

Mobile Applications Development - Coursework Report

Alina Maksimova

40333354@live.napier.ac.uk

Edinburgh Napier University - Mobile Application Development (SET08114)

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1 Introduction

Mobile Application Development module coursework required students to create an app using Android Studio. We were free to choose any topic for an app that we desired. For my app I have selected to create a cocktail app called "Party Drinks". In this report I will cover requirements that will explain apps goals and objectives, software design that will allow to see design patterns used, development and evaluation.

2 Requirements

This section will explain the process that has been undergone to help create set goals and objectives. In a brief paragraphs the app initial ideas and thoughts and research done will be explained. This part of project is crucial to find the purpose and future of the app.

2.1 Initial Idea

The project does not have many strict requirements allowing me to choose the subject for the project. In the brainstorming process there were many great ideas that came to mind and some of them I would like to consider for future projects. To select current project, any ideas were evaluated against the following considerations:

- Be useful
- Allow user interaction
- Attractive layout and design
- Simple to understand
- Easy to develop
- Implemented using Android Studio and Java
- Be possible to achieve with given resources

The selected idea had to have a use and solve a problem. A problems that can be resolved by using this app no matter how big or small. As it is a problem solving app, it will have to interact with a user in one way or another, be it a button, an input text or a camera. Interactions are not set, allowing me to make a selection. The application has to look good and attract users. To benefit this design rules must be applied. It has to be simple for user to understand, having simple navigation and clear, well organized layout displaying only

necessary content. As it is the first full application that I am creating, the app has to be relatively easy for me to develop. The app will be developed in Android Studio using Java. There is potential to learn new concepts using the software and for any problem research will be required. The app has to be developed with written report by set deadline.

Considering all of these aspects, the decision was made to create cocktail recipe app. For past 9 years I have been working as a bar staff learning many recipes and having opportunity to go to few cocktail training's. There are few cocktails that I enjoy, but the best ones I have tried were in Lulu nightclub Edinburgh. When I was employed there I had a chance to have a cocktail list that I have kept until now days. Reflecting on my days working there, I can remember that it was frustrating to use multiple A4 pages in case if anything related with specific drink was forgotten. In this situation, an app can be a great solution for current problem. It will be much faster and easier to just look up information in one screen than go through many physical pages. As a nightclub is a fast paced environment, there are minimal functions that need to be displayed for quicker navigation. Well organized content will benefit workers speed allowing making the drink faster and moving on to the next customer. This app has a potential to not just benefit individual worker, but the companies income in a whole.

2.2 Research

To develop a successful app it is important to see what similar apps are already out there. There were few that I have viewed [1],[2],[3] and few of them were impressive to see what functionality I could be implementing for my app. However the app have to be simple with minimal to no distractions so the Cocktail Recipe app [1] was the closest to what intentionally was needed to support the app. Not a whole app functionality will be implemented, only the most needed elements.

After getting an idea of how an app should behave and what interactions it has to have, research had to be made on technical part of the app. On top of the topics that we were thought in class, I have undergone Udemy [4] courses to familiarize myself with Android Studio. The course was great and explained a lot of concept in detail. After undertaking the course I was set to start my app, but the research did not stop there. On many interactive elements there were question on how to properly implement them and with extra resources [5],[6],[7] I have managed to do so.

2.3 Goals and Objectives

After thinking of initial idea and doing some research it was possible to see what app had to do. That enabled me to set

app goals:

and back button Home page must display necessary information for user to access data For ease of use functioning search bar should be implemented Information on pages should be well organized Interactive buttons have to be visible and clear Support multiple activities and be able to navigate through them Non destructive colours, images and media

The purpose of this app is to be as simple as possible while benefiting user of faster access of required information. No clutter should be in the view distracting the user. In that way there will be no to minimal images on the app and used only if necessary. Only data text and required placeholders should be displayed. There will be multiple views to help organize information better. Minimal buttons should be implemented that only are required to fulfill apps purpose.

3 Software Design

3.1 Layout

The big part for app success is well presented layout. There was a lot of thoughts put into what was needed and how to display it so the app can meet the requirements.

Colours

The colours used for this app were sourced form website[8] that helps you create a pallet based on selected colours and is great for Android apps. The selected colours were vibrant and picked to correspond with app theme. Cocktails can be linked to have colourful associating with a lot of users. Bright pink and bright yellow colours were selected for the app that allowed for following pallet to be created. These app is based on using only these four colours. Light yellow colour is used for the backgrounds to help text readability. Orange is used on some background elements to enforce contrast with the rest of application. Dark grey is a colour used for text in the app and pink is used for element accent.

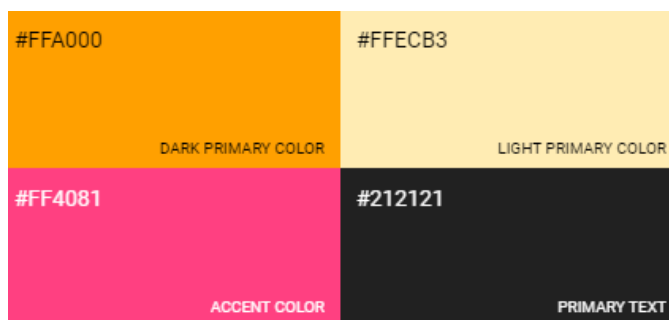


Figure 1: **Colour Palette** - The colours that were used in the app. Orange, light yellow, pink and dark grey

Buttons

In the whole application there are three buttons that are used: search button, clear button and back button. The buttons were sourced online [9] and use pink accent colour.

Text

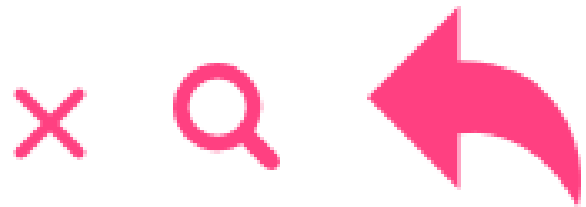


Figure 2: **Buttons** - The buttons used on the app. Clear button, search button

The app uses the default typeface that is provided with Android Studio, the variation is in size and weight. The main heading used are 30dp and any subheadings 24dp. Paragraph text is 16dp.

Logo



Figure 3: **Logo** - app logo that is used in the splash screen

View

The layout view in this project has three screens: splash screen, main screen with the drink list and individual drink list. Each of them has been implemented to have similar structure and familiar feel. Whole application follows same design as other pages.

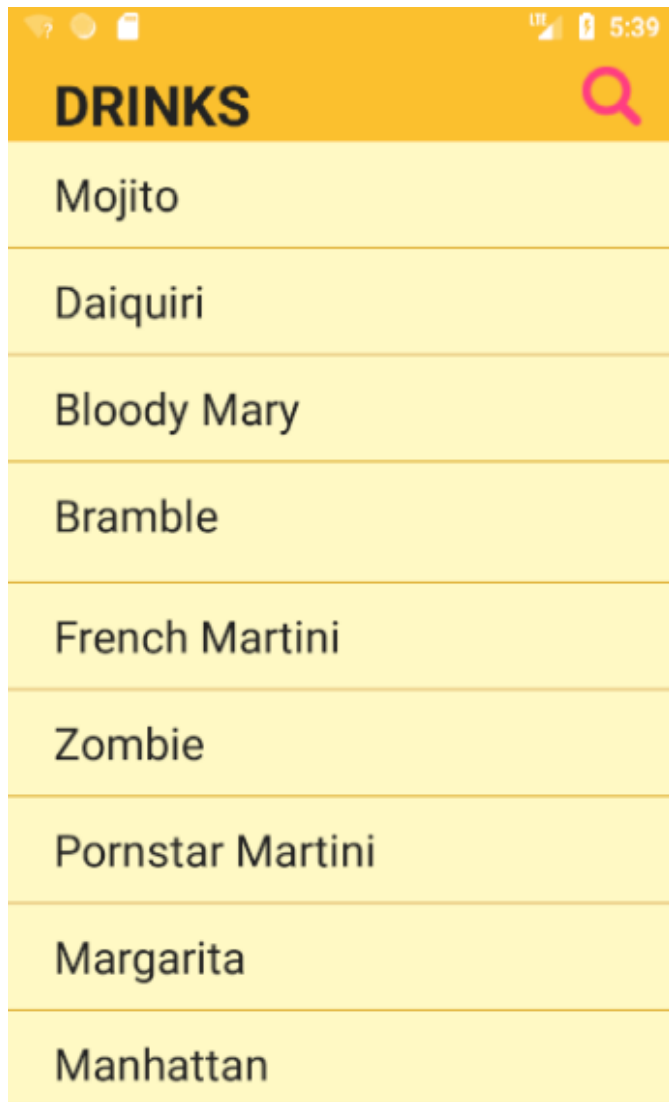


Figure 4: **View 1** - represents main view that contains search bar and drink list



Figure 5: **View 2** - represents individual item view. Contains multiple text views and back button

4 Development

The application is developed on Android studio using Java. The Android studio software has been created to help you create apps. There were a lot of concepts that I had to learn before starting developing the app. The software is open source and can be used by anybody. It appears to have a lot of resources and studying materials available that can make the learning curve that comes with learning new software much easier. Java is used to add interactions to android activities. Using java in this software can open up a lot of opportunities of what can be done with application. Unfortunately before starting this app, I had no experience in Java whatsoever and it was another challenge that had to be taken to implement app successfully. There are a lot of resources on Java and once the main programming concepts are understood, the learning of Java can be simple to an extend.

The application contains four layouts: splash screen, main activity, item single and drink view. The splash screen is just activity to load before it takes user to main page. It has been

implemented to give user a breathing space between all the cocktail making. The view contains Logo and text. After it has loaded, user will be taken to the main screen where two interactions possible: click on item in the list or search button. Search button filters the list with user gaining the desired result. Clicking on list view item will take user to another where user will be able to see the individual drink content. The only interaction that the user can undertake is back button that takes user back to main screen. It is a simple app with only 3 active windows, but it does what is required.

The application has four Java files that makes interaction on and between pages possible. By using arrays, I have been able to save date and display it in a Views. Using intents it made it possible to move between activities. For creating a list, the listview was used and view was inflated by data in array. To create search function I have used EditText to add interactivity to the page.



Figure 6: **View 3** - represents splash screen. Contains logo and a text view

5 Evaluation

The application developed for this project has been created to solve the problem. As unfortunately there were no options to test it in a real world environment to see the full potential, the evaluation is based on theoretical aspects. The app in itself has many potentials to be improved on and is not created to go on a market, but with some extra work, it has a potential. The app has met most of the requirements that were set out at the beginning of the project, making this application successful. It is displaying information on the main page that is selected by the user. The function search bar is implemented, however due to limited knowledge, was not implemented to work at this point. There has been a research done to fix the pending problem, but so far unsuccessful. The information on each page is well organized and is only displaying necessary information, making design clutter free. For buttons icons have been used and they are clearly positioned. Comparing my app to other projects out there it is clear that even though it has the functionality it requires, it is likely that it will not be able to compete in the market as

it is a niche audience. There are a lot of improvements that can be done to benefit the apps potential. First of all app search bar should filter the views as intended. No successful solution has been found, but with extra resources it would be possible to achieve. Another possible improvement would be app personalizing. That could include creating separate page for log in screen and allow to select any of the list view item as favorite. In that case user would be able to save only most used cocktails.

6 Personal Evaluation

It has been a challenging experience with a great deal of learning curves undertaken in the app creation. Unfortunately the app could have been easily improved with better time management and that will be considered for future projects. There has been a great deal to learn about Android Studio: from setting up to Java, I have found the challenges all the way though. There is a lot of new concepts that I have learned. I am looking forward to create my next app.

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