

FOOTBALL LEAGUE FOR MOBILE USING  
ANDROID APPLICATION TECHNOLOGY

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## **ABSTRACT**

Modern hand held devices such as smart phones and PDAs have become increasingly powerful in recent years. Dramatic breakthroughs in processing power along with the number of extra features included in these devices have opened the doors to a wide range of commercial possibilities. As mobile devices become more like PCs they will come to replace the source of entertainments. One of popular entertainment is football. In Malaysia, there is Malaysia Super League (MSL), which it is lack of popularity as it needs a medium to increase popularity of the league. One of the contributing factors is provide medium for people to access the information regarding MSL. In order to resolve this problem, an application will be developed for user to get information about MSL

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## LIST OF ABBREVIATIONS

ABBREVIATION	TITLE
MSL	Malaysian Super League
EPL	English Premier League
PHP	Hypertext Preprocessor
SRS	Software Requirements Specification
ERD	Entity Relationship Diagram
API	Application Programming Interface
AVD	Android Virtual Device Manager

# **Chapter 1**

## **Introduction**

This chapter will provide a brief overview of the entire project including the objective of the project, scope, problem statement, and organization of the thesis.

### **1.1 Introduction**

Football is a sport which the players use various skill and maneuvers to outplay the opponent in order to score a goal for his team. Now days, football has grown in popularity and could be said as the most played sport in the world.

In the old days, people who like to watch football tends to read all about their favorite clubs match or player in the newspaper, television and radio. But in this current century, many technologies have evolved. With internet, many great footballing countries like England use internet to promote their footballing leagues. As a result, people started to recognize their local football league and this could be proven on how popular is the English Premier League (EPL) now days.

In order to make the MSL league as popular as EPL, a newly MSL android application prototype will be developed to satisfy all football fans in this country. This application will give the information about the league, the clubs, the players and news that related to this league.

### **1.1.1 Problem Statement**

Malaysia Super League is already archives one of the most prestigious footballing tournaments in Malaysia. However its popularity is still shadowed by the lack of exposure to the local fans and outside world. Most of the time, it's only the football fanatics who really trying to get information about the competing team and also their players even though there is a very low medium to get the information, while normal people, in the current situation that there's no medium to get the information, left there hanging thus making them uninterested to the league. One of the reasons why this is happening is that, people find it's hard to obtain latest information regarding the league, in other word, there's very lack of place to access the information needed by the people.

Secondly, people hard to access the information about the league as now days, for MSL, there's only a website portal for each club that only update the club information. Even that's portal not all club manage it well as the information given is outdated.

In order to take the advantage of current technology and trends, MSL android application prototype is developed to serve android device user for the MSL information.

### **1.1.2 Objectives**

The objectives of the application developed are:

- i. To develop an android application for MSL.
- ii. To give information about result of the fixtures and standing in the MSL.
- iii. To give information about clubs, players and news in the MSL.

### 1.1.3 Scope

The scopes of this application are:

- i. The application will be develop for Malaysian Super League only excluding all other local league's
- ii. This application will be used by 2 users which are:
  - Admin – admin is the person who will be in charge in update the content of this application
  - Visitor – all unregistered user will be categorized as an anonymous and can only view information displayed
- iii. Tools
  - Language – Java for create the application, PHP for retrieving data from server.
  - Editor - Eclipse
  - Database – MYSQL
  - Server – Apache
- iv. The methodology that will be used in the process of development this Football League – Android Application is Agile Methodology

## **1.2 Existing System**

This chapter will briefly explain about the existing android application of Football league and its limitation. This topic also will includes the introduction to android application and review of existing related works or research.

### **1.2.1 Android Application – Introduction**

World is contracting with the growth of mobile phone technology. As the number of users is increasing day by day, facilities are also increasing. Starting with simple regular handsets which were used just for making phone calls, mobiles have changed our lives and have become part of it. Now they are not used just for making calls but they have innumerable uses and can be used as a Camera, Music player, Tablet PC, T.V., Web browser and many more. And with the new technologies, new software and operating systems are required. One of the most widely used mobile OS these days is ANDROID.

Android is software that not only operating system but also middleware and key applications. Android Inc. was founded in Palo Alto of California, U.S. by Andy Rubin, Rich miner, Nick sears and Chris White in 2003. Later Android Inc. was acquired by Google in 2005. After original release there have been number of updates in the original version of Android.

Android applications are written in java programming language. Android is available as open source for developers to develop applications which can be further used for selling in android market. There are around 200000 applications developed for android with over 3 billion+ downloads. Android relies on Linux version 2.6 for core system services such as security, memory management, process management, network stack, and driver model. For software development, Android provides Android SDK (Software development kit).

These are the basics of Android applications:

- Android applications are composed of one or more application components (activities, services, content providers, and broadcast receivers)
- Each component performs a different role in the overall application behavior, and each one can be activated individually (even by other applications)
- The manifest file must declare all components in the application and should also declare all application requirements, such as the minimum version of Android required and any hardware configurations required
- Non-code application resources (images, strings, layout files, etc.) should include alternatives for different device configurations (such as different strings for different languages)

#### Example of popular android application

- Google Play Services
- Maps
- Gmail
- Youtube
- Facebook
- Google Search

## 1.2.2 Related Existing System or research

### i. Soccer News

Soccer News is for Android delivers latest news feed from three popular sites soccer news (FTBPro, Goal.com, ESPN and guardian.com). It's developed by Daun Enterprise at 11 November 2013.

This application had been install by user around 10,000 to 50,000 user with minimum android version require is 2.2 and up. The size of the application is 2.4M. The scope of this application is for display the actual website into an android application.

This application grabs the latest news feed and displays it for user. The news is divided by category where it had soccer news and video news. The soccer news has the news from those three sites while for video news it had from goal.com and football daily websites. The purpose of this application is only to give user the information about what happen about the club, player and fixtures in the leagues.

This is the screenshot for the application

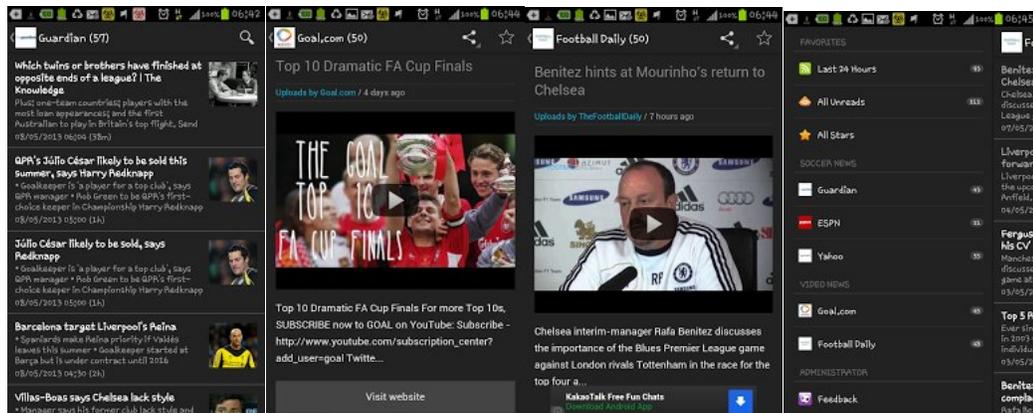


Figure 1.2.2.1 Screenshot for Soccer News

ii. 365 Scores: Football Livescore

365 Scores: Football Livescore is an application for user to create their own Sport Channel including all scores, standing, sports news, tweets and highlights. It also support Messenger for sport fans. It's the best way to share the passion for sports with other people like share scores, videos, news and tweet. The application support different leagues and sports across the globe.

This application had been install by user around 1,000,000 to 5,000,000 user with minimum android version require is 2.2 and up. The size of the application is 8.7M. The scope of this application is mainly for livescore sports in leagues supported.

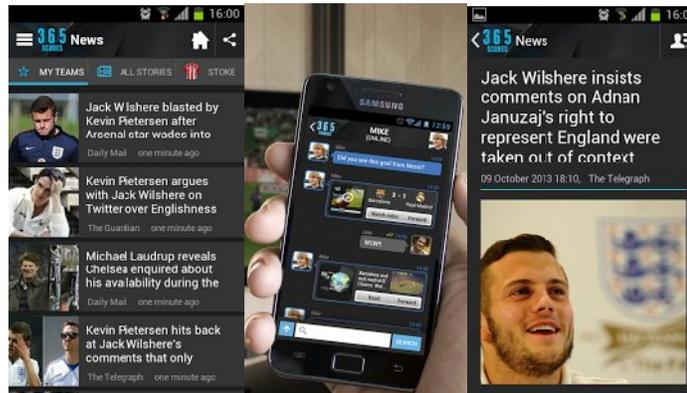
List of leagues support by the application:

- Premier League
- Bundesliga
- Serie A
- La Liga
- Champions League
- World Cup Qualifiers and many more

List of features in the application:

- New Sport Messenger
- Personalize sport scores, aggregated sports news, alerts and videos in real time
- Watch the video of the goal 5 minutes after it happens
- All game event, live match statistics, lineups and goal highlights
- Live tables and fixtures
- Completely customizable push notifications.

This is the screenshot of the application:



**Figure 1.2.1.2 Screenshot for 365 Scores: Football Livescore**

### 1.3 Current System and Limitation

The current applications in the market have the notification alert by using Google Cloud Messaging for their application. The application also can customize the application by choosing which fixtures or game we want to be notified to. The applications also have interactive way to notify user when there is an event or something. It also have connected with Facebook API to share the information from the application to share it at their Facebook wall.

The limitation of the current application is, the notification alert is depends on Android API which lower version of API cannot support the Google Cloud Messaging.

## 1.4 Methods of Approach

Different ways and technique will be used to develop this application to fulfill the functional requirement of the application. The hardware, techniques and services are:

- i. The web server
- ii. Language used to develop
- iii. Hardware and Software used to develop

For the development and testing phase, the web server used is provided by the Faculty of Computer Systems and Software Engineering, Universiti Malaysia Pahang, Malaysia under their registered domain.

There are two type of language used in the development of the application. First language is Java. Java is used to create the interface, function, the process of the application. This application also using the Android SDK that will help the process of developing an Android Application will be easier. The second language used is PHP. PHP is used to retrieve the data in the webserver and encoded to JSON so the application will able to read the information and convert it to readable language.

For hardware and software used, this application will only can be used by Android device and for the minimum requirement, the Android version must not be lower than version 2.2. The software used to develop the application is Eclipse Kepler. Eclipse had been one of many great tool used to create Android Application. Before doing the development of the application, some of drivers and API need to be downloaded first. It can be found at Android SDK Manager provided by Eclipse itself. The application also will be tested with the Android Virtual Devices Manager that also provided by Eclipse.

## **1.5 Scope and Limitation of the Football League for Mobile Using Android Application Technology**

The application scope:

- i. Livescore for fixtures and updated standing after finish game. The standing will be updated once the game reach FT.
- ii. Club and player information. The application will server all information about all club and player registered in the leagues.
- iii. News about the leagues. It will give information about what happen in the league about the club, player, match day and many more.

The application limitation:

- i. The alert notification can't be applied due to recent API update by Google itself (Google Cloud Messaging)
- ii. The application only can be access when the devices is connected to network
- iii. The time taking to access the information in the application depend on the speed of the internet itself.

## **1.6 Outline of the Outcome**

The application that has been proposed will be developed accordingly to functionality specified above. The application might comprise the additional functionality that might be added during development phase. The application can be fully functional system according to the specifications and will serve the targeted users by displaying the information on real server and real android devices.

## **CHAPTER 2**

### **Report Body**

This chapter includes the user requirements, methods and materials used, technical results and comparison with previous works, discussion and analysis of materials and testing plan and results.

#### **2.1 User Requirement**

All user requirements will be detailed out in the Software Requirement Specification. Due to the length of the SRS, it has been located at Appendix A.

#### **2.2 Design Description**

All design description of the application is documented in the Software Design Documentation. Due to the length of SDD, it has been located at Appendix B.

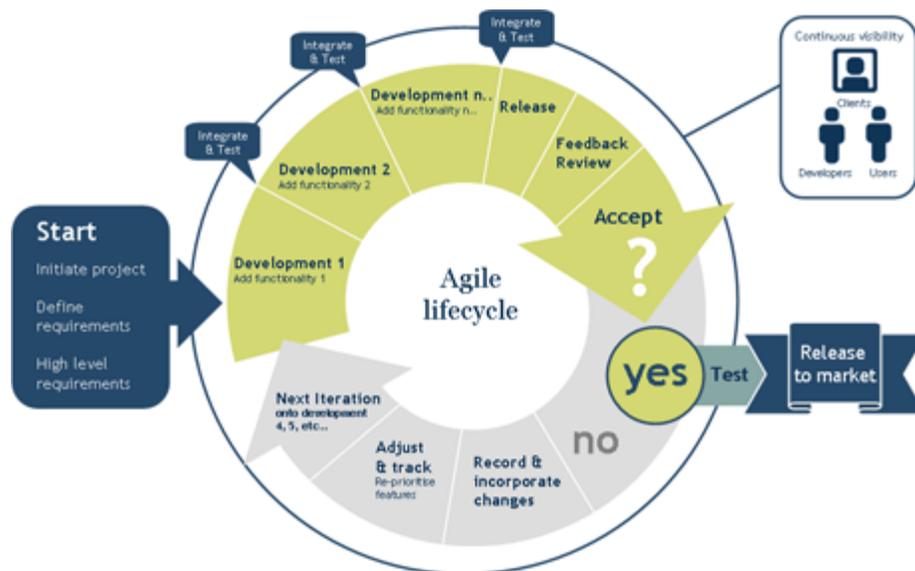
##### **2.2.1 Methods and Material**

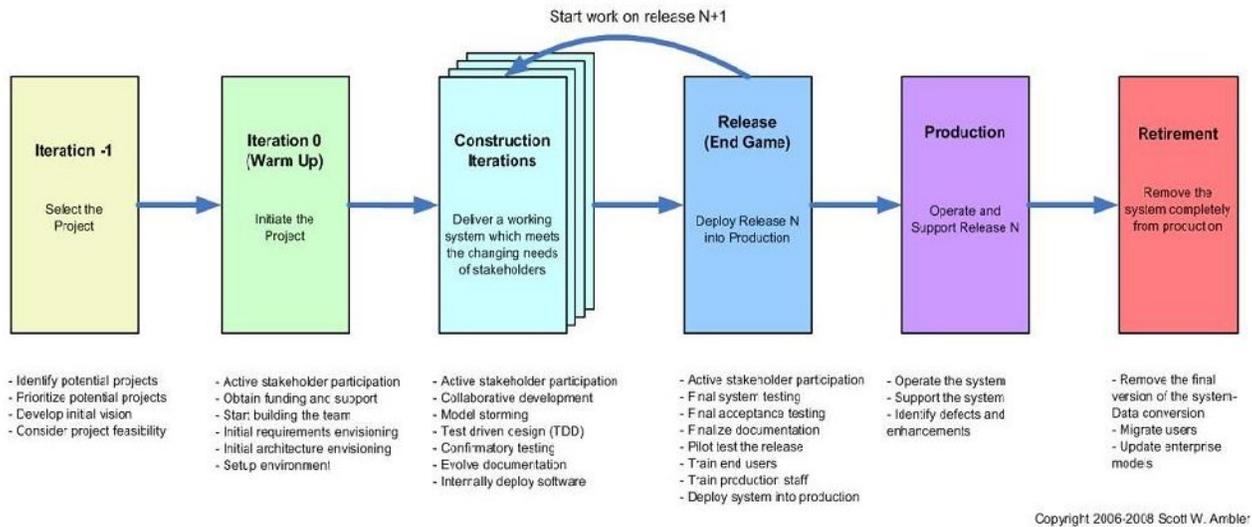
###### **i. Method**

To develop this application, Agile software development methodology is chosen. Agile methodology is an alternative to traditional project management, typically used in software development. It helps teams respond to unpredictability through incremental, iterative work cadences, known as sprints. Agile methodologies are an alternative to waterfall, or traditional sequential development.

Agile development methodology provides opportunities to assess the direction of a project throughout the development lifecycle. This is achieved through regular cadences of work, known as sprints or iterations, at the end of which teams must present a potentially shippable product increment.

By focusing on the repetition of abbreviated work cycles as well as the functional product they yield, agile methodology is described as “iterative” and “incremental.” In waterfall, development teams only have one chance to get each aspect of a project right.





**Figure 2.2.1: Agile lifecycle**

**ii. Materials**

Table below will describe the hardware and software used to develop this application.

List of hardware used

Hardware	Purpose
A PC <ul style="list-style-type: none"> <li>Windows 7 Professional 64bit</li> <li>Ram 4GB</li> <li>Harddisk 500GB</li> </ul>	Create research document, technical report, design application
External Harddisk 500GB	As a backup option for document and system
Printer Canon	To print the document
Samsung Galaxy S Advance	As devices used to testing

**Table 2.2.1.1 List of Hardware used**

List of software used

<b>Software</b>	<b>Purpose</b>
Eclipse Kepler	To create android application using JAVA language
Notepad++	To create php file for the process that involves in http request
Apache	Localhost Server
PhpMyAdmin	Database Management
Android SDK Manager	Platform to download required driver and library for developing the application
Android Virtual Device Manager	Work as virtual emulator to test the application without using real device
Android 2.2 API 8 and Android 4.3 API 18	API needed in the development of this application. Minimum API is 8 and target API is 18
JAVA JDK 6	Java development kit
Adobe Photoshop CS6	Image editor

**Table 2.2.1.2 List of Software Used**

## 2.3 Development Plan

The development phase is planned to follow Agile software development method. Each functional module is developed separately. At the completion of development of each module, the component testing is conducted by the developer. Then the development process started with next module. The development of other modules is started after the successful integration of completed modules. The development follows an order of module that need to complete first to ensure effective and easy development.

The order of required module that need to complete first

- i. Database of application
- ii. Application layout
- iii. Admin login
- iv. Admin add fixture, club, player and news
- v. Admin view for home, fixture, club, player and news
- vi. Admin update fixture, club, player and news
- vii. Admin Livescore
- viii. User view for home, fixture, club, player and news

The reason is to choose Agile as methodology is also its easier to find bug after completing each module instead of find bug after the whole application is complete. Developer need to refer to SRS and SDD as guideline to develop this application. For easier development and testing, the development process will be fully develop and test at localhost instead real server. After each module is completed, then the process of applying to real server is started. The process of development also will fully use virtual emulator instead of real device. The emulator can be built with much preference for the API so the application can be test easily instead of using the real device.

## **2.4 Implementation**

The main purpose of this section is to document all the process and steps that involves in developing the system. For more accurate, this chapter is explaining about the development of this designed project. All the content that contain in this chapter is depend on the project that has been developed.

### **2.4.1 Interface Development**

The interface plays the important roles to ensure that the application will attract the user to use it or not. For this application, its created by using API from ActionBarSherlock. The details about ActionBarSherlock will be discussed on the next part.

### **2.4.2 Android architecture**

Android operating system is a stack of software components which is roughly divided into five sections and four main layers as shown below in the architecture diagram.