100085926, Darren Frederick Chan Chyun Yaw

# COS30017 Portfolio Report

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## Self-Assessment Table

The table below indicates my self-assessment against the various intended learning objectives (ILOs).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ILO** | **Adequate** | **Good** | **Outstanding** | **Exemplary** |
| 1 | / |  |  |  |
| 2 | / |  |  |  |
| 2 | / |  |  |  |

## Evidence (in Portfolio Pieces)

I have completed the following assignments and the evidence is presented as part of the portfolio pieces.

|  |  |
| --- | --- |
| **Assessment** | **Completed** |
| Core Assignments (1 – 5) | / |
| Presentation Task |  |
| Extension Task (Assignment 7) |  |
| Extension Task (Assignment 8) |  |
| Extension Task (Assignment 9) |  |
| Custom Application (Assignment 10) |  |
| Research Report (Assignment 11) |  |

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## Reflection

The below articles describe my understanding of the mobile development and is divided into different segments demonstrating my understanding of the concepts I have learnt, the software development steps I use to develop mobile applications, my approach to solving problems, the difference between mobile development and other forms of development, what I think should generalized in mobile development, challenges I faced in mobile development and my exploration of areas not covered in this unit.

### Concept Map

A close up of text on a white background

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### Mobile Application Development Process

A screenshot of a cell phone

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### Analysis and Problem Solving Approaches

Using Formative Assignment 3 Task 1 as an example, I identify the logic of the application. In this case, the user should be able to click on the card and enter a booking page. After booking, a summary of the booking is shown.

After that, we identify the type of UI elements to be used in the application. In this case, Assignment 3 Task 1 uses Recycler View, Card View, Image View, Text View, and EditText Views.

After implementing the logic to the views in the application, we will start debugging. When encountering a bug, I use a log method to display the error and debug the code from that line backwards until I fix the bug. Other than that, when encountering a bug, I will copy the error message and use the Internet to search it’s meaning and cause. Stack Overflow is a common resource I use to debug errors. For example, I encountered a bug in Assignment 3 Task 1 where I am unfamiliar with the startActivityForResult method for passing data. It turns out I needed to set a result code to indicate the result was a success and data is sent back. I would not have known if I did not use the Internet to search for the cause of the bug.

### Comparison and Contextual Placement

Mobile application development is different from other types of development as it is easy to integrate different technologies into it due to its very recent rise. Many technologies are built with mobile applications in mind. For example, the many support libraries such as Volley, Google Play Services and SQLite database are made to integrate well with Android as it grows.

Initially, I assumed mobile application development would be like regular software development. For example, in one of my previous units, I developed a Unity game using C#. The files were spread open in the project folder. However, in Android development, there exist specific folder types for all types of data such as raws for text files, drawable for images files etc. This change has reinforced in me that mobile development is emphasise much more on separation of resources.

Furthermore, mobile development makes importing resources into its files and manipulating those resources very easy. For example, in web development, to adjust image dimensions, you must manually type in the desired image dimensions to fit its container, whereas, in Android development, I only need to use scaleTypeXY to adjust to image to fits its container. Also, I only need to drag the image resource to the appropriate folder, and I can instantly use the image resource in the mobile application. It has changed my perception of the difficulty of working with resources in mobile development and find it easier than in other forms of development.

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### Generalization

Separation of concern can be generalized and used many other areas other than software development. It can be used in design, project management and creative development. The more complex the project, the higher the degree of separation. Furthermore, the idea of using Object classes should be generalized as it useful when dealing with real world objects. For example, digitalizing a movie, you can create a Movie class that contains duration of the movie, title of the movie, and genre of the movie. Also, the usage of data structures to store data should be more encouraged. For example, the use of array lists and hash maps are incredibly useful for storing and reusing data. It is also easy to update or change the data.

### Challenges in Mobile Development

In mobile development, I found the aspect of learning the new technologies challenging as it is rapidly improving and evolving. The new technologies are very recent to the point where I need to read the documentation as they are no user made resources for it.

### Explorations

I have personally explored the use of PHP scripts in sending and receiving data in Android application and the use of Google Play Services to retrieve the geolocation of the user. I plan to research more into mobile application databases on my own because I find remote data transfer interesting.

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