

ANDROID-BASED MOBILE APPLICATION FOR FELDA
UNITED FOOTBALL CLUB (FUFChamp)

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SUPERVISOR'S DECLARATION

I hereby declare that I have checked this project, and, in my opinion, this project is adequate in terms of scope and quality for the award of the degree of Bachelor of Computer Science (Graphics & Multimedia Technology)

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I hereby declare that the work in this project is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

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ABSTRAK

Pada masa ini, hampir semua rakyat Malaysia mempunyai kepentingan dalam bola sepak. Terdapat banyak aplikasi mudah alih untuk bola sepak, tetapi kebanyakannya memberikan maklumat tentang semua pasukan bola sepak. Kelab FELDA United FUFC (FUFC) adalah salah satu pasukan bola sepak terkenal di Malaysia. FUFC sendiri mempunyai laman web sendiri untuk kemas kini mengenai pasukan. Masalahnya, pentadbir jarang membuat sebarang kemas kini di laman web. Kebanyakan masa, pentadbir akan mengemas kini media sosial FUFC seperti Twitter, Facebook, dan Instagram. Jika permainan dipromosikan dengan betul di Malaysia, peminat dan penyokong akan meningkat. Untuk mengembangkan minat dalam sukan ini, platform yang berfungsi sebagai mediator antara peminat dan acara sukan diperlukan. Keperluan pengguna untuk mengetahui tentang keputusan kejohanan bola sepak dipenuhi oleh aplikasi mudah alih. Selain itu, sistem ini membolehkan pengguna mengetahui berita terkini mengenai pasukan bola sepak FELDA United. Ciri ini membantu pengguna untuk mengetahui lebih lanjut tentang pasukan. Selain itu, ia juga merupakan medium untuk mengetahui maklumat asas mengenai pemain untuk pasukan ini. Aplikasi Android ini merupakan jambatan untuk para pengguna di dunia bola sepak, terutamanya untuk peminat FUFC. Projek ini menggunakan model Pembangunan Aplikasi Rapid (RAD) untuk melaksanakan proses pembangunan. Untuk pembangunan projek, bahasa Java, Bahasa Ekstensif Markup Language (XML), Bahasa Hypertext Markup (HTML), Bahasa Cascading Style Sheets (CSS) dan bahasa Hypertext Preprocessor (PHP) digunakan sebagai bahasa pembangunan dan MYSQL sebagai pangkalan data untuk pentadbir. FUFChamp adalah aplikasi mudah alih yang mempunyai ciri seperti berita terkini, papan skor, kedai dalam talian, maklumat pemain, sorotan video, dan galeri imej. Permohonan ini sesuai untuk pengguna mana-mana umur.

ABSTRACT

Currently, almost all Malaysian have an interest in football. There is a lot of mobile application for football, but most of it gives information about all football teams. FELDA United Football Club (FUFC) is one of the famous football team in Malaysia. FUFC itself has its own website for an update about the teams. The problem is, the admin rarely posts any update on the websites. Most of the time, the admin will update it on FUFC social media such as Twitter, Facebook, and Instagram. If the game is promoted properly in Malaysia, the fans and supporters will be increasing. To develop the interest in this sport, a platform which functions as a mediator between the fans and the sports events is needed. The need of the user to know about the results of the football tournament is fulfilled by the mobile application. Moreover, the system enables users to know the latest news about FELDA United football team. This feature helps users to get to know more about the team. Besides, it is also a medium for knowing the basic information about the players for this team. This Android application is a bridge for the users in the football world, especially for the FUFC fans. This project uses the Rapid Application Development (RAD) model to implement the development process. For the project development, Java language, Extensible Markup Language (XML), Hypertext Mark-up Language (HTML), Cascading Style Sheets (CSS) language and Hypertext Preprocessor (PHP) language being used as the development language and MYSQL as a database for the admin. FUFChamp is a mobile application that has features such as latest news, scoreboard, player's information, highlight videos, and images gallery. This application is suitable for users of any age.

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LIST OF ABBREVIATIONS

FELDA	Federal Land Development Authority
FUFC	FELDA United Football Club
RAD	Rapid Application Development
App	Application
FUFChamp	FELDA United Football Club, Champion

CHAPTER 1

INTRODUCTION

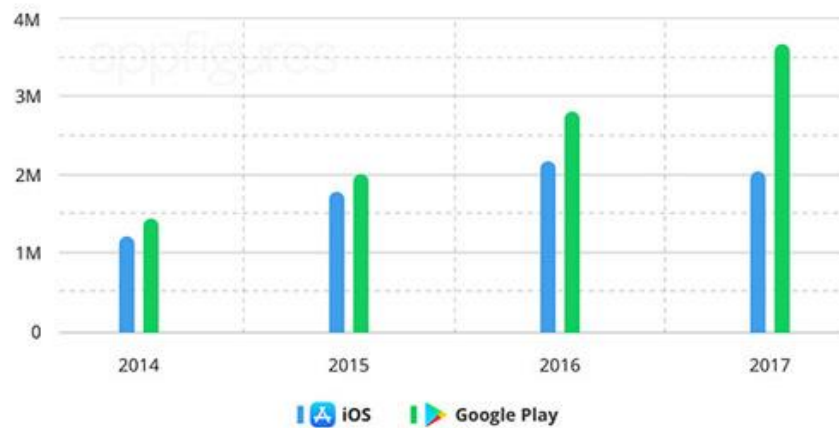
1.1 BACKGROUND

Federal Land Development Authority or FELDA is one of a Malaysian government organization to deal with the development of land and relocation with the objective of poverty eradication through the cultivation of oil palm and rubber. The FELDA function is to carry out projects of land development and agricultural activities, industrial and commercial social economy. In 19th January 2007, FELDA United Football Club was formed to represent FELDA in the football field as it is one of the top sports in our country, Malaysia. Taking the brave steps into the new journey, FELDA had proved that they had made the right decision to evolving their sectors, from agriculture to sports, as the team once appeared as the winner of 2010's Premier League.

“A mobile app, short for mobile application or just an app, is application software designed to run on perspicacious phones, tablet computers, and other mobile devices” (N Inukollu, Keshamon, Kang, & Inukollu, 2014). The goal for building the mobile app is to build the human-computer interactions (N Inukollu et al., 2014). This Android mobile application project dedicated for all football fans especially FELDA United Football Club (FUFC) because the number of fans is increasing. Without any age limit, this mobile application is suitable for all as it includes the latest news, scoreboard, player's information, highlight videos and images gallery special for FELDA United Football Club fans. This mobile application is also an Android-based app as the number of apps in the Google Play Store is increasing rapidly by year. Figure 1.1 below shows the app store growth from the year 2014 until 2017. This is happening due to the increasing number of Android users compared to iOS users as shown in Figure 1.2.

App Store Growth Throughout The Years

iOS App Store + Google Play • Worldwide



appfigures insights

Mobile Trends for 2018

Figure 1.1: App store growth from 2014 to 2017 (Campbell, 2018)

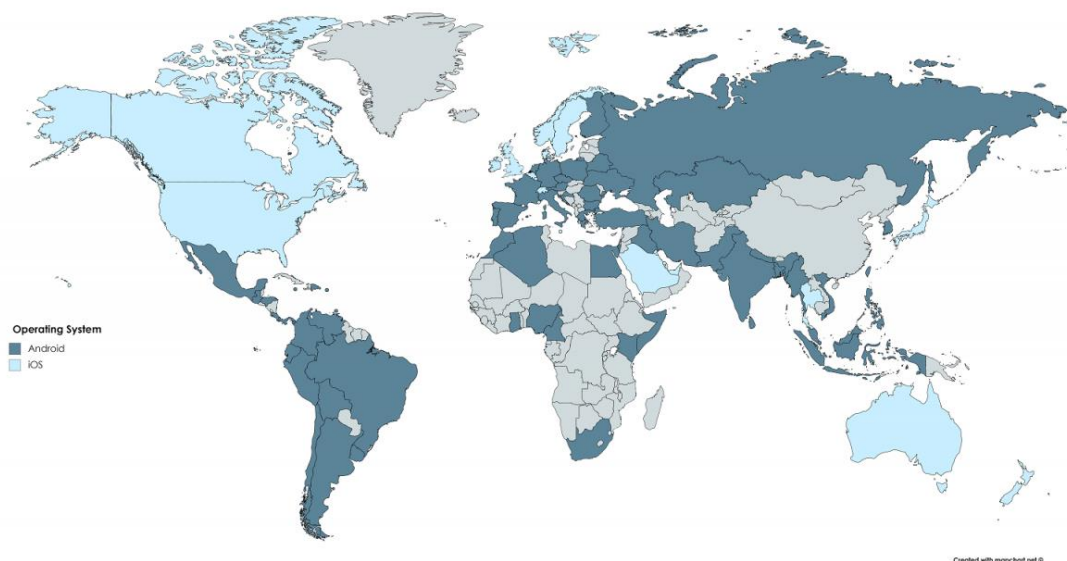


Figure 1.2: The Users of Android and iOS in 2018 Globally (Kirk, 2012)

The various mobile application software emerges due to the opening source of smartphone operating system (Zhi Chen & Shangshang Zhu, 2011). Mobile apps constitute most of the activity on the smartphone platform. There are some mobile applications, that have the same concept to this project. Both are developed for football fans. The idea is to create one medium for all FELDA United Football Club fans can

communicate, get the latest news, enjoy themselves with simple games, and get to know more about the team they are supporting in a good way. Now, there no need to ask people again and again about the score and more. Just click, and everything is at the tip of our hands.

1.2 PROBLEM STATEMENT

There is a lot of similar applications on Play Store and App Store but mostly focused on all football teams. The idea of developing this application is for the users get to know more about FELDA United football team, not only the overall football team in Malaysia and the world. On the other hand, FELDA United Football Club already has their own website, but it is rarely updated so it is quite difficult for the fans to get the news about the team. The latest news posted on the website is in 2017. The updates of the team usually posted on their social media account (Facebook, Instagram, and Twitter) by the admin but the users need to log in and register to the social media to know the recent updates on the team. The goal for this project is to develop a mobile application that can help FELDA United Football fans keep up to date about their favorite football team.

1.3 GOAL AND OBJECTIVE

The goal for this project is to develop a mobile application that helps FELDA United Football fans keep up to date about their favorite football team. In order to achieve this goal, the following objectives must be followed:

- i. To study mobile application as a medium for football fans.
- ii. To design and develop this application using Android Studio.
- iii. To evaluate the effectiveness of the application for football fans.

1.4 SCOPE

The target users of this application are the football fans. This project was developed using Android Studio. For the project development, Java language, Extensible Markup Language (XML), Hypertext Mark-up Language (HTML), Cascading Style Sheets (CSS) language and Hypertext Preprocessor (PHP) language being used as the development language and MYSQL as a database for the admin. This mobile application is suitable for all as it includes the latest news, scoreboard, player's information, highlight videos and images gallery special for FELDA United Football Club fans. The news about the team come from the trusted sources such as newspaper websites, FELDA United website, and their social media. The score of the match was referred from trusted football live score websites such as [Livescore](#) ("Bola sepak keputusan secara langsung: Malaysia, Liga Super, Malaysia Cup," 2018) and [Scoreboard](#) ("Bola Sepak, Malaysia: skor secara langsung, jadual, kedudukan Piala Malaysia 2018," 2018). This app also shows the player's information for the fans to know the players. Another feature of this app is videos and images gallery that shows the highlighted events of the team.

1.5 CHAPTER ORGANIZATION

This report consists of five chapters. Chapter one gives the introduction to the project. This chapter contains the background, problem statement, objective, scope and chapter organization. Chapter two is the literature review of the earlier phase of the study. In chapter three, the methodology was provided to achieve the main goal of this research. Chapter four presents the implementation phase of the methodology that had been chosen to solve the case study. Chapter five defines a conclusion and the future works for this project.

CHAPTER 2

LITERATURE REVIEW

2.1 BACKGROUND

Despite the limitations of mobile application such as connectivity, small screen size, and display resolution, the number of users is still increasing due to ease of use anywhere with the mobile phone (Harrison, Flood, & Duce, 2013). There are a lot of mobile applications for football that available in the Apps Store and Play Store. FUFChamp will be an Android-based application that works without any age limits. FUFChamp is the short form of “FELDA United Football Club, Champion”. It means that the fans are always supporting for the victory of the team. The purpose of this project is to make the FELDA United fans, D’Felmania, become one in a single mobile application. This mobile application has features such as the latest news, scoreboard, player’s information, highlight videos and images gallery special for FELDA United Football Club fans. FUFChamp was developed using Android Studio software which is using Java language. Java will run on all Android platform and easy to learn and read. In 2017, the number of apps to download for Google Play for Android is more than 2 million (Martinez & Lecomte, 2017). For improvement, a review has been made on ten different mobile applications. These applications are chosen based on its content that is suitable for football fans. By this way, the trends of mobile application related to football in term of usability and features are identified.

2.2 RELATED PROJECTS

2.2.1 LiveScore



Figure 2.1: Screenshots of the LiveScore app

This application focusses more on the live score of leagues, cup competitions and championships worldwide. This application was based on LiveScore Ltd., the leaders and inventors of real-time delivery of live sports data and owners of the no.1 ranked football or soccer web site globally.

2.2.2 Ajax Mobile

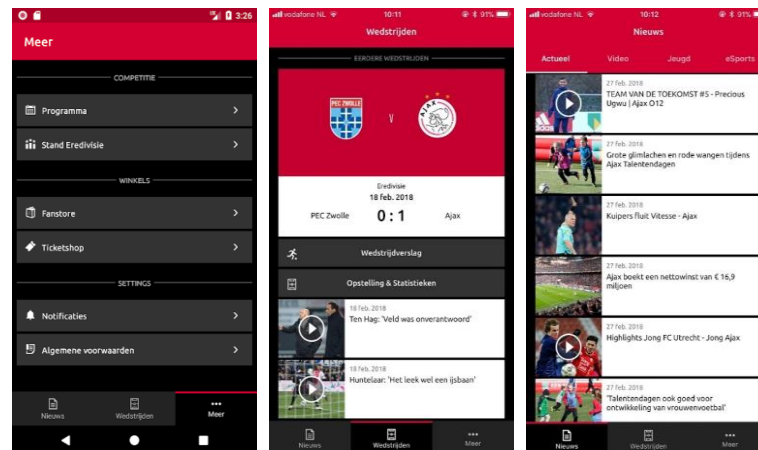


Figure 2.2: Screenshots of Ajax Mobile app

Ajax Mobile is the number one fan app for Amsterdam's top football team: Ajax. Direct access to videos with interviews, special reports, and highlights of Ajax matches. After installation, users can activate their Ajax Live subscription for access to Live Ajax match reports, press conferences and more.

2.2.3 All Football

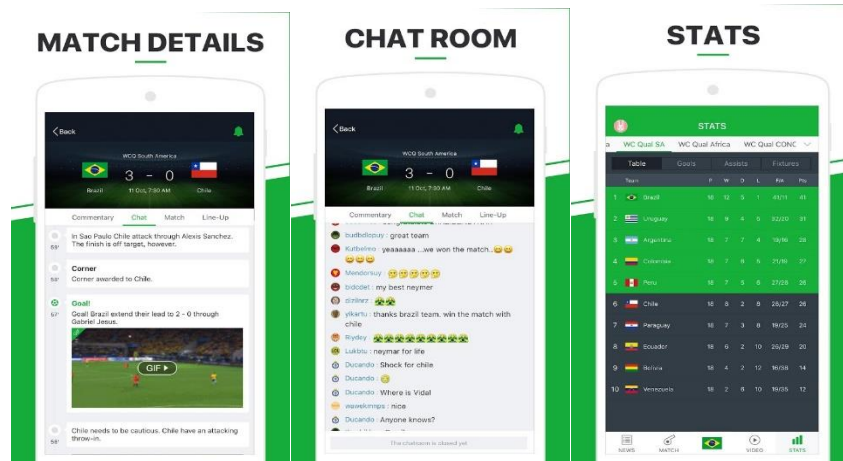


Figure 2.3: Screenshots of All Football app

"All Football" app provides the latest and comprehensive football news, live scores, match videos, and highlights. With "All Football" app, the users can follow their favorite teams and players, get live scores and results from all the matches and competitions as well as the latest football news all around the world.

2.2.4 Forza Football

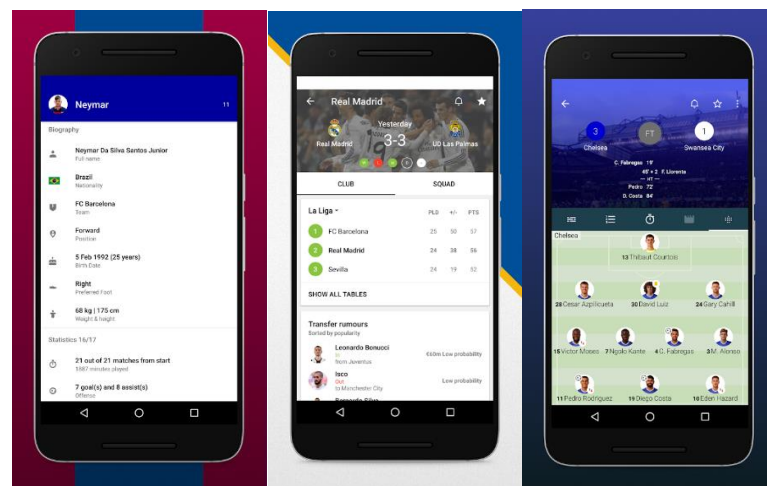


Figure 2.4: Screenshots of Forza Football app

Forza Football is the revolutionary live score football app that keeps fans up-to-date with the sport they love while considering fans' opinions. The app also shows match 1000+ league matches around the world, line players and more.

2.2.5 FIFA

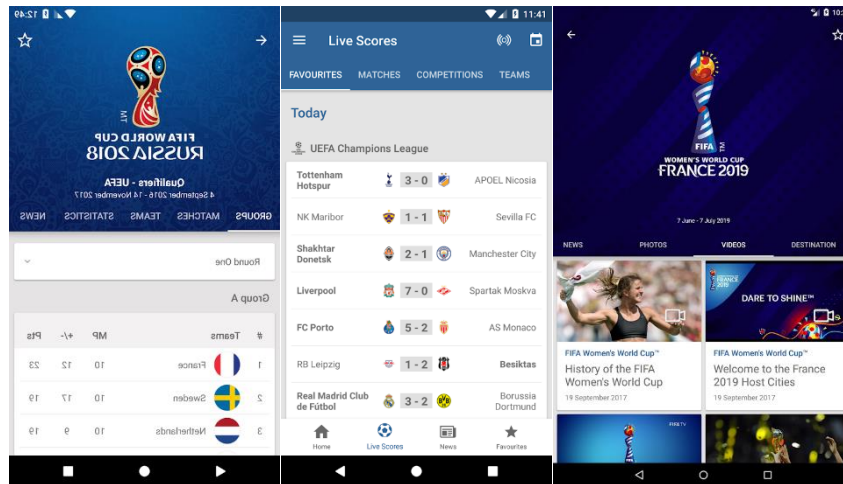


Figure 2.5: Screenshots of the FIFA app

Fédération Internationale de Football Association (FIFA) official app keeps users up to date the live football scores from around the world, as well as up-to-date news, exclusive videos, and highlights, interviews, and features. Includes every FIFA Championship, from U-17, U-20 male, and female tournaments through Beach Soccer, eSports and Futsal to the FIFA World Cup itself.

2.2.6 FotMob

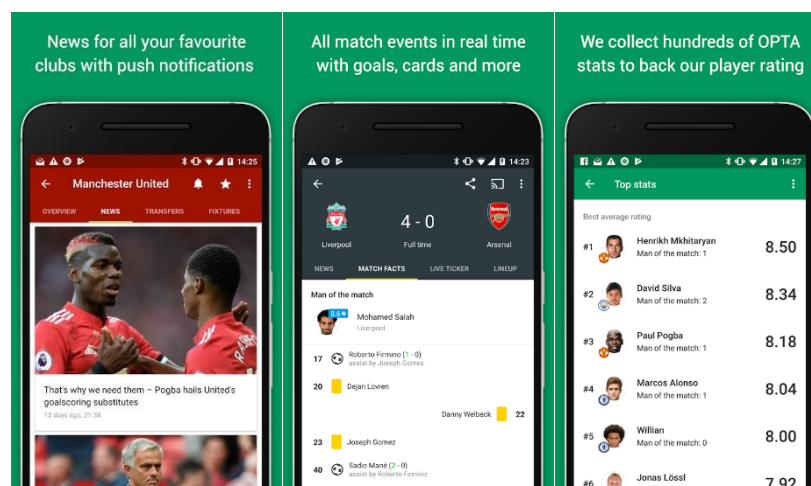


Figure 2.6: Screenshots of FotMob app

Fotmob covers most football leagues around the world such as Premier League, La Liga (BBVA League), Bundesliga, Europa League and Super League in Malaysia. Users will get the fastest update of life, adjust the statistics (lineups, statistics, goals,

cards, penalties, penalties, assistants and replacements), schedules and fixtures, breaking news, top scorers and game help and more.

2.2.7 Premier League

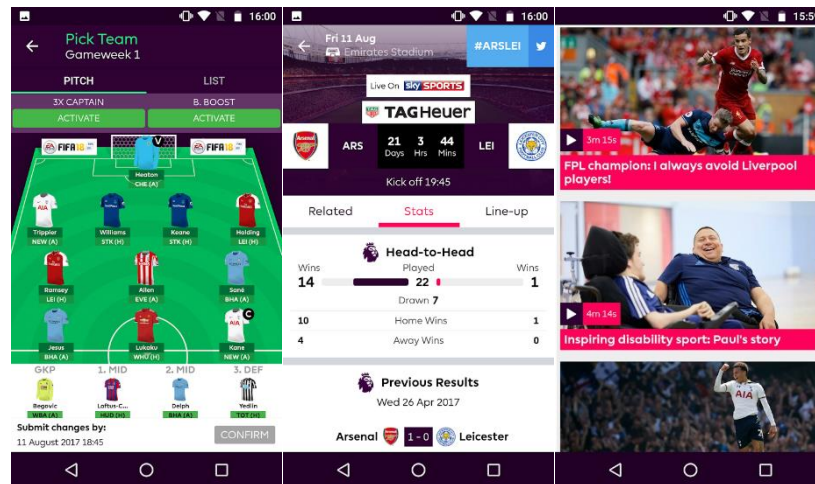


Figure 2.7: Screenshots of Premier League app

This app focuses on the most-watched leagues in the world. Display news about the clubs that have been featured in the 25-year history of the Premier League, research statistics and enthusiasts to watch some of the best moments in League history. Provided with match updates, Premier League fantasy football player profiles and games.

2.2.8 Onefootball

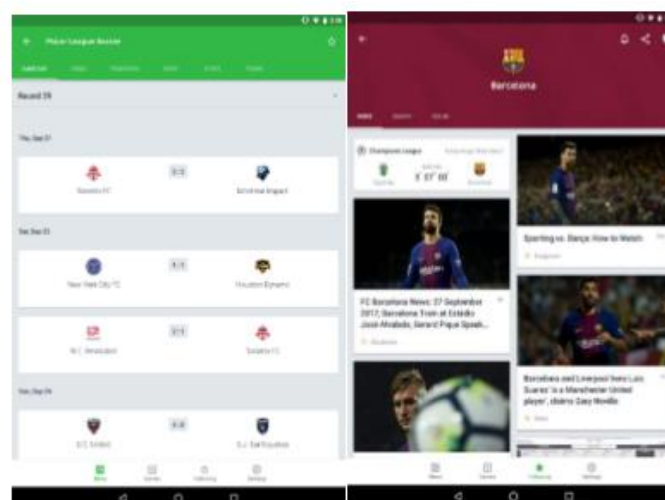


Figure 2.8: Screenshots of Onefootball app

Onefootball is a football app for football fans following 200 major leagues and contests, such as the World Cup, Premier League, MX League, Primera Division and more. Fans will follow the latest news, scores, statistics and key dates throughout the game.

2.2.9 Goal.com

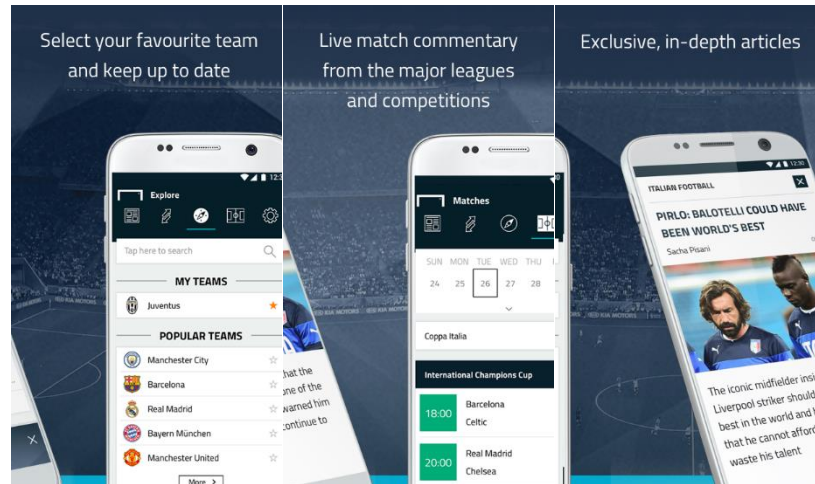


Figure 2.9: Screenshots of Goal.com app

From a world's number one football website to a mobile application, this is easier to get all the news that matters, involve in live match commentary, know the transfer news and more in a single application.

2.2.10 Barcelona Live

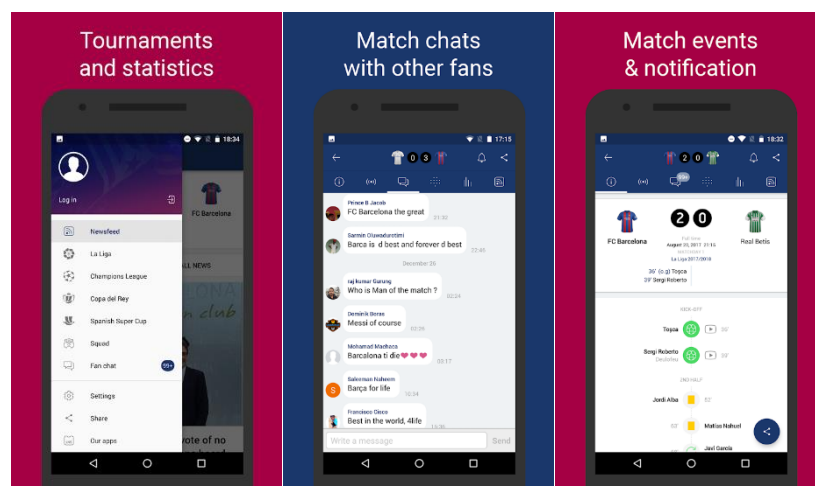


Figure 2.10: Screenshots of Barcelona Live app

This is an application for the true Barca fans to get the latest news on the best feature articles on game reviews, statistics, and LIVE video reviews. This application is not official and is not created by or endorsed by or in connection with the club. It was created and supported by FC Barcelona fans for other club supporters.

2.3 DISCUSSION

Table 2.1: Comparison of related mobile applications








Features	Applications				
	 LiveScore	 Ajax Mobile	 All Football	 Forza Football	 FIFA
Compatibility	Android & iOS	Android & iOS	Android & iOS	Android & Ios	Android & iOS
Access Control	Authorized to log in with username and password	No login utility	Authorized to log in with username and password	Authorized to log in with username and password	No login utility
Pricing	Free	Free	Free	Free	Free
Scoreboard	✓	✓	✓	✓	✓
Latest News	✓	✓	✓	✓	✓
Match Details	✓	✗	✓	✓	✓
Social Interaction and Networking	✗	✓	✓	✗	✗
Highlights Videos	✗	✓	✓	✗	✓
Live Videos	✗	✗	✗	✗	✓
Professional Stats	✗	✗	✓	✓	✗
Push Notifications	✓	✓	✓	✓	✓

Table 2.2: Comparison of related mobile applications.

Features	Applications					Proposed Model
	 FotMob	 Premier League	 Onefootball	 Goal.com	 Barcelona Live	 FUFChamp
Compatibility	Android & iOS	Android & iOS	Android & iOS	Android & iOS	Android & iOS	Android
Access Control	Authorized to log in with username and password	Authorized to log in with username and password	Connect with Facebook	No login utility	Log in using Facebook or Google account	Authorized to log in with username and password
Pricing	Free	Free	Free	Free	Free	Free
Scoreboard	✓	✓	✓	✓	✓	✓
Latest News	✓	✓	✓	✓	✓	✓
Match Details	✓	✓	✓	✓	✗	✗
Social Interaction and networking	✗	✗	✓	✗	✓	✗
Highlights Videos	✗	✓	✓	✓	✓	✓
Live Videos	✗	✗	✗	✗	✗	✗
Professional Stats	✓	✓	✓	✓	✓	✗
Push Notifications	✓	✓	✓	✓	✓	✗

2.4 SUMMARY

Table 2.1 and Table 2.2 shows the comparison on the features for each mobile application that related to football. From the above table, all the apps are compatible with Android & iOS which is no limitations for all the football fans. Besides, all of it is fully free to use. Most of the apps such as LiveScore, All Football, Forza Football, FotMob, and Premier League have the registered version and free version of the app. The free version will only show the basic features in the app while the registered version will be more exciting because it consists of all the features of the apps. There are also some apps that use another way to log in. Onefootball uses the login by connecting with Facebook meanwhile Barcelona Live users need to log in using Facebook or Google account. From the table, it is shown that the main goal of each app is giving the latest news and the live score for the users. Match details are including the line-up, the place of match, aggregates and more. Ajax Mobile and Barcelona Live do not have that features. Some of the apps consider social interaction and networking such as chatting place, but some are not. Three out of ten of the apps including highlights videos and only FIFA app has the live videos features. Professional statistic consists the visualizations from the results of each match. All the apps have push notifications feature.

To conclude, FUFChamp app includes the features such as latest news, scoreboard, player's information, highlight videos and images gallery of FELDA United football team. As the target user for this application is the FELDA United Football Club fans, the context is much smaller compared to the other related apps. In Malaysia, Android users downloaded the mobile app more than 1.5 times compared to iOS users ("Comparison of iOS and Android mobile application usage in Malaysia," n.d.). From that information, this mobile app was built as Android-based and an open source mobile app for the ease of use.

CHAPTER 3

METHODOLOGY

3.1 OVERVIEW

According to Davis (2005), a good system is a well-planned by using the most suitable methodology. The methodology can be defined as, giving a clear idea on what method the researcher is going to use in his research to achieve research objectives and requirement System's success depends on methodology. It is crucial to use the right methodology to ensure the smooth flow of the project from the start until the end of the project. The suitable methodology will map out the whole research work and give credibility to the whole effort of the researcher.

In FUFChamp, the Android-based mobile application for FELDA United Football Club, the users will be exposed to the information about the football team from basic. After the users click the icon on their mobile phone, they will be directly going to the main page that will show the latest news about the teams. The other information included inside this mobile application are the scoreboard, player's information, highlight videos and images gallery of FELDA United football team.

The methodology used in this project is the Rapid Application Development (RAD) model. The RAD process helpful in developing the fully functional system within a very short period if the requirements and project scope are clear. There are four phases of the RAD model which are requirement or planning, system design, development and cutover as shown in Figure 3.1 below. This chapter will cover all the phases in RAD.

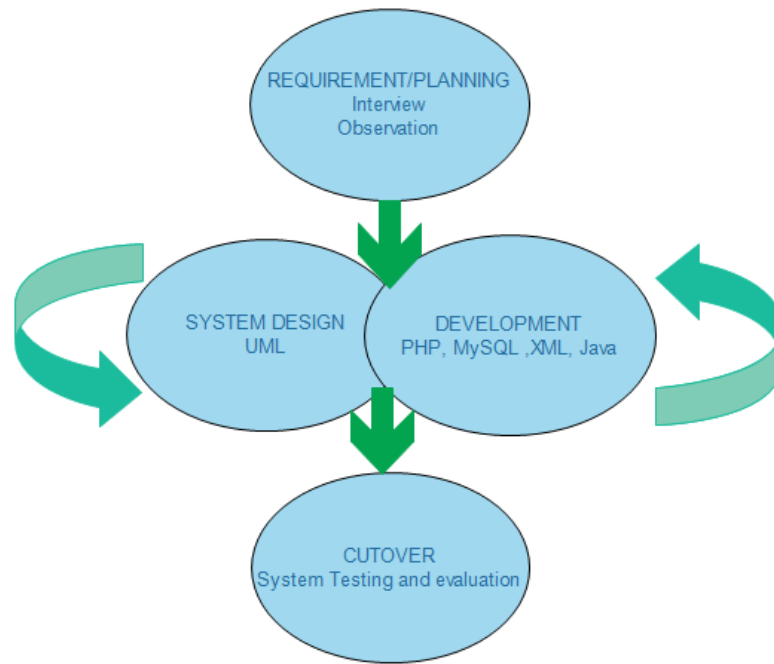


Figure 3.1: RAD model

3.2 RAPID APPLICATION DEVELOPMENT (RAD)

3.2.1 Phase 1: Requirements or Planning

This early phase is carried out by doing the analysis of the effectiveness of using the mobile application for any organizations. The analysis was made based on the statistics of app store growth from 2014 to 2017 and the statistics of the users of Android and iOS in 2018 globally on AppleInsider and DeviceAtlas. The purpose of this analysis is to obtain the initial requirements and scope of the project for FUFChamp mobile application. During this phase, the software, tools and the sources of information used for the development of this project were determined. The software used for the development of this app is Android Studio, Notepad++ and XAMPP for the connection to the database. The tools used in this project is phpMyAdmin to store the data of the users which are their name, email, and password and the data uploaded by admin into the database. The sources of information that is shown inside the app were gathered from several websites. The score of the match was referred from trusted football live score websites such as Livescore and Scoreboard. The news of the team was referred from newspaper websites, FELDA United website, and FELDA United social media such as Facebook, Instagram, and Twitter.

3.2.2 Phase 2: System Design

The system design phase is a continuous interactive process that allows user engagement as they can understand more and give an opinion to modify the functionality of the applications. Additionally, through this phase it enables users to approve the working model, whether it meets their needs and requirements or not. During this phase, the user interface for FUFChamp mobile application had been designed using Justinmind software. The user interface is also the parts of the prototype to represent the inputs, outputs and system processes of FUFChamp. Five students were asked to evaluate the prototype of FUFChamp. The improvement was made based on the users' needs from this application. The purpose of this phase is to achieve the second objective which is to design and develop this application using Android Studio.

3.2.3 Phase 3: Development

This phase begins with an iterative cycle of application development, coding, integration and system testing. FUFChamp was developed as a website using HTML, PHP, CSS, XML and JavaScript language for the design and functions. MySQL and PHP are used for storing the database of user information such as name, email, and password and website's data such as news, score, images and videos. The data is then stored in phpMyAdmin. There is an admin version for the mobile application to ease of admin to upload the data. Android Studio software was used to convert FUFChamp from a website to a mobile application.

3.2.4 Phase 4: Cutover

Cutover phase is the phase where the testing of the mobile application is happening. To performing this phase, some students were asked to test this mobile application to represent as the user and the admin of the app to analyze the overall functions of the app. The purpose of conducting this testing process is to achieve the last objective of this mobile application which is to evaluate the effectiveness of the application for football fans.

3.3 CONTEXT DIAGRAM

The context diagram is a data diagram with the central process that includes everything inside the scope of the system. It shows that how the system receives and send the data flows to the external entities that are involved. By referring to Figure 3.2, there are two entities involved which are the administrator, and football fans. The users are free to use the app without any registration within this app. The users would enjoy the features such as the latest news, scoreboard, player's information, highlight videos and images gallery of FELDA United football team.

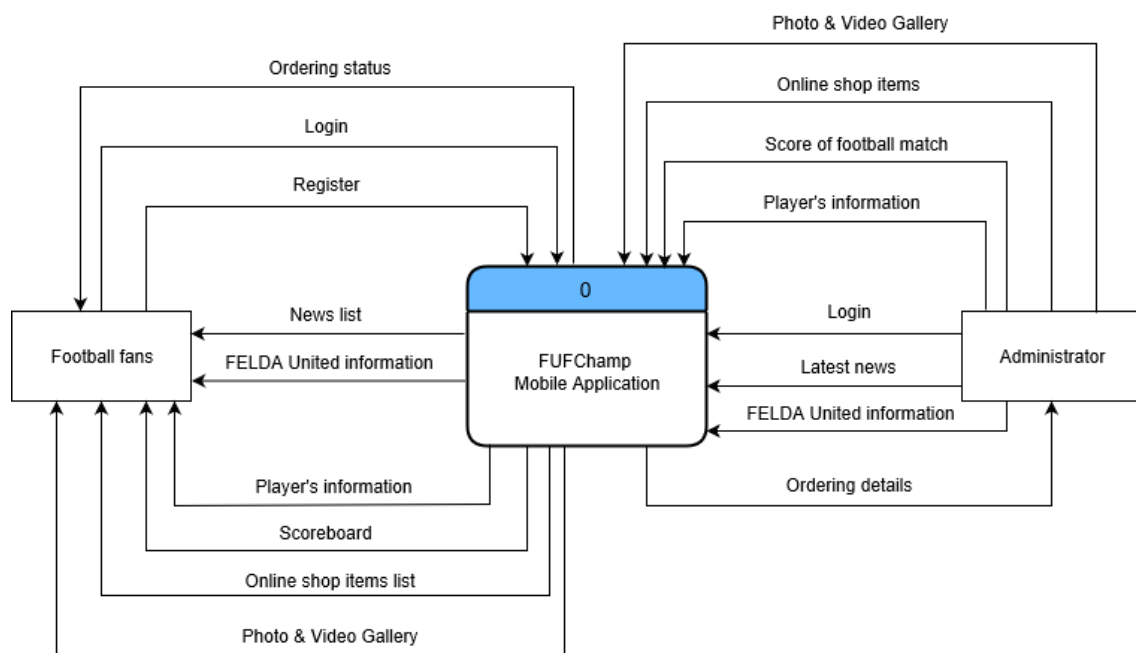


Figure 3.2: Context diagram for FUFChamp

The administrator has one unique username and password for the ease of updating information such as the latest news, scoreboard, player's information, highlight videos and images gallery into the FUFChamp app. The admin also will receive the order details from the users.

3.4 USE CASE DIAGRAM

Use case diagram act as behavior diagrams to define the actions that the system should perform. It gives the explanation of interactions between the entity involves such as the administrator, football fans and the mobile application to complete the goals. Figure 3.3 is the use case diagram for FUFChamp.

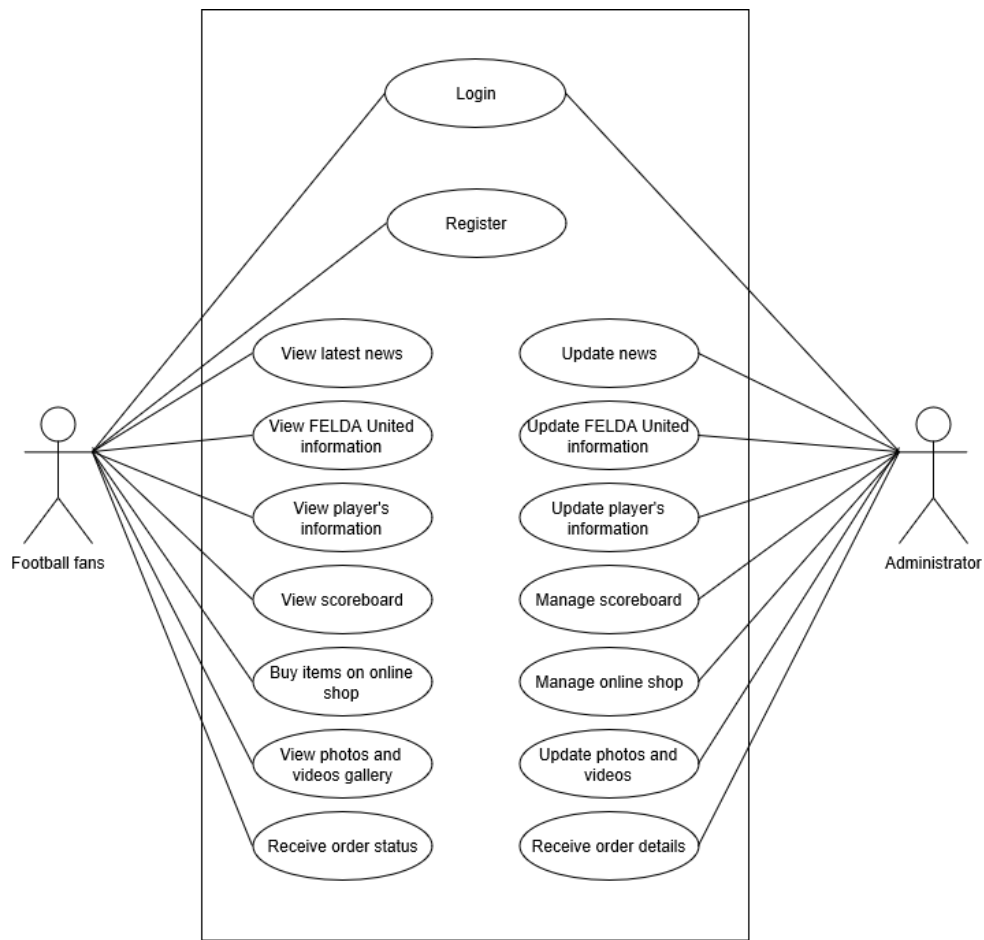


Figure 3.3: Use case diagram of FUFChamp

In this app, administrator and the users can log in into FUFChamp mobile application but only the users need to register since administrator already have the unique username and password. Based on the use case diagram above, it shows that administrator has the role to keep updating the data from other sources inside the app so that the users will view the latest information about FELDA United football club. The administrator can update the app anytime and anywhere since the admin panel was included inside the mobile application.

3.5 FLOWCHART






When the users click the app icon, the home page will appear. The homepage contains the latest news about FELDA United football team. The users need to click the navigation menu on the screen to view the information about the team, scoreboard, player's info, and the gallery. There are six navigation menu options inside this app

which are Home, About Us, Team, Scoreboard, The Fighters Outlet and Gallery. If the users click on the Home menu, the first page that contains the news will appear. About Us menu will show the information of the establishment of FELDA United Football Club. The Team menu will show the details of the football players of FUFC team. From that, the users will know the players for this team. When clicking Scoreboard menu, the app will go to the scoreboard page. In the scoreboard page, the users can filter the scoreboard based on the football league or football cup that played by FELDA United football teams such as Malaysia Cup, FA Cup, Premier League, and Super League. This feature was made to know the improvements or the declines of the teams during matches. The Fighters Outlet is the name of the vendors that sell FELDA United brand items. In this page, the users can make the purchase on any items inside The Fighters Outlet, the online shop by clicking the add to cart button. After finish choosing the items, the users can view their cart and to edit the purchase or proceed to the payment via online banking. The users need to make sure the billing address that had been filled inside the customer's information part is correct to make sure the item arrives at the correct place. The Gallery menu shows the highlighted videos and photos of the events joined by the team and from the football matches the team had played. The flowchart was can be referred in APPENDIX A.

3.6 STORYBOARD

Table 3.1: Storyboard

Interfaces	Explanation
 <p>→ Perlawanan Liga Super Diantara Felda United Menentang Johor Darul Takzim Pada 27 Sep 2017 (Rabu). Akan Diadakan Karnival Jom Ke Stadium. Pelbagai Gerai Jualan Serta Aktiviti Menanti</p>	<p>This is the main page of FUFChamp mobile application called Homepage. The users will see the latest news of FUFC teams from this page. To go to other pages, the users need to click on the navigation menu (☰) button on the top-left corner of the app. This button is available on any pages.</p>
	<p>This is the navigation menu that appears when then users click the navigation menu. The option to go to other features inside FUFChamp app is appearing and the users can click the menu to go to other pages.</p>

 <p>Establishment</p> <p>Felda United was established on January 19, 2007. The club was formed to represent FELDA. Initially, the club held a match at Stadium Petronas, Bangi and MINDEF Stadium, Kuala Lumpur. When lifted to the Premier League, Felda United began using the KLFA Stadium, Cheras. Football is the number one sport in our country and has a lot of fans. With all infrastructure and facilities such as sports complexes, fields and futsal courts that have been set up in FELDA land, it is the starting point for FELDA's involvement in the development of football in our country. In line with that, FELDA took the initiative to set up a football team to compete in the FAM League in 2007. Various titles such as 'The Giant Killer and Budak Nakal' given by media and football fans have spurred Felda United's reputation as the main rival of the Malaysian League. Now, Felda United has begun to be known for the strength of supporters from all over the country, especially from FELDA generation itself.</p>	<p>When the users click the “About Us” option on the navigation menu, FUFChamp app will move to the “About Us” page which gives the information of the establishment of FUFC teams. To go to another page, the users need to click the navigation menu again to choose the options.</p>
 <p>Penjaga Gol</p> <p> 1 MOHD FAIRUL AZWAN SHAHRULLAI</p> <p> 30 MOHD FARIZAL HARUN</p> <p></p>	<p>When the users click the “Team” option on the navigation menu, FUFChamp will go to “Team” page which shows the player’s information such as image, name and the jersey number. To go to another page, the users need to click the navigation menu again to choose the options.</p>

Standings▼

SUPER LEAGUE

#	Team	GP	W	T	L	GF	GA	GD	Pts
1	Johor Darul Ta'zim FC	22	19	2	1	47	9	38	59
2	Perak FA	22	10	6	6	35	27	8	36
3	PKNS FC	22	10	5	7	37	29	8	35
4	PAHANG FA	22	9	7	6	35	21	14	34
5	Terengganu	22	10	4	8	32	31	1	34
6	KEDAH FA	22	9	5	8	37	36	1	32
7	MELAKA UTD FC	22	9	4	9	33	38	-5	31
8	SELANGOR FA	22	7	6	9	35	39	-4	27
9	PKNP FC	22	7	4	11	25	31	-6	25

When the users click the “Scoreboard” option on the navigation menu, FUFChamp will go to “Scoreboard” page which shows the table of score that had been made by FUFC teams during the match that they involved. The table shows the position, logo, team, game player (GP), win (W), tie (T), lose (L), goal for (GF), goal against (GA), goal difference (GD) and points (Pts) from each match. To go to another page, the users need to click the navigation menu again to choose the options.

Standings▼

Malaysia Cup

FA Cup

Premier League

Super League

PREMIER LEAGUE

#	Team	GP	W	T	L	GF	GA	GD	Pts
1	FELDA UNITED	20	12	7	1	44	23	21	43
2	FELCRA	20	9	7	4	30	24	6	34

In the “Scoreboard” page, the users can filter the score table to which league or cup that the team had played. In FUFChamp, the latest match (2018) involved by FUFC was included such as Malaysian Cup, FA Cup, Premier League, and Super League. The data in the table will change depends on the cup or league that the users choose.

Standings▼

Malaysia Cup

FA Cup

Premier League

Super League

	<p>When the users click the “Gallery” option on the navigation menu, FUFChamp will go to “Gallery” page which shows the highlighted videos and images from the matches that FUFC had played.</p>
	<p>When the users click the “Gallery” option on the navigation menu, FUFChamp will go to “Gallery” page which shows the highlighted videos and images from the matches that FUFC had played. The videos are played when the users click the play button on the videos.</p>

3.7 SOFTWARE AND HARDWARE

3.7.1 SOFTWARE

Table 3.2: Software used during the development of FUFChamp.

SOFTWARE	FUNCTION/PURPOSE
Android Studio Version 3.0.1	Software used to convert the application into the Android device.
Notepad++	To write code of HTML, PHP, JavaScript, and CSS for mobile application.
XAMPP Version 3.2.2	To provide the localhost domain and MySQL database for the project development.
PhpMyAdmin	Domain to the host system
Draw.io	To create a context diagram, use case diagram, and flowchart.
Adobe Photoshop CS6	To edit the image used in the mobile application.
Adobe Illustrator CS6	To create and edit graphics used in the app.
Justinmind	To create the interfaces and prototype of the app.

3.7.2 HARDWARE

Table 3.3: Hardware used during the development of FUFChamp.

HARDWARE	SPECIFICATION	FUNCTION/PURPOSE
Laptop Lenovo Legion Y520	Processor: 7 th Generation Intel® Core™ i7 Processor Operating System: Windows 10 Graphics: Up to NVIDIA® GeForce® GTX 1050 Ti RAM: 16 GB DDR4; 2 x SODIMM Slots	A portable computer used for development and documentation of the project.
Samsung M3 1TB USB 3.0 HDD	Memory: 500GB	A data storage device to transfer and save data of the project.
HP Deskjet 1515 printer	Print Resolution: 4800x1200 DPI Print Speed Black: 7 PPM Print Speed Colour: 4 PPM Paper Size: A4, A6, B5	A device uses to print proposal, documents, and any related sources.
OPPO F5	Operating System: ColorOS 3.2, based on Android 7.1 Nougat CPU: Octa-core MT6763T Helio P23 Cortex-A53 Mali-G71 MP2 GPU CPU Speed: 2.5 GHz Storage: 32GB RAM: 6GB	Android mobile phone used to run the application.
USB Cable	Type-A	To transfer the .apk file of FUFChamp app into the mobile phone to install it.

3.8 GANTT CHART

APPENDIX B shows the Gantt chart that can be referred to as the timeline of the preparations, tasks, and activities along the completion of this project.

CHAPTER 4

RESULT & DISCUSSION

4.1 INTRODUCTION

This chapter will be discussed in detail about the development process. The process involved is the implementation process, test process, and result from analysis. All functions and implementation of codes used will also be explained. The interfaces description of the mobile application will be explained. Some modification has been done to the system during this phase to ensure it full-fill the requirements. At the end of this chapter, testing and result will be justified.

4.2 IMPLEMENTATION

This section describes how FUFChamp mobile application works. The user interface, the process involved, and the code for certain functions will be shown in this section.

4.2.1 Home



Figure 4.1: Homepage

In the home page, the users will be shown the latest news about FELDA United Football Club. This would be easier for the supporters to read the news wherever they are. The news is updated by the admin of this mobile application based on the news from other sources such as newspaper and this football club social media. The social media icon on the top of the interface is the hyperlink to the social media of FELDA United. It first icon will go to the Facebook page when clicked it. The second icon will directly bring the users to FELDA United Twitter account. The third icon will go to FELDA United Instagram account. The last icon is a website icon which will go to the official FELDA portal.

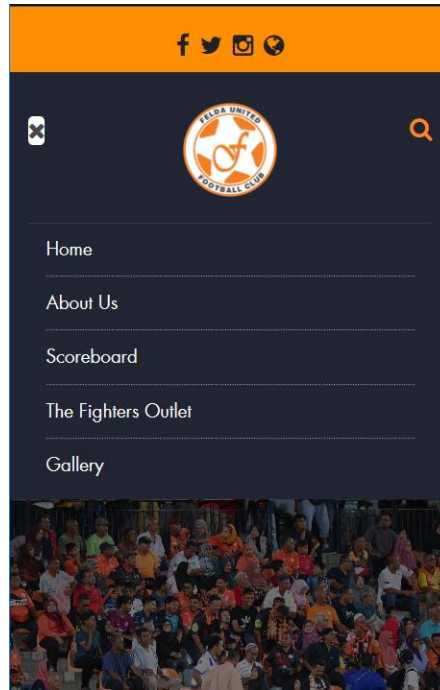


Figure 4.2: Navigation menu

```

<!-- Header Navigation -->
<div class="navbar-header">
  <button type="button" class="navbar-toggle" data-toggle="collapse" data-target="#navbar-menu">
    <i class="fa fa-bars"></i>
  </button>
  <a class="navbar-brand" href=""></a>
</div>
<!-- Navigation -->
<div class="collapse navbar-collapse" id="navbar-menu">
  <ul class="nav navbar-nav menu">
    <li><a href="index.html">Home</a></li>
    <li><a href="about.html">About Us</a></li>
    <li><a href="/scoreboard.php">Scoreboard</a></li>
    <li><a href="outlet.html">The Fighters Outlet</a></li>
    <li><a href="gallery.html">Gallery</a></li>
  </ul>
</div>

```

Figure 4.3: Navigation menu code

Figure 4.2 shows the navigation menu inside FUFChamp mobile application. The navigation menu will appear when the users click the small white button on the top-left corner of every page in this app. The navigation menu will then collapse if the users click the small button back. This will make the app more aesthetic since not everything will be shown on one screen. Figure 4.3 shows the code to implement this kind of menu. HTML code was used for the design of the app since it is much easier to implement.

4.2.2 About us



Establishment

Felda United was established on January 19, 2007. The club was formed to represent FELDA. Initially, the club held a match at Stadium Petronas, Bangi and MINDEF Stadium, Kuala Lumpur. When lifted to the Premier League, Felda United began using the KLFA Stadium, Cheras. Football is the number one sport in our country and has a lot of fans. With all infrastructure and facilities such as sports complexes, fields and futsal courts that have been set up in FELDA land, it is the starting point for FELDA's involvement in the development of football in our country. In line with that, FELDA took the initiative to set up a football team to compete in the FAM League in 2007. Various titles such as 'The Giant Killer and Budak Nakal' given by media and football fans have spurred Felda United's reputation as the main rival of the Malaysian League. Now, Felda United has begun to be known for the strength of supporters from all over the country, especially from FELDA generation itself.

Figure 4.4: About Us page

```
<!-- About -->
<section id="about">
  <div class="container about_bg">
    <div class="row">
      <div class="about_content">
        <h3><Center>Establishment</Center></h3>
        <h2>
          <center>
            Felda United was established on January 19, 2007. The club was formed to represent FELDA. Initially, the club held a match at Stadium Petronas, Bangi and MINDEF Stadium, Kuala Lumpur. When lifted to the Premier League, Felda United began using the KLFA Stadium, Cheras. Football is the number one sport in our country and has a lot of fans. With all infrastructure and facilities such as sports complexes, fields and futsal courts that have been set up in FELDA land, it is the starting point for FELDA's involvement in the development of football in our country. In line with that, FELDA took the initiative to set up a football team to compete in the FAM League in 2007. Various titles such as 'The Giant Killer and Budak Nakal' given by media and football fans have spurred Felda United's reputation as the main rival of the Malaysian League. Now, Felda United has begun to be known for the strength of supporters from all over the country, especially from FELDA generation itself.
          </center>
        </h2>
      </div>
    </div>
  </div>
</section><!-- About end -->
```

Figure 4.5: About Us code

Figure 4.4 shows the About Us page. When the users click About Us on the navigation menu, the interface as in the figure will be shown. About us let the users know the history of the establishment of FELDA United Football Club.

4.2.3 Team



Figure 4.6: Team page

Figure 4.6 shows the Team page which shows the player's information. The image, name and jersey number were included in this interface.

4.2.4 Scoreboard



#	Team	GP	W	T	L	GF	GA	GD	Pts
1	Johar Darul Ta'zim FC	22	19	2	1	47	9	38	59
2	Perak FA	22	10	6	6	35	27	8	36
3	PKNS FC	22	10	5	7	37	29	8	35
4	PAHANG FA	22	9	7	6	35	21	14	34
5	Terengganu	22	10	4	8	32	31	1	34
6	KEDAH FA	22	9	5	8	37	36	1	32
7	MELAKA UTD FC	22	9	4	9	33	38	-5	31
8	SELANGOR FA	22	7	6	9	35	39	-4	27
9	PKNP FC	22	7	4	11	25	31	-6	25

Figure 4.7: Scoreboard

```

</script>
<!-- end dropdown menu -->
<div class="about_content">
  <table class="premierleague" width="100%">
    <h1><center>PREMIER LEAGUE</center></h1>
    <tr>
      <th>#</th>
      <th></th>
      <th>Team</th>
      <th>GP</th>
      <th>W</th>
      <th>T</th>
      <th>L</th>
      <th>GF</th>
      <th>GA</th>
      <th>GD</th>
      <th>Pts</th>
    </tr>
    <tr>
      <?php
        while($score = mysqli_fetch_assoc($records)){
          echo "<tr><td>".$score['position'].
            "</td><td>".".
            "</td><td>".$score['team'].
            "</td><td>".$score['game played'].
            "</td><td>".$score['win'].
            "</td><td>".$score['tie'].
            "</td><td>".$score['loss'].
            "</td><td>".$score['goal for'].
            "</td><td>".$score['goal against'].
            "</td><td>".$score['goal difference'].
            "</td><td>".$score['points'].</td></tr>";
        } // end while
      ?>
    </tr>
  </table>

```

Figure 4.8: Scoreboard code

Figure 4.8 shows the scoreboard of FUFChamp. From this section, the users can know match standings for FELDA United team. The data given in the score table are team position, logo, game played, win, tie, lose, goal for, goal against, goal difference and overall points. PHP language was used since this section involve the database of the team that join each football match. In this interface, the users can choose which results or standing that will be shown to them by clicking the Standings button provided. Figure 4.10 shows the options of football league and football cup provided in this app. This is chosen based on the match that FELDA United had participated. Figure 4.11 shows the code for database connection for this app.

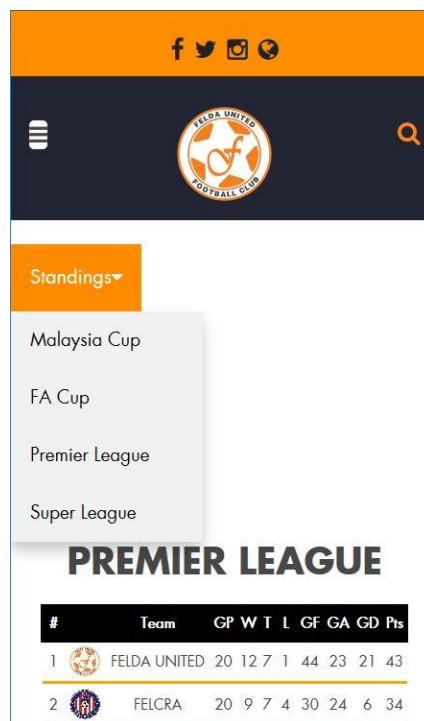


Figure 4.9: Options for scoreboard

```
<?php
//connect db
$conn= mysqli_connect('localhost', 'root', '', 'fufchamp');

//select db
$sql = "SELECT * FROM scoreboard";
$records = $conn -> query($sql);

?>
```

Figure 4.10: Database connection

4.2.5 Gallery



Figure 4.11: Photos gallery



Figure 4.12: Videos gallery

Figure 4.15 and Figure 4.16 shows the gallery features inside this app. This update will be made by the administrator of the app. The users can play the highlighted videos and view photo gallery.

4.3 SUMMARY

Generally, this section shows the flow of the mobile application. As it is important to create a good design interface, the color and arrangement for the system need to be done carefully. In addition, the interface must be something easy and fast to access as it is for safety. Hence, the simple and fast access interface design is preferred for this system.

CHAPTER 5

CONCLUSION

5.1 CONTRIBUTION

FUFChamp is the mobile application for FELDA United Football Club. The goal for this project is to develop a mobile application that helps FELDA United Football fans keep up to date about their favorite football team. The objectives for developing this mobile application are to study mobile application as a medium for football fans, to design and develop this application using Android Studio, and to evaluate the effectiveness of the application for football fans. Many types of research had been made to study the effectiveness of mobile application towards users and organizations. This is to ensure that the medium that been used for developing this project was the best choices.

The target users of this application are the football fans. Even though FUFChamp is a mobile application for FELDA United team, the users from other team supporters were also welcomed to use this application since the app is an open source mobile application without any in-app purchase. The users at any ages were allowed to access FUFChamp since the designs and functions will not give any harms to the users, the contents shown was all the positive contents.

FUFChamp was first developed as a website using the Hypertext Mark-up Language (HTML), Cascading Style Sheets (CSS) language and Hypertext Preprocessor (PHP) language being used as the development language and MYSQL as a database for the admin. This website used responsive web design to support the website's view on multiple devices as this project used a mobile phone as the devices.

This is to ensure that all the contents size will not be affected after the screen had been resized to a mobile phone dimension. The website then published on the web server.

This project was then developed using Android Studio. The website that was published was imported in Android Studio so that the website converted into Android mobile application. Only simple coding involved in Android Studio using Java language and Extensible Markup Language (XML) as the major development had been made during the website development.

This mobile application is suitable for all as it includes the latest news, scoreboard, player's information, highlight videos and images gallery special for FELDA United Football Club fans. The news about the team come from the trusted sources such as newspaper websites, FELDA United website, and their social media. The score of the match was referred from trusted football live score websites such as [Livescore](#) and [Scoreboard](#). This app also shows the player's information for the fans to know the players. Another feature of this app is videos and images gallery that shows the highlighted events of the team.

5.2 LIMITATION

Although there are many interesting things in this mobile application, FUFChamp was still lack of contents. The admin needs to keep up to date with the current news of the team to post it on this mobile application.

This project also needed a long time for better development and testing for achieving a better mobile application performance. The involvements from the users also an important part to ensure the improvement of the app based on user needs.

This application is based on the real-time function which required an admin to have internet to update the contents such as news and scoreboard since all of the codes are uploaded into the server which means, the user also need to have the internet to store and retrieve information from the database.

FUFChamp scoreboard include the score from the match in the current year only. This is due to the size of the application. The size of the app will be increasing as there are more features in the app.

5.3 FUTURE WORKS

In the future, this mobile application will be improved in terms of design, features, and functions. The contents inside FUFChamp will be increasing and updated regularly so that the users will be more interested in using this mobile application. The users will depend more on this app for getting the new updates from FUFC team.

The user interface also will be improving based on the current user needs. This is important for a developer to know the design that the users likely prefer to use.

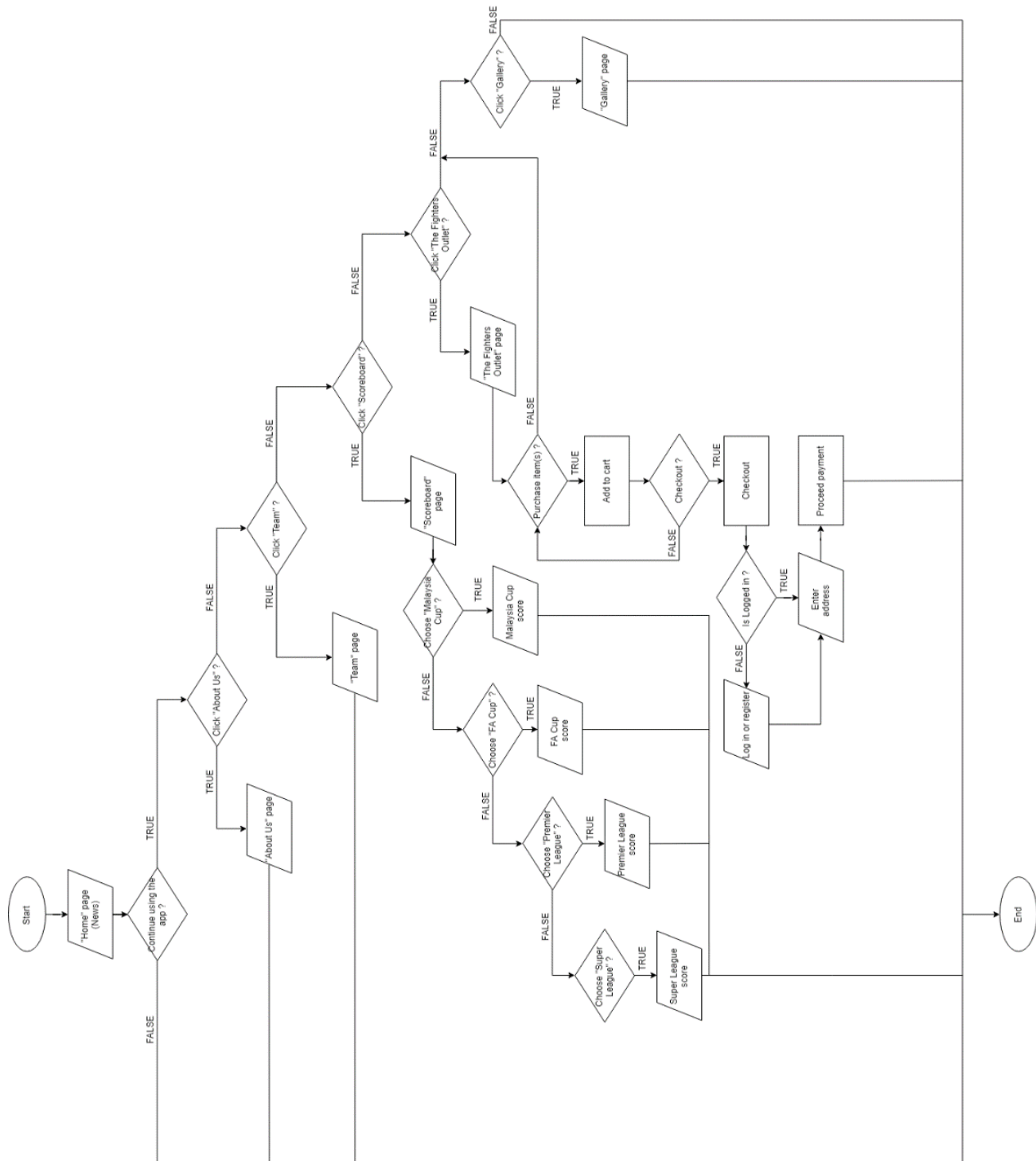
When all the design and functions of FUFChamp are improving, this application will be published in Play Store and App Store to be used by other users.

FUFChamp also will include the data that is not the latest one so that the users will also know what happened to the FUFC teams in the previous year. This will increase the information about the teams to the fans.

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APPENDIX A



APPENDIX B

