**CHAPTER 3**

**Project Title**

**By**

**Students’ Names**

A Mini-Dissertation Submitted as a Partial Requirement for the Bachelor Science in Information Technology: Mobile Application and Web Services

In the Faculty of Information Technology, Eduvos

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# System Modelling and Architectural Design

In this Chapter, you will design your app following the Mobile App Architecture and the Iterative Incremental Development Agile Methodology (Should have been discussed in Chapter 2). You will have the logical design of your system or a prototype at the end of this chapter.

## Introduction

In this subsection, you should discuss an overview of how you plan to approach the design of your app, including you will consider user experience (ux design) as you design the user interface. You should also clearly state your overlapping iterations between design and implementation as you follow the prescribed methodology. However, in this chapter you will only discuss the issues to do with planning, requirements (Presentation Layer), and analysis and design (Business Layer and Data Layer) only. All implementation and Testing discussions will be done in Chapter 4.

## Presentation Layer

In this subsection, discuss how you plan to approach the presentation layer of the mobile app architectural design.

### User Experience

In this subsection, you could discuss the plans for elicitation and analysis of the user feel and expectations of the app.

#### Fact-Finding Technique(s)

In this subsection, discuss the fact-finding techniques used and the facts gathered from the users. You have to eventually compile a ***User Requirements Document*** that will be one of the appendices of your Mini-Dissertation.

#### Facts Analysis

In this subsection, analyse the facts gathered and the user requirements, using preferred tools and techniques.

### User Interface

In this subsection, discuss the user interface design plans and approach, based on the way you want to approach the Incremental Iterative Development Agile Methodology.

#### User Interface Design

In this subsection, design the various user screens using preferred tools and also discuss and document the design process.

##### Iteration 1

In this section, you may show the designs for the first iteration and you can have the next iteration designs as you follow the iterative incremental development process.

##### Iteration 2

## Business Layer

In this subsection, you will discuss and design the business logic of your mobile app.

### Operations/Process Models Design

In this subsection, you will design the control flow of the apps’ operations in line with the interface screens that have been designed and the business flow of the app’s operations. Use some modelling tools and techniques.

##### Iteration 1

In this subsection, you may show the designs for the first iteration and you can have the next iteration designs as you follow the iterative incremental development process.

##### Iteration 2

### Data Handling Operations

In this subsection you will design the processes of handling user’s and app data, including security protocols, data validation and handling errors and exceptions. Use some modelling tools and techniques.

##### Iteration 1

In this section, you may show the designs for the first iteration and you can have the next iteration designs as you follow the iterative incremental development process.

##### Iteration 2

## Data Layer

In this subsection, you will discuss and develop data for the app. You will decide where the data should be stored, that is, on the app or on a network server.

### User Data

In this subsection, you will discuss and design data structures for the user’s personal data, that may need to be stored on the mobile device.

##### Iteration 1

In this subsection, you may show the designs for the first iteration and you can have the next iteration designs as you follow the iterative incremental development process.

##### Iteration 2

### System Data

In this subsection you will discuss and design data that is stored as the system functions. It may be necessary for your system to store system wide data. Design those data structures.

##### Iteration 1

In this subsection, you may show the designs for the first iteration and you can have the next iteration designs as you follow the iterative incremental development process.

##### Iteration 2

## Conclusion

In this subsection you will give a summary of all the models that were designed and the incremental design interleaved with the iterative designs and implementations. However, you will not include detailed information of implementation in this chapter.

# List of Figures

The list of figures identifies the titles and locations of visuals (figures, drawings, photos, maps) in your research proposal or mini dissertation.

# List of Tables

A list of tables is a reference tool that allows your readers to navigate to data quickly and easily in your thesis or dissertation.

# References

All references used in writing the dissertation (whether direct quotations or paraphrasing) should be included in a reference list/bibliography, compiled in alphabetical order by author. The Harvard system for listing references should be used.