td>
<td>4</td>
<td>DONUT</td>
</tr>
<tr>
<td>Android 1.5</td>
<td>3</td>
<td>CUPCAKE</td>
</tr>
<tr>
<td>Android 1.1</td>
<td>2</td>
<td>BASE_1_1</td>
</tr>
<tr>
<td>Android 1.0</td>
<td>1</td>
<td>BASE</td>
</tr>
</tbody>
</table>
5.3. The Compatibility Issue in The Development

By looking at the table in the previous section, the prototype which the author develops has the version 2.3 or 2.3.1 or 2.3.2. It is because it is built using SDK 9. In order to use SDK 10 and higher than that, it is possible that the author should make additional codes in the program. If the author does not do that, then there are some functions made in the prototype that will not work properly (can be said that the prototype needs some specific functions to make it work). That possibility derives from the error that the author got when the experiment to use SDK 10 and 11 is used.

The error will be shown below:

```
com.example.bible_ System.err java.io.IOException: Error connecting
com.example.bible_ System.err at com.example.bibleapplication.MethodProcess.OpenHttpConnection(M
com.example.bible_ System.err at com.example.bibleapplication.MethodProcess.DownloadText(M
com.example.bible_ System.err at com.example.bibleapplication.MethodProcess.loginUser(M
com.example.bible_ System.err at com.example.bibleapplication.BibleMainActivity$2.onClick(BibleM
com.example.bible_ System.err at android.view.View.OnClickListener.onClick(View.java:3488)
com.example.bible_ System.err at android.view.View$PerformClick.run(View.java:13963)
com.example.bible_ System.err at android.os.Handler.handleCallback(Handler.java:665)
com.example.bible_ System.err at android.os.Handler.dispatchMessage(Handler.java:92)
com.example.bible_ System.err at android.os.Looper.loop(Looper.java:137)
com.example.bible_ System.err at android.app.ActivityThread.main(ActivityThread.java:4340)
com.example.bible_ System.err at java.lang.reflect.Method.invokeNative(Native Method)
com.example.bible_ System.err at java.lang.reflect.Method.invoke(Method.java:511)
```

![Figure 5.1 The Error When The Author Tries The SDK 10 and 11](image)

This error appears when the author tries to log in from the Android application. No matter how many times the author tries to log in, the author will always fail. Looking at the error makes the author conclude that the application cannot be connected to the web server. Based on this conclusion, the author then assumes that there are some codes that must be added in order to overcome this error. That assumption also comes from the author’s personal experience during the previous semesters. What the author meant is that the author has faced this error.
once. The research that was once conducted by the author shows that the author should build something called AsyncTask in order to overcome this problem. Since the author did not manage to build the right AsyncTask at that time, the author then did not know whether this solution can really solve this matter or not. Thus the author decides to build the prototype using SDK 9, so that the author can avoid the risks that are actually not required for accomplishing the thesis.

As it has been stated in the first paragraph of this section, the prototype can be run under Android lower than 2.3.2. The author tries to do an experiment using SDK 8 or 7. The message that the author gets when the attempt to log in is committed will be shown below:

```
D 12-01 20:22:50.628 650 650  com.example.bible.. grolloc_gold.. Emulator without GPU emulation detected.
W 12-01 20:22:50.665 650 650  com.example.bible.. TextLayoutCa.. computeValuesWithHarfBuzz -- need to force
I 12-01 20:23:00.319 650 650  com.example.bible.. System.out   ID is 2 and name is ab
W 12-01 20:23:00.768 650 650  com.example.bible.. TextLayoutCa.. computeValuesWithHarfBuzz -- need to force
D 12-01 20:23:01.289 650 653  com.example.bible.. dalvikvm   GC_CONCURRENT freed 168K, 3% free 30166K/31
```

Figure 5.2 The Message That Will Be Shown If The Application Is Built Using SDK 7 and 8

The message above indicates that the application can be connected to the web server and thus the log in process can be executed. In this case, the login will fail if the user inputs the wrong username or password.
Figure 5.3 The Android Manifest XML – The Place To Set Up The SDK Number

5.4. Prototype Development Requirement

Before concentrating on the prototype development or even the issues explained at the previous section, there are several things that must be prepared properly in order to start building the application. Those things are Android Development Plug-in on Eclipse IDE, Text Editor, and XAMPP (Cross Platform of Apache HTTP Server, MySQL, PHP, and Perl). Since the installation of Android Environment on Eclipse IDE is quite complicated, thus the author feels that the steps to make everything ready for Android application development must be explained properly in this section.
The steps for installing Android Development Plug-in on Eclipse IDE are as follows:

1. **Download SDK Packages**

   The SDK Packages can be downloaded from http://developer.android.com/sdk/index.html. Once it is downloaded, just ignore it since the next step shall be executed first before the downloader can deal with this.

2. **Download the ADT Plug-In** [61]

   1.1 Start Eclipse IDE that has been installed on your Mac

   1.2 Navigate to Help and choose the option Install New Software

   1.3 At the top right corner, choose Add

   1.4 Once Add is chosen, a dialog which is Add Repository appears

   1.5 There are two fields there, which is Name and Location

   1.6 In the field Name, enter ADT Plug-In (can be any name) and in the field Location, enter https://dl-ssl.google.com/android/eclipse/

   1.7 Choose OK (Notes: If there is some problem occurs, try changing https into http)

   1.8 In the dialog called Available Software, select the checkbox beside Developer Tools. After that, choose Next to proceed
1.9 In the next windows that appears after Next is pressed, a list of tools to be downloaded will be provided there. Click Next again to proceed.

1.10 Read and accept the terms of agreement. After that click Finish. (Notes: If there is a warning that notifies the incapability of establishing the authenticity or validity of the software, just simply click OK to proceed)

1.11 Once the installation is done, the Eclipse IDE must be restarted to make the plug-in works.

3 Configure ADT Plug-In [61]

2.1 Eclipse IDE that has been installed with Android Environment Plug-In cannot be used to code Android, unless the ADT Plug-in has been configured properly.

2.2 To configure it, open Eclipse IDE and wait for the window “Welcome to Android Development” appears at the screen.

2.3 In that windows, select Use Existing SDKs

2.4 Browse to the location where the downloaded SDK is put. Once the location is found, select it and click Next to proceed

2.5 The environment for developing Android application in the Eclipse IDE is now ready to use. However, adding the latest SDK platform tools and an Android platform is a must. In order to do this thing, follow the steps below
4 Adding Platform and Packages [62]

3.1 Launch the SDK manager to install the packages required for starting the Android application development

3.2 Once the window of Android SDK Manager appears, some packages that are recommended to install have been selected

3.3 To proceed with the installation process, simply click Install

3.4 Eclipse IDE is now ready to be used for developing Android application

5.5. Testing Phase

The user acceptance testing for the prototype developed by the author is done through a survey, just after the author let the targeted users have a try on it. The targeted users who tried using the application were the author’s friend who studied in Binus University International. There were ten people who participate in the testing (the minimum number of testers that the author expected).

The main reason why the author chose his friends to become the tester is based on the thinking that the people who never knew the author are possible to unwillingly spend their time for helping the author. Even if there are some who want to join as testers, the author cannot expect that the testing result retrieved from their opinion is trustworthy. In other words, the testers might give very good responses because they do not want to disappoint the author or very negative responses because they join the testing half-heartedly.
Based on the consideration explained above, the author made a decision to just simply include the people who knew the author well in the user acceptance testing. The author feels that it is easier to ask them to join the testing and to give the response as honest as they can be. The author believes that the result from frank opinions can turn into something that lead to two important conclusions, in which they are the decision to make the prototype into the bible application that is ready for end users or to stop the research and tries to find other things that are much worthy to be developed in an electronic bible.

As it has been stated above, the minimum number of testers the author expected was ten. The author did not expect a higher number than that due to the thinking that the need to dig up the result of the research has already been satisfied with the opinions from at least ten persons. Aside from that reason, the author also feels that it is not always easy to arrange a meeting for conducting user acceptance testing, since the time the author has does not always meet with the time of other people. Sometimes, even if the time can meet, the people whom the author expects to willingly become a tester will have something else to do and the author does not have any right to push them to help with the testing.
5.6. Testing Result (Max Score: 5 \(\rightarrow\) Really Useful/Helpful)

Scoring Criteria (For Tab Navigation System):

1. Not helpful at all
2. Not really helpful
3. Could be helpful
4. Helpful
5. Really helpful

Scoring Criteria (For Exclusive Sharing / Interaction System):

1. Not useful at all
2. Not really useful
3. Could be useful
4. Useful
5. Really useful

5.6.1. The Implementation of Tab Navigation System

The criteria for this section’s testing are as follow:

5.6.1.1. Tabs that separate the bible book, notes to write something, and list of song lyrics

Table 5.2: Scoring for Tab Navigation System (Bible Book, Notes Field, Song Management Section)

<table>
<thead>
<tr>
<th>No</th>
<th>Score</th>
<th>Brief Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>The tab for displaying notes writing field is useful. But the tab for displaying the song lyric section might not bring any benefit</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>The tab for displaying the song lyric is not important because in churches, the committee has</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>It makes it easier in navigating to different activities (opening bible book, notes writing field, and song lyric display) without having to go through several pages</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>Easier to open multiple bible verses and navigate the current activities to different activities (writing notes and managing song lyric)</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>It will be helpful when the user wants to switch back and forth between tasks of reading bible, writing some notes, and managing song lyrics</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>It is easier to access notes writing section, because it is put just beside the bible list</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>Helpful because the navigation between tasks become faster and efficient</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>Really useful</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>Efficient</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>None</td>
</tr>
</tbody>
</table>
Table 5.3: Average Score for Tab Navigation System (Bible Book, Notes Field, Song Management Section)

<table>
<thead>
<tr>
<th>Average Score</th>
<th>Score Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>44/10 = 4.4</td>
<td>This feature is helpful in navigating between tasks that are frequently conducted (stated in chapter 1 and explained in chapter 1)</td>
</tr>
</tbody>
</table>

Table 5.4: Conclusion and Analysis for Tab Navigation System (Bible Book, Notes Field, Song Management Section)

**Conclusion**

Based on the survey that was conducted several time ago, 16 out of 21 people agree that the frequent activities to be conducted at church or community are opening bible, making a note, and displaying song lyrics. That fact leads to the author’s conclusion about the importance of providing easy and quick access to such often-to-do activities.
There can be many ways to provide such a convenient access to the activities mentioned above. One way that the author thinks is the best way is to put all the important tasks in a tab navigation system. Just like in a web browser, the internet user can open many pages by using tabs and it is indeed convenient because they do not have to open the browser more than one time.

Although the implementation of tab navigation system in these three tasks can be said to be helpful, still, there are some who say that the section for managing song lyric is not necessary to be built inside the tab system or even bible application. The reason is because the churches or communities usually have provided the screen monitor to display the song lyric and thus the application’s section for doing this task is not required to be developed.

What the author thinks about the fact explained above is that the development of song lyric section can still lead to some advantages. In the author’s mind, there can be times when the churches or small communities cannot display the song lyric because of lacking the equipment or broken machine or any other reasons. The author also feels that some people are possible to face the difficulties of looking at the distance (the people are far from the screen), and thus this feature is worth to be built in a mobile bible application and is best to be put in a tab navigation system to give a quick and easy access.

The feedback about the song lyric section is actually not related at all to the testing criteria. The author only expects the respondents to grade how helpful the tab navigation system is and gives the reason
why such score is given. But the likelihood of unexpected responses cannot be avoided and thus the suggestion of not developing song lyric section comes.

Aside from the unrelated responses, there is a respondent who in the author thought, has given the most proper feedback. Although his response was not recorded during the time of the testing, still, the author feels that it is necessary to briefly explain it in this section.

The feedback comes from the respondent is that the bible application will only consists of bible book list when it is first opened. However, there shall be a command to add the tab for notes writing section and for managing the song lyric section. Once at least one command is chosen, the tab navigation system will be automatically formed and thus it will consist of the bible list and the newly-opened task. The author put his idea as a consideration because it is possible that some bible users might only want to open the bible without being bothered by the tab navigation view. In other words, there might be users who only want to use the bible application to read the scripture and not to do anything else. If this idea is going to be really implemented in the real application development, then the author will surely do another survey to ask the feedback regarding this idea.

To close this section, the implementation of tab navigation system is convenient for these three often-to-do activities. However, its level of convenience can always be improved to reach the higher level of user’s satisfaction. One way that is possible to implement is by making the tabs for the three activities dynamic and can be called
only when the user requires it. As an illustration, instead of having your maids always stand beside you (no matter what are you working on at the current time), it is probably better if they are only present when you need and call them.

5.6.1.2. Tabs that separate the bible and notes that are stored on the phone

Table 5.5: Scoring for Tab Navigation System (Bible Book and Notes)

<table>
<thead>
<tr>
<th>No</th>
<th>Score</th>
<th>Brief Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>It is easy to use the bible while reading the note</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>Good</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>Except that you need to search the verse manually, instead of automatically access the written verse on the note (maybe bible (\rightarrow) what the author understands)</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Easier to open multiple activities</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>Easy to go back and forth between different tasks</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>It is helpful</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>Helpful because the navigation between tasks become faster and</td>
</tr>
</tbody>
</table>
Table 5.6: Average Score for Tab Navigation System (Bible Book and Notes Reading Section)

<table>
<thead>
<tr>
<th>Average Score</th>
<th>Score Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \frac{43}{10} = 4.3 )</td>
<td>This feature is helpful in navigating between tasks of reading stored notes and opening bible list to be used as a reference</td>
</tr>
</tbody>
</table>
Table 5.7: Conclusion and Analysis for Tab Navigation System (Bible Book and Notes Reading Section)

<table>
<thead>
<tr>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>This part will not be found in the survey (not like the one explained before this). However, due to the fact that the prototype developed by the author has the feature to make some notes and of course the users will someday read again those things, the author feels that there should be more activities to be built in a tab navigation system. Those activities are opening bible list and reading stored notes. This conclusion derives from the possibility that people will include bible verses in the note they are making. Instead of keep going back and forth in opening the bible and the notes, the author thinks that creating another tab navigation system that calls these two tasks at the same time will be helpful for bible user.</td>
</tr>
<tr>
<td>Aside from the reason explained above, as described in the aim of the research project, the author also intends to build another tab navigation system beside the one that consists of the frequent-to-do tasks (opening the bible, making a note, and looking at song lyric). The need to satisfy the aim and the need to provide a convenient way to read the written notes, has really driven the author to create this tab navigation system (the one consists of bible book and reading note section).</td>
</tr>
<tr>
<td>Although the feedbacks given by the respondents are general (e.g. useful, helpful, etc), still, the collected score showed that the implementation of this tab system can be considered to be helpful for</td>
</tr>
</tbody>
</table>
reading note and bible at the same time (according to the scoring criteria mentioned in this section's opening). Derives from this test result, the author shall build this tab system (consists of bible list and reading notes section) if the intention to make the release candidate comes.

5.6.1.3. Tabs that separate the bible and discussion topic forms

Table 5.8: Scoring for Tab Navigation System (Bible Book, Discussion Topic Section)

<table>
<thead>
<tr>
<th>No</th>
<th>Score</th>
<th>Brief Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>The tab that displays these two sections are useful, however the created discussion topic does not always count on the verses (the respondents real answer before the author tries to translate it: “the topic itself is not always reverse to the verse”)</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>Good and very useful</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>User-friendly</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Easier to open multiple activities</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>Easy to go back and forth between different tasks. But the dialog to call</td>
</tr>
</tbody>
</table>
for bible references (choose what version to open → KJV, NIV, or Indonesian) is not that necessary

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>3</td>
<td>Could be helpful</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>Helpful because the navigation between tasks become faster and efficient</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>Really useful</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>Quick access</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>None</td>
</tr>
</tbody>
</table>

Table 5.9: Average Score for Tab Navigation System (Bible Book, Discussion Topic Section)

<table>
<thead>
<tr>
<th>Average Score</th>
<th>Score Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>41/10 = 4.1</td>
<td>This feature is helpful in navigating between tasks of creating discussion topic and opening bible list to be used as a reference</td>
</tr>
</tbody>
</table>
### Table 5.10: Conclusion and Analysis for for Tab Navigation System (Bible Book, Discussion Topic Section)

**Conclusion**

Most of the responses given by the respondents are general. The respondents will just say that the tab navigation system for this part is helpful and useful. Although the score given by the testers show that the developed tab system does make the users can easily navigate through several tasks, still, the common feedbacks make the author cannot figure out what kind of improvement that the system needs in order to increase the offered convenience. For instance, the tab navigation system that opens the bible book and the stored note (the previous section) does not have any specific input from the testers and thus the author cannot know what kind of improvement that will make the score of the corresponding system increase.

However, in this section, one tester does give a good input for future development. That feedback is related to the dialog to choose the bible version. This dialog will be called when the user wants to create a discussion topic. The author thinks that the user who wants to create a discussion topic might be needing bible references. Based on this conclusion, the author builds another tab system that consists of bible list and topic writing form (the other reason is just the same like the one explained in the earlier section, in which it is to fully satisfy the specific aim of the research – creating other tab system with different activities to be able to really measure the importance of tab navigation system). Since there are three bible versions that can be...
used, the author develops a mechanism to let the user pick the bible version to be used as a reference. The expectation that there will be a tester who says that this thing will not be necessary, never comes to the author’s mind. Such opinion might occur because of the complexity of the business flow. The author also feels the same way. However, during the development time, the author does not attempt to find another alternative because at that moment, the author does not really feel the complexity. It is the tester’s opinion that makes the author can see the process flow from different point of view.

Some analysis then conducted by the author to overcome this matter. It is because in the author’s mind, having bible references is necessary for making a discussion topic. That’s why the author does not intend to throw away this mechanism if the desire to make a real application has come.

The author’s final conclusion is then similar to the one of the respondent’s suggestion about adding tabs dynamically (the previous two sub sections – 5.6.1.1). The tab that will be added dynamically is the bible tab. In other words, when the user chooses to open the form for creating discussion topic, the screen will only show the corresponding form. If the bible is required, then there will be a button that will automatically form a tab navigation system. That tab system will consist of the bible book and the form for making the discussion topic.
5.6.1.4. Bible tabs that can be added dynamically (not hard-coded during the development)

Table 5.11: Scoring for Dynamic Bible Tab

<table>
<thead>
<tr>
<th>No</th>
<th>Score</th>
<th>Brief Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Will be helpful for seeing at more than one verse simultaneously</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>Very useful</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>Convenient</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>The capability of adding tabs dynamically is good. But if the user opens too many tabs, the space will be getting narrower and it leads to the great difficulties in doing the navigation</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>It will be helpful when there are several chapters and verses that are used in a session and discussion</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>Quite helpful</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>Helpful in reading different verses at the same time</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>Great feature. Through this feature, the users are not required to re-open the bible list whenever they want to open a different chapters or verses</td>
</tr>
</tbody>
</table>
Table 5.12: Average Score for Dynamic Bible Tab

<table>
<thead>
<tr>
<th>Average Score</th>
<th>Score Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>42/10 = 4.2</td>
<td>The bible tab that can be dynamically added will be more helpful in letting the user to open more than one chapters or verses at the same time</td>
</tr>
</tbody>
</table>
Conclusion

Feedbacks from the respondents about this matter vary. Even though there is one which cannot be understood well by the author, still, most of them speak the same opinion about how helpful this system is. It does make sense since 20 out 21 people agree that in a preaching, the priest like to use more than one verse and it will be such a troublesome if the user is required to re-open the bible books when the used verses are different from the previous one.

Although this system is graded 4.2 (considered helpful in overcoming the matter of opening multiple verses at the same time), still, there is a feedback that speaks about the problem that can occur by implementing this thing. That problem is the fact that adding dynamic tabs can lead to a narrower space for each available tabs (this problem is also valid to the feedback for the system defined in 5.6.1.1 and 5.6.1.3 – the corresponding system will let the users to open the required tabs by themselves or in other words the tabs are not opened automatically by the system). That state will make the tabs size getting smaller and it will be very difficult in doing the navigation. The solution for this matter will be discussed more briefly in the later section (Overall Summary – section 5.6.1.5).
5.6.1.5. Overall Summary

The overall score for the implementation of tab navigation system shows that such system will indeed provide a quick and easy access for several tasks, especially for the one that is frequently conducted. But several testers have spoken their opinion about how to make the tab system becomes even more convenient. From the testing result, it shows that the system’s capability of letting the user to add the tabs dynamically will be good to built. What the author means by ‘good’ is that the dynamic tabs will let the user to pick whatever tasks he or she wants to execute.

However, despite the positive feedbacks about the dynamic tabs, still, there is a major problem that can occur from this system. By letting the user add the tabs dynamically means that he or she can open the tabs as many as possible. As it has been described in the section 5.5.1.4, the dynamic tab system will lead to the state where the opened tabs will become smaller and smaller if the user keeps opening new tab. This matter will cause the difficulties to navigate between each tab and eventually the implementation of this thing will not be as beneficial as it should be.

Regarding to the problem explained above, the author thinks one way to solve it. It is to make the system limit the capability of adding the dynamic tabs. In other words, if the user has already opened five or maybe six tabs, the system will forbid the user to open another new tab. There is actually another suggestion from the respondent. The suggestion is to make the application will create some sort of arrow at the right corner of the screen, just after the user opens more than five or six tabs. To describe it in a simpler way, after the user has let the system open five or six tabs,
the next opened tab will not be visible at the screen, unless the user presses the arrow to slide to a new page. In other words, the newly-opened tab is located at the second page.

Both solutions above are actually good for overcoming the matter of adding too many dynamic tabs. However, the author only considers the first solution to be added to the prototype, in which it is the limitation of the number of tabs that can be dynamically opened. It is because this solution is very easy and does not need a long time to be built.

Regarding to the second solution (the paging system that uses arrow to access the next or previous page), it has not yet had its real implementation. To say it in a different way, this solution is still a theory. However, once the author’s intention to make the application ready for public use has come, the author will consider this solution to be transformed from theory into practical implementation. The reason is because the second solution is much convenient than the first one. The convenience here is in the aspect of opening the tabs as many as possible but it will not take too much space on the screen. But since this planned system is possible to consume a lot of memory, then the author thinks that the second solution is not the best way to overcome the matter of dynamic tabs. In other words, despite the convenience, still, there is a weakness that makes this solution does not transform into the best one.
To solve the limitation that is brought by each solution, the author then thinks that the best way is to combine both solutions. In other words, the system will put the newly opened tab in a new page just after the users have opened five or six tabs, but it will also limit the number of tabs (for instance, the users are only allowed to open ten tabs).

To close this section, the author wants to conclude that the dynamic tabs for several activities will be better to be developed alongside with the combination of tab number limitation and paging system.

5.6.2. The Implementation of Exclusive Sharing System

The criteria for this section’s testing are as follow:

5.6.2.1. Exclusive sharing system of discussion forum (to learn about bible or things related to bible stuffs)

Table 5.14: Scoring for Exclusive Sharing System (Learning Forum)

<table>
<thead>
<tr>
<th>No</th>
<th>Score</th>
<th>Brief Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>Quite helpful for learning and knowing things related to bible with the other users. However, the respondents say that he or she is too lazy to do it in Android device</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>Easy to share all the knowledge about bible story</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Unnecessary to have this feature</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>Navigation to the sharing page and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>discussion page is quite far from the main bible application. Thus, it will be ineffective and the feature is possible to be seldom used</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>A community is essential for studying bible, therefore by having a feature to discuss the topic, it will help the user in the learning process</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>It is good because it makes it easier to share something related to bible verses</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>Helpful in creating communication and exchange of information related to bible studying</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>Great for sharing</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>This feature is possible to lead to the bad debate between users (quarreling)</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>None</td>
</tr>
</tbody>
</table>
Table 5.15: Average Score for Exclusive Sharing System (Learning Forum)

<table>
<thead>
<tr>
<th>Average Score</th>
<th>Score Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>35/10 = 3.5</td>
<td>This feature can be very useful for learning bible verses with the other user of the same application</td>
</tr>
</tbody>
</table>

Table 5.16: Conclusion and Analysis for Exclusive Sharing System (Learning Forum)

**Conclusion**

The score retrieved from this testing criteria shows that the sharing system for learning bible can be useful. To describe in a more detailed way, the implementation of this system might lead to two possibilities. It is the likelihood that people can use this feature to learn the bible stuffs in a proper way and the likelihood that this feature cannot bring out the advantages that have been estimated before the development starts.
The responses that base the score vary from one person with another person. The positive feedbacks say that such system will ease people in learning the bible together. One specific response is that this system will be very helpful in creating the communication and exchanging information related to bible studying. In other words, this tester wants to speak that this exclusive sharing system can make people communicate well with the others.

The opposite feedbacks say that this sharing system is not good to build because the users can be quarrelling when they are learning the bible together. In the author’s thought, this kind of matter cannot be solved technically, since the problem comes from the users themselves.

There is also a feedback that the author does not really understand the meaning behind it. It says that the tester is too lazy to do the sharing in Android device. If the tester really means it, then it seems that the author might not have any technical solution that can be implemented.

Last feedback that the author intends to discuss is the one that says that the ineffectiveness is resulted from the location of the sharing system itself. That respondent says that the sharing system feature is too far from the main bible application and thus it can create a possibility that the users will be lazy to access it. The laziness then can lead to the state where less people use the feature to communicate between each other.
To conclude this part, the exclusive sharing system for bible studying can or cannot be effective for learning the bible together. From the respondents that say such feature will have not be useful for communicating, most of them has reasons that actually difficult to solve, since the problems they mentioned do not have any technical solution. However, the reason that says about the inappropriate location of the sharing system does make sense. If the user feels that it is too difficult to access the sharing system feature, then the user might be reluctant to use it and thus the corresponding feature will never be used for some communication or interaction (without any communication, there will never be an exclusive sharing process → the sharing system can be said as ineffective). Based on this feedback, the author feels that in the later development, the author will try to build the sharing system in the location that is much easier to access by the user.

5.6.2.2. Exclusive sharing system of event advertisement (to advertise the ceremonial event)

Table 5.17: Scoring for Exclusive Sharing System (Event Advertisement)

<table>
<thead>
<tr>
<th>No</th>
<th>Score</th>
<th>Brief Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>Good for advertising ceremonial event (helpful in letting other people know about certain events).</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>Easy to have a good relationship</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Unnecessary to have this feature</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>Navigation to the feature is quite far from the main bible application. Thus, it will be ineffective and the feature is possible to be seldom used. Building notification system can be very useful although it does not guarantee that people will access this feature frequently</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>An online community may not be in one close area. It is a good feature, but to have a more specific scope can be better (the scope is to see the event by area)</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>Easier to give information (about upcoming ceremonial events) and comments</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>Helpful in letting people know about the upcoming event</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>Great features for advertising ceremonial or churches events</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>Could be really helpful for advertising ceremonial events</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>None</td>
</tr>
</tbody>
</table>
Table 5.18: Average Score for Exclusive Sharing System (Event Advertisement)

<table>
<thead>
<tr>
<th>Average Score</th>
<th>Score Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>41/10 = 4.1</td>
<td>This feature is useful for informing the upcoming churches or ceremonial events to the bible application users</td>
</tr>
</tbody>
</table>

Table 5.19: Conclusion and Analysis for Exclusive Sharing System (Event Advertisement)

**Conclusion**

Although the exclusive sharing system for learning bible together cannot really be said to be useful for exchanging or sharing information, the sharing system to inform about the upcoming ceremonial events can show a different result from the user acceptance testing.
The collected score shows that this system is useful for announcing the event that will be held soon or later and thus the possibility of an exclusive sharing process can be created is much higher.

The author feels that the positive feedbacks do not have to be discussed further. Thus the author thinks that it is much better to discuss the response that the score is in the range of 3 and lower than that.

There are three responses that are included in the range mentioned above. The first one is the score 2 and the response is because the bible application will have no need of such feature. According to the author, this kind of feedback cannot have technical solution since the respondent him or herself has claimed that exclusive sharing system is not important to be built in a mobile bible application.

The rest of them rates this feature with the score 3. One of them says that the system should be able to be filtered by area. The author feels that this suggestion does make sense since the people who live in Jakarta will be reluctant to attend the event held in Australia. If someone keeps seeing the event advertisement that the event itself is not held in the reachable area, then it is possible that someday, he or she might be reluctant to even open the feature. That state will cause less people make use of the feature and eventually the one who loves using this service will abandon it too (no more communication and thus no more exclusive sharing process → the sharing system can be
said as ineffective). To conclude this part, the author thinks that the filtering system is best to be put as a consideration for later development.

The last respondent who gives the score 3 is actually the same person who say that the sharing system for learning bible is not useful because of the inappropriate location. However, that respondent adds that this feature can be more useful than the learning system, if the author wants to add notification system in the application. Once again, the author feels that this suggestion does make sense because the notification can give a little help in knowing the new event that has just been announced in the system, moreover if the sharing system is built in the location far from the main bible application. By easily knowing an upcoming event, the possibility that people will take a look at it can get higher and thus there will also be a high possibility that a communication between users can be created. The formed interaction between users can eventually lead to the state where an exclusive sharing process can occur. This notification system is then considered by the author as a good consideration for later development.
5.6.2.3. Overall Summary

Based on the user acceptance testing, the exclusive sharing system in a mobile bible application can actually be useful for exchanging or sharing information. However, the developer must do some research first on what kind of thing that is good and appropriate to be shared exclusively in an electronic bible application. To be taken as an example, the testing of the sharing system for bible studying shows that such feature might and might not be useful for interacting or exchanging information. It is slightly different with the sharing system which is used to advertise ceremonial event. The testers show different perception on this one. The testing result shows that this feature can be useful for sharing with the other users of the same application.

Aside from researching about what kind of thing that is good to share exclusively in a bible application, the developers must also pay attention on the location of the sharing system. If the sharing system is built in the location that is difficult to access, then people might be reluctant to use it. The developers must also realize some improvements that will increase the usefulness of the exclusive sharing system. Based on the user acceptance testing, two features that are good for such feature is notification and filtering system.

As it has been explained in the previous section, the notification system can help the users to know the new event advertisements and thus the possibility of people take a look at it can get higher. That possibility can also lead to the higher likelihood of people start communicating each other (about the event advertisement). For the filtering system, if the event
advertisement is implemented by area filtering, then it is possible that the usefulness level can increase. That possibility actually does make sense. It is because people might be reluctant to start communicating if the event that is going to be held soon is the event that is far from their place. Thus if the sharing system only tells about the upcoming events, then people might be lazy to check on it because there is no area filtering. To be used as an illustration, if there is someone who lives in area A is given the list of restaurant in area A until Z, then he or she might be reluctant to look at it. However, if that person is given the list of restaurant in area A only, then the possibility of him or her checks every detail of it can grow higher (the desire to check every detail of it is possible to lead him or her to start asking others in order to get a more complete data → exclusive sharing process occurs).

The author then thinks that the notification and filtering can also be implemented in the sharing system for bible studying. The notification system will simply tell the users about the new topic that is made and visible for them (more or less the same with the notification system in event advertisement sharing system). For the filtering system, on the author’s mind, it can be made into several categories. The examples thought by the author are: filter by churches and by age.

The filtering systems mentioned above are meant by the author to make the exclusive sharing system can be used to discuss more specific things. The author thinks that this state can make the indirect interaction system be more exclusive and thus the shared information can be processed in a more proper way. To be used as an illustration, a forum on
the internet has many sections and one of them is computer section. The people can discuss about computer stuff there. However, if the computer section is divided into two categories, in which they are hardware and software section, then the communication process can be more exclusive. For instance, if someone wants to talk about software, then he or she just has to go to the software section. If the two sections are actually combined into one (read: computer section), then there will be a possibility that someone will not get an intended response since the section discuss whole things about the computer.

To conclude this section, the indirect interaction system that is built by the author can be used to share the information exclusively and properly. However, the author still has to really know what kind of information that is worth to be shared in a mobile bible application and what kind of improvement that will make the planned benefit of the exclusive sharing system can really be experienced by the users.

The last thing the author wants to say is that the improvements discussed above have not yet made its real implementation. In other words, the solution spoken at the previous paragraphs are still a theory. Still, the author will try to figure out the real implementation if someday the author intends to create a readily used application.
5.7. Prototype Screenshot

In this section, the author will show the screenshot of the prototype. Some description will also be given below each screenshot (Notes: currently logged-in user is equals to you).

5.7.1 Login Page

![Prototype Screenshot – Login Page](image)

**Figure 5.4: Prototype Screenshot – Login Page**

**Explanation**

This section is the very first page of the prototype. In order to gain access to the system, the users must log in first here.
5.7.2 Register Page

Figure 5.5: Prototype Screenshot – Register Page

Explanation

If the register button in Login Page (Figure 5.4) is pressed, the user will be brought here. This section will allow the users to register themselves to the system.
5.7.3 Welcome Page i

**Figure 5.6 : Prototype Screenshot – Welcome Page i**

**Explanation**

This is the very first page that will be called if the users have just logged in to the system. The top most is the introduction to the user, while at the center is the button to call the function to download the bible version and bring the user to the user page (will be explained later).

In order to open the bible, the user must choose one from the three bible versions (Note: The users ought to download the version first before they can open it).
5.7.4 Choose Bible Operation Page i

![Prototype Screenshot – Choose Bible Operation Page i](image)

**Explanation**

This page will be called when the user has picked one bible version to open (refer to Figure 5.6). The only button at that page will be explained its function at the figure below.
5.7.5 Choose Bible Operation Page ii

![Prototype Screenshot – Choose Bible Operation Page ii](image)

<table>
<thead>
<tr>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are several operations by clicking the button “Check what you can do…”…</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
5.7.6 Three Tabs Page i (Bible, Notes Writing Section, Song Lyric Management Section)

Figure 5.9 : Prototype Screenshot – Three Tabs Page i (Bible, Notes Writing Section, Song Lyric Management Section)

Explanation

This page is a tab navigation system page. The first section to be opened is the bible tab. The user can read their bible here.
5.7.7 Three tabs Page ii (Bible, Notes Writing Section, Song Lyric Management Section)

Figure 5.10: Prototype Screenshot – Three tabs Page ii (Bible, Notes Writing Section, Song Lyric Management Section)

Explanation

Still in the same tab navigation system. The second tab is the note tab. The users can write a note here. The development of this page is meant to ease the user in accessing the notes writing section whenever they are reading the bible.
5.7.8 Three tabs Page iii (Bible, Notes Writing Section, Song Lyric Management Section)

![Prototype Screenshot](image)

**Figure 5.11 : Prototype Screenshot – Three tabs Page iii (Bible, Notes Writing Section, Song Lyric Management Section)**

**Explanation**

Still in the same tab navigation system. The third tab is the song lyric management tab. The users can manage the song lyric here.

There is a button to add new lyric (will be explained at the next figure) and a list of the song lyrics (stored in the device’s database). By pressing one lyric, there will be four commands to be executed (view, remove, update, and store online). All of these operations will be explained later.
5.7.9  Add New Lyric Page

Figure 5.12: Prototype Screenshot – Add New Lyric Page

Explanation

This section will allow the user to add a new lyric to the device’s database or to the web server’s database. This page will be called if the user presses the button to add song lyric at The Three Tabs page (Figure 5.11).
5.7.10 Three tabs Page iv (Bible, Notes Writing Section, Song Lyric Management Section)

Figure 5.13 : Prototype Screenshot – Three tabs Page iv (Bible, Notes Writing Section, Song Lyric Management Section)

Explanation

This section is still found in the three tabs page. Referring to the explanation at 5.7.8, there are four operations that can be executed if the users press one song lyric. The command to delete the lyric will simply let the system remove the corresponding lyric and the command to store online will simply let the system to transfer the lyric from the device to the web server. For the command to update, the user will be brought to the same page defined in 5.7.9. However, because this is an update process, thus the old content of the chosen song will be brought too and will be put in the appropriate field (The user then can update the data).

For the process the view the lyric, it will be explained below.
5.7.11 Three tabs Page v (Bible, Notes Writing Section, Song Lyric Management Section)

**Figure 5.14 : Prototype Screenshot – Three tabs Page v (Bible, Notes Writing Section, Song Lyric Management Section)**

**Explanation**

This is still the three tab page. But referring to 5.7.10, there is a command to view the song lyric. If that command is chosen, then the user will be able to see the content of the chosen song lyric. The content will be served in a pop-up dialog.
5.7.12 Three tabs Page vi (Bible, Notes Writing Section, Song Lyric Management Section)

Figure 5.15: Prototype Screenshot – Three tabs Page vi (Bible, Notes Writing Section, Song Lyric Management Section)

**Explanation**

This is still the three tab page. But in this page, there is one button at the topmost page. That button will call two commands, in which they are the command to open new bible tab and to go back to the “Choose Bible Operation Page” (5.7.4, 5.7.5). The command to open new bible tab will open a new tab (bible tab) just beside the tab “Songs”.
5.7.13 Choose Bible Operation Page iii

![Prototype Screenshot – Choose Bible Operation Page iii](image)

**Explanation**

This is the page to choose bible operation page. Referring to 5.7.5, the command to search the content by keyword will call a pop up window that will let the user to type any keyword for searching.

The found result from the searching process will be served in the page described in 5.7.6. However, the bible tab will now show the list of bible books. Instead, it will show the result of the searching process.
5.7.14 Welcome Page ii

Explanation

This is basically the welcome page. If the user chooses to press the button “What am I going to do”, the user will see the pop up window that consists of three operations.

- The first one will let the user to visit the user page (will be explained later)
- The second one will let the user to download the bible version
- The third one will let the user to go back to the login page (5.7.1)

Figure 5.17: Prototype Screenshot – Welcome Page ii
5.7.15 Welcome Page iii

![Prototype Screenshot – Welcome Page iii](image)

**Explanation**

Still at the welcome page. If the user chooses to operation to download the bible version, this window will be called. The chosen item will let the corresponding item to be downloaded to the device database.
5.7.16 User Page

![Prototype Screenshot – User Page](image)

**Explanation**

Referring to 5.7.14, if the user chooses the command to “Go to your profile”, the user will be brought to this section. The user will be able to see his or her user profile. At the same section, the user can also update the profile (will be explained below) and open more operations to be conducted. The user can also go back to the Welcome Page by choosing the command “Back”.
5.7.17 Update Profile Page

![Prototype Screenshot – Update Profile Page](image)

**Explanation**

This section will allow the users to update their profile data. However, there is one that cannot be edited, in which it is the username.
5.7.18 More Operation Page

![Prototype Screenshot – More Operation Page](image)

**Explanation**

Referring to the 5.7.16, the command to open more will bring the user to this page. There will be several operations to be conducted in this page. Each operation will be explained below.
5.7.19 Download Song Lyric

Figure 5.22: Prototype Screenshot – Download Song Lyric

**Explanation**

When the command to download the song lyric is chosen, a pop up window will be called and the user has to input the keyword to search the song lyric (the song title keyword).
5.7.20 Discovered Song Lyric

Figure 5.23: Prototype Screenshot – Discovered Song Lyric

**Explanation**

Referring to 5.7.19, the matched song lyric will be listed down at a new page. In order to download it, the user just has to press the desired item.
5.7.21 Open Notes Section

Figure 5.24: Prototype Screenshot – Open Notes Section

**Explanation**

If the command to open the notes is chosen, there will be a pop up window that will ask the users whether they want to open the notes stored on their device (local notes) or on the server (remote notes).
5.7.22 List Notes Section

Figure 5.25: Prototype Screenshot – List Notes Section

<table>
<thead>
<tr>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referring to 5.7.21, this is the list of the available notes that are opened (the remote notes or the local notes will be presented in the same way).</td>
</tr>
</tbody>
</table>
5.7.23 Remote Notes Operation

![Prototype Screenshot – Remote Notes Operation](image)

**Explanation**

Clicking one note will call a pop up that will allow the users to update the content, remove the note, or even view the note content.

If the command to remove the note is chosen, then the note will be erased and cannot be accessed anymore.
5.7.24 Update Note

![Figure 5.27: Prototype Screenshot – Update Note](image)

**Explanation**

The users who choose to update the content of the note will be brought to the page of update, where the old content has been put there and thus the users just have to modify it.
5.7.25 View Remote Note

Figure 5.28: Prototype Screenshot – View Remote Note

Explanation

This is the page that will show the notes opened from the server. There will be buttons to go back to the previous page and to download the note to the device.
5.7.26 Local Notes Operation

![Figure 5.29: Prototype Screenshot – Local Notes Operation](image)

**Explanation**

If the users choose to open the note stored on the device, the commands will still be the same with the one stored on the server. However, there is an additional command “Store to server”, in which it will allow the user to transfer the notes stored on the device to the server (For the update and the remove process, it will just be the same with the notes stored on the server → explained in the previous section).

For the command to view the notes, it will have a different way of working (compared to the remote notes operation). The detail will be explained below.
5.7.27 View Local Note

![Prototype Screenshot – View Local Note](image)

**Figure 5.30**

**Explanation**

When the user tries to open the note, a pop-up dialog of the bible version will be called and the users have to choose one of them to be used as a reference. The detail of this will be explained below.
5.7.28 Local Note in Tab i

![Prototype Screenshot - Local Note in Tab i](image)

**Explanation**

The chosen bible will be put in the left tab, while the note will be put in the right tab. This system development is meant to ease the user in opening the bible while they are reading the notes (sometimes, the users might put some bible verses on the notes they are making and thus to open it, they will need a bible).
5.7.29 Local Note in Tab ii

Explanation

Referring to 5.7.28, as it has been stated and explained in the previous part, the right tab is for showing the notes content. Different with the operation to view the notes stored on the server, in here, there is no button to download the notes because basically the notes have been stored on the device.

At the top most. There is a button that is similar to the figure in section 5.7.6. This button will allow the user to add new bible tab beside the tab “Your Notes” and to go back to the previous page.
5.7.30 Voting System

![Prototype Screenshot – Voting System](image)

**Explanation**

If the users choose to vote their favorite verses, they can choose this command to fulfill what they want. The chosen command will call the pop up dialog as it has been shown in the image above. The dialog will allow the user to vote or even to list the top-ten verses (showing the data stored in the server).
5.7.31 Vote a Verse

Figure 5.34: Prototype Screenshot – Vote a Verse

<table>
<thead>
<tr>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before the users can vote a verse, they have to open the bible first and thus they will have to choose the bible version they intend to open. Once they open it, a list of bible books will be provided. Thus the user has to choose one book and then choose one chapter. The last step to be done is by inputting the verse (s) that is or are going to be voted to the server.</td>
</tr>
</tbody>
</table>
5.7.32 Listing Top 10 Verses

![Prototype Screenshot – Listing Top 10 Verses](image)

**Explanation**

Referring to 5.7.30, if the users choose to list down top ten verses, then the users will be asked in what bible version that the users want the data to be presented. After that, The user will see a list of voted verses (only the top ten). The users then will be able to check the content of each verse, by clicking the desired item.
5.7.33 Bookmark List

Referring to 5.7.18, there is a command to show the bookmark. If that command is executed, then the bookmark list will be presented only by the title. If the title is pressed, then the user will be able to see the content of the corresponding title.
5.7.34 Discussion Topic Operation

![Figure 5.37: Prototype Screenshot – Discussion Topic Operation](image)

**Explanation**

Referring to 5.7.18, there is a command of “Learning Forum”. This command will execute the features of the discussion forum. The function that the system can do will be presented in a pop-up dialog (as it has been shown in the above image).
5.7.35 Create Topic i

![Prototype Screenshot – Create Topic](image)

**Explanation**

Referring to 5.7.34, when the user chooses to create a topic, the user will be asked first to choose what bible version required as a reference for creating the corresponding topic. Once a version us chosen, the user will be brought to the page above. However, the user will first see the list of bible book (the left tab). But because its view is just a list of bible books, thus the screenshot above will only show the field for making the discussion topic.
5.7.36 Create Topic ii

![Prototype Screenshot – Create Topic ii](image)

**Explanation**

The created topic can be made for public (visible for all users) and private (visible for the chosen group only). If it is made as public, then the users just have to choose “public” and presses the submit button. However, if it is made as private, once the users press the submit button, the content will not be directly submitted to the server. Instead, the user will be brought to the page where they can pick what group that will have the access to the corresponding discussion topic. The page to pick the group will be explained below.
5.7.37 Pick a Group

Figure 5.40: Prototype Screenshot – Pick a Group

Explanation

Referring to 5.7.36, this is the page that the users will see if they choose to make the topic as private. To choose the desired group, the users just have to press the drop down menu and then select one group. Once a group has been chosen, the user just has to press the button to submit the topic (in the screenshot above, the button is blocked by the list of the available groups).
5.7.38 View Discussion Topic i

**Figure 5.41:** Prototype Screenshot – View Discussion Topic i

**Explanation**

Referring to 5.7.34, there are commands to view own topics and view others topics (public and private). If one command is chosen, then the page that will be opened will be exactly like the one at the above image. If the command to open own topic is chosen, then the items to be listed down will be the discussion topic made by the currently logged-in user.

Meanwhile, if the command to open the public note is chosen, the currently logged-in user will see the list of notes made for public, in which those notes are not made by the currently logged-in user.

The command to open the private notes will allow the users to see the notes that are tagged to a group, in which they become part of the group.
There is a difference between viewing own topic and others topic (public and private). The difference will be explained below.

5.7.39 View Discussion Topic ii

![Prototype Screenshot – View Discussion Topic ii](image)

**Figure 5.42 : Prototype Screenshot – View Discussion Topic ii**

**Explanation**

The image above shows the discussion topic made by the currently logged-in user. That’s why there is a button to update or remove the discussion topic. If the users choose to view the discussion topic made by others (public or private), then this button will not exist because the users will have no access to update or remove the contents that do not belong to them.

The button to update or remove and to view/reply comment will be explained below.
5.7.40 View Discussion Topic iii

![Figure 5.43: Prototype Screenshot – View Discussion Topic iii](image)

**Explanation**

Referring to 5.7.39, if the command to update or remove is chosen, then the pop-up dialog that will allow the users to update or remove the topic will be called.

The command to remove the topic will simply remove the content and thus the users cannot access it anymore.

The command to update the content will bring the user to the page defined in 5.7.35. However, this will make the field filled with the content of the chosen item and thus the user just has to update the content.
5.7.41 View Topic Comment

**Explanation**

Referring to 5.7.39, if the users choose to view the comments of the corresponding discussion topic, then the users will be brought to this page.

![Prototype Screenshot – View Topic Comment](image-url)
### 5.7.42 Add Topic Comment

![Prototype Screenshot – Add Topic Comment](image)

**Explanation**

Referring to 5.7.41, there is a command to add new comments. If this command is executed, then a pop-up dialog that will allow the users to type their comment will be called. To submit the comment, the users just have to press the button “Comment”.

After submitting the comment, the user will be brought to the page defined in 5.7.41. But the difference is, the inputted comment will be there already.
5.7.43 Create Private Group

![Prototype Screenshot – Create Private Group](image)

**Explanation**

Referring to 5.7.34, there is a command that will allow the users to make own group (meant for private discussion topic). Once the users choose to execute that command, the users will be brought to this page. In here, the users have to input the group name and also the member names at the field below the group name field.

In inputting the member names, each name should be separated using a semicolon. The last name to be inputted must also have a semicolon behind it. If this is to be missed, then the process of submitting the group can go wrong.

At the same page, there is also a button to show the other groups that have been made by the currently-logged in user. Pressing the button will bring that user to the page that will list down the available group that has been made.
Pressing one group however, will allow that user to show the members that are tagged to the corresponding group.

5.7.44 Event Advertisement Operation

![Prototype Screenshot – Event Advertisement Operation](image)

**Explanation**

Referring to 5.7.18, there is a command of “Event Advertisement”. If this command is executed, then a pop-up dialog as it has been shown above will be called.

Once the pop-up dialog is called, the users can choose to create and show the event advertisements (Note: the users can see the event made by them or other people).
5.7.45 Create Event Advertisement

![Prototype Screenshot – Create Event Advertisement](image)

**Explanation**

Referring to 5.7.44, if the users choose to create new event advertisement, then the users will be brought to the page shown at the image above. The users will have to fill in the required data and then submit it to the server.
5.7.46 Show Event Advertisement

![Prototype Screenshot](image)

**Figure 5.49: Prototype Screenshot – Show Event Advertisement**

**Explanation**

Referring to 5.7.44, if the users choose to view own event or others event, the users will be brought to this page. The command to view own event will allow the users to list down the event made by them and the command to view others event will allow the users to list down the event made by other users. The difference will be explained in detail below.
5.7.47 Show Event Advertisement ii

Explanation

Referring to 5.7.46, if one event name is chosen, then the users will be brought to the page where the event detail can be read clearly. The difference between showing own event and others event can be seen from the existence of the button “Update or Delete the event”.

If the users choose to see others event, then the button to update or delete will not be found since the users cannot modify or remove the items that do not belong to them.

However, if the users choose to see own event, then this button will exist. This button will allow the user to update or remove the corresponding advertisement. The remove operation shall allow the user to delete the whole content of the chosen advertisement, while the update operation will allow the
user to update the content. In updating the content, the user will be brought to the page defined in 5.7.45. However, the fields will be filled with the old data and thus the user just has to update the content.

The last thing to be observed is the button to add/view comments. This button will work in the way exactly similar to the one described in 5.7.41 and 5.7.42.

5.7.48 Show Bible in Different Version

Referring to 5.7.6, the bible presented in the screenshot is the bible in Indonesian Version. However, since the users can also download the other versions aside from Indonesian Version (for instance, KJV and NIV), then the users will also be able to open those versions. Above is the image or screenshot of opening the different bible versions.
The same with all versions, once the user presses one book, the user will see a list of chapters. The detail of what will happen if the user press one chapter will be explained below.

5.7.49 Opening Bible Verses

Figure 5.52: Prototype Screenshot – Opening Bible Verses

Explanation

Referring to 5.7.48, once the users have chosen the chapter to be opened, the users will see a pop-up dialog as it has been shown at the image above. The users can choose to see all verses or type in certain verses to be shown.
5.7.50 Showing The Bible Content

Figure 5.53: Prototype Screenshot – Showing The Bible Content

Explanation

Referring to 5.7.49, the image above is the screenshot of the bible that has been opened. Each row can be pressed to call the pop up dialog that will allow the user to bookmark the corresponding verse. The process of how to bookmark will be explained below.
5.7.51 Making a Bookmark

![Prototype Screenshot – Making a Bookmark](image)

**Explanation**

Referring to 5.7.50, once the user has chosen the command to make a bookmark, the pop-up dialog that will let the user to type in the bookmark name will appear. Once the name has been typed in, the users have to press the button “Save” to save the bookmark content on the device. The saved content can be shown by pressing the command to show the bookmark, as defined in 5.7.18.