School of Computing and Information Systems

**Programme: Bsc Computer systems Engineering, Bsc Mobile Technologies**

**MT201- Mobile Application Development Year 2 Semester1**

**Assignment title: Personal Assistant Management App**

**Hand Out Date: 16 September 2022**

**Hand In Date: 23 November 2022**

**Total Marks: 100**

**Instructions to candidates**

1. Candidates must attempt **ALL** questions.
2. You are to make your submission on turn-it-in. You may consult with your tutor/lecturer on how this will be done.
3. Ensure that you have an account on turn-it-in by going to [**www.turnitin.com**](http://www.turnitin.com). Use the credentials provided for accessing this system. If you do not have them, get hold of the tutor/lecturer as soon as possible.
4. Any work with plagiarism level above **30 % will not be marked.** It your responsibility to make sure that your plagiarism level is within this level. Monitor it on regular bases. If your share your solution with others, chances of the plagiarism rising above this level are high.
5. It is your responsibility to ensure that you have **Mobile Application development** module in turn-it-in before submission date and you do not drop the module. Consult with your tutor/lecturer if this is not the case.

**Scenario**

Mobile devices these days have gradually become more powerful and distributive, influencing our daily lives on a larger scale. Android has proven to be one of the best mobile application development platforms which provides the developers with many APIs and tools to support the development of Android applications.

As part of the module assignment, you are required to design and develop a **Personal Assistant Management Application (PAMA)**. In this application, users would be able to display all the missed calls, the app should allow the user to make calls by dialing the number, send email, send short messages services (SMS), allow web search, play music as either videos or voice. This is a very basic project, but it would definitely help you in learning important concepts such as how any android application communicates within any device.

A specific requirement is that the developer should develop using the same configuration as set in school laboratory or above Android Studio 3.5, Gradle 4.10.0, SDK should be version 23 or more, build tool version 24.0.3, and the Android virtual Machine “Nexus 5 Android 6.0 API23”, during presentation the lecturer will provide a specific AVD for testing.

**Personal Assistant Management app (100 marks)**

Add features and functionalities to your app according to the following requirements

1. **Basic features [10 marks]**
2. Create a user profile, save user preference, and create a colorful profile for the user displaying the preferred name, editable current number, date format and preferred background color.
3. **Advanced features [40 marks]**
4. Display all missed calls
5. Allow users make a phone call by dialing a numbers
6. Allow users to send email,
7. Allow users to send short messages services (SMS),
8. Allow users to search the web,
9. Allow users to play music as either videos or voice

NB: this should be implemented in multiply activities

1. **Non-functional features**

1. **Confirming and Acknowledging [5 marks]**

User confirmation or acknowledge action through a toast or a dialog box through toasts and notifications

1. **Settings [5 marks]**

Where users can indicate their app preferences always made to be part of action overflow, i.e., change appearance

1. **Help [5 marks]**

Always make "help" part of your app.

Users will always be looking for some answers when run into some difficulties

Also always made to be part of action overflow

1. **App design**
2. **Home screen [5 marks]**

This should be the main point of entry for your application with a professional look. It should display some general information to the user when the application opens and provides access to the core functions of your app. Use your creativity to create an attractive home screen.

1. **System Model [5 Marks]**

The system should be made up of ONLY one launcher activity and a couple of other activities with as many methods as required to achieve your logic for the solution and system interactions messages should be displayed within the application context. Toast should be used.

1. **Process description [5 Marks]**

The app must have only one launcher activity, the rest must be depended on activities and all string laterals should be defined in the string value XML file.

1. **Documentation [20 Marks]**

Write up a brief and precise report as part of your system documentation that supports your design logic, your report should emphasize on how your solution enforces Object Orientation Principles (OOP) such as Abstraction, Encapsulation, Inheritance, Overriding and Interfaces and how security is enforced in your solution, this should be supported by code snippets from your proposed solution.

Your documentation should have the following:

1. Description and purpose of the Application **[5 marks]**
2. Class diagram models **[5 marks]**
3. Method and class Explanation **[5 marks]**
4. Testing - Should include stress test and the inspection report from Monkey and Lint tool, respectively **[5 marks]**

**What to submit**

Soft copy of the documentation through Turnitin and your application in Sechaba on your created folder.

**Marking Guide**

|  |  |  |
| --- | --- | --- |
| **Component** | **Allocated Marks** | **Actual mark** |
| **Basic features [10 Marks]** |  |  |
| Create a user profile. | **2** |  |
| Save user preference | **2** |  |
| Displaying the preferred name. | **2** |  |
| Editable current number. | **2** |  |
| Preferred background color. | **2** |  |
| **Advanced features [40 marks ]** |  |  |
| Display all missed calls | **10** |  |
| Allow users make a phone call by dialing a numbers | **5** |  |
| Allow users to send email, | **5** |  |
| Allow users to send short messages services (SMS), | **5** |  |
| Allow users to search the web. | **5** |  |
| Allow users to play music as either videos or voice | **10** |  |
| **Non-functional features [15 marks]** |  |  |
| a. Confirming and Acknowledging  User confirmation or acknowledge action through a toast or a dialog box through toasts and notifications | **5** |  |
| b. Settings  Where users can indicate their app preferences always made to be part of action overflow | **5** |  |
| c. Help  Always make "help" part of your app.  Users will always looking for some answers when run into some difficulties  Also always made to be part of action overflow | **5** |  |
| **APP Design [15 Marks]** |  |  |
| **Home screen**  This should be the main point of entry for your application with a professional look. It should display some general information to the user when the application opens and provides access to the core functions of your app. Use your creativity to create an attractive home screen. | **5** |  |
| **System Model**  The system should be made up of ONLY one launcher activity and a couple of other activities with as many methods as required to archive your logic for the solution and system interactions messages should be displayed within the application context. Toast should be used.  The android multi-threading model can be explored to realize a more interactive chatting application. | **5** |  |
| **Process description**  Only one launcher activity should be the only one that runs the application, and all string laterals should be defined in the string value XML file. | **5** |  |
| **Documentation. [20 Marks]** |  |  |
| Description and purpose of the Application | **5** |  |
| Class diagram models | **5** |  |
| Method and class Explanation | **5** |  |
| Testing - Should include stress test and the inspection report from Monkey and Lint tool, respectively | **5** |  |
| **Total** | | **100** |