SLIM FIT COACHING SYSTEM
For
KELAB SIHAT PEKAN

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Bachelors of Computer Science
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SLIM FIT COACHING SYSTEM
For
KELAB SIHAT PEKAN

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Thesis submitted in fulfillment of the requirements
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ABSTRAK

Pada masa kini, kesihatan adalah paling diutamakan oleh setiap orang. Untuk mendapatkan berat yang ideal, pengambilan makanan berkhasiat serta senaman yang cukup boleh membantu mengekalkan seseorang mencapai berat badan yang ideal. Sekarang, kebanyakan orang jarang bersenam kerana kesuntukan masa kerana pekerjaan, ada juga yang memang tidak berminat bersukan, faktor usia dan lain lain. Walaubagaimanapun, untuk mencapai berat yang ideal, bukan senaman sahaja yang membantu. Malahan pengambilan makanan yang betul mengikut keperluan badan seseorang juga penting untuk mendapatkan berat yang ideal. Jadi, tujuan projek ini adalah untuk menyediakan platfom kepada masyarakat untuk mencapai berat yang ideal. Hasilnya, semua yang menyertai akan mendapatkan berat yang ideal dan kesihatan yang baik hasil bimbingan jurulatih Kelab Sihat Pekan. Hasil ini penting dalam mencapai tujuan- tujuan projek.

ABSTRACT

Nowadays, health is the top priority of everyone. To gain the ideal weight, nutritious food intake as well as adequate exercise can help keep a person reaching the ideal weight. Now, most people rarely exercise due to lack of time due to work, there are also those who are not interested in sports, age factors and others. However, to achieve the ideal weight, it is not only exercise that helps. Even the right food intake according to the needs of one's body is also important to gain the ideal weight. So, the purpose of this project is to provide a platform to the community to achieve the ideal weight. As a result, all who participate will gain ideal weight and good health as a result of the Kelab Sihat Pekan coach’s guidance. These results are important in achieving the objectives of the project.

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LIST OF SYMBOLS

KSP	Kelab Sihat Pekan
SFCS	Slim Fit Coaching System
RAD	Rapid Application Development

LIST OF ABBREVIATIONS

GUI	Graphical User Interface
HTML	Hypertext Markup Language
MySQL	My Structured Query Language
PHP	Hypertext Preprocessor
SDLC	Software Development Life Cycle

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND STUDY

Health is a state of physical well-being(Balog, 2005). It comprises decisions on how to live a healthy lifestyle, avoid diseases and ailments, and maintain a balanced body, mind, and soul. Everyone is responsible for their own health.

Kelab Sihat Pekan (KSP) that is located at Pekan, Pahang is a legal & registered nutrition club with Herbalife Nutrition Malaysia that led by Encik Amir. The number of coaches in this club is more than 3 person include Encik Amir. While the number of coachees more than 20 person. The club aim is to help people get ideal health and weight. The coach will guide the coachee to get by gaining good health, as well conduct the program by face-to-face and online. Throughout the club operating until now, the processes are still ongoing manually.

This study is to develop a system to facilitate club operation. The system that will be develop called Slim Fit Coaching System (SFCS). With a system the management processes for club will run smoothly.

1.2 PROBLEM STATEMENT

This research considers a several problems as most of data are written and recorded manually using paper. The risk of loss, theft and natural disasters are very high when using this traditional method. The probability of lost data is very high. Also, waste of cost for paper purchases to record the data manually.

The process of retrieve the data takes a long time especially for admin to make reports because admin need to find all the form for each coachee. Besides that, the process for the coach to record all the information about the coachee becomes complicated as it is

necessary to write the same information repeatedly and the process of writing information for coachee becomes complicated as it is necessary to write everything on paper. The form that coach need to fill manually shows in Figure 1.1.

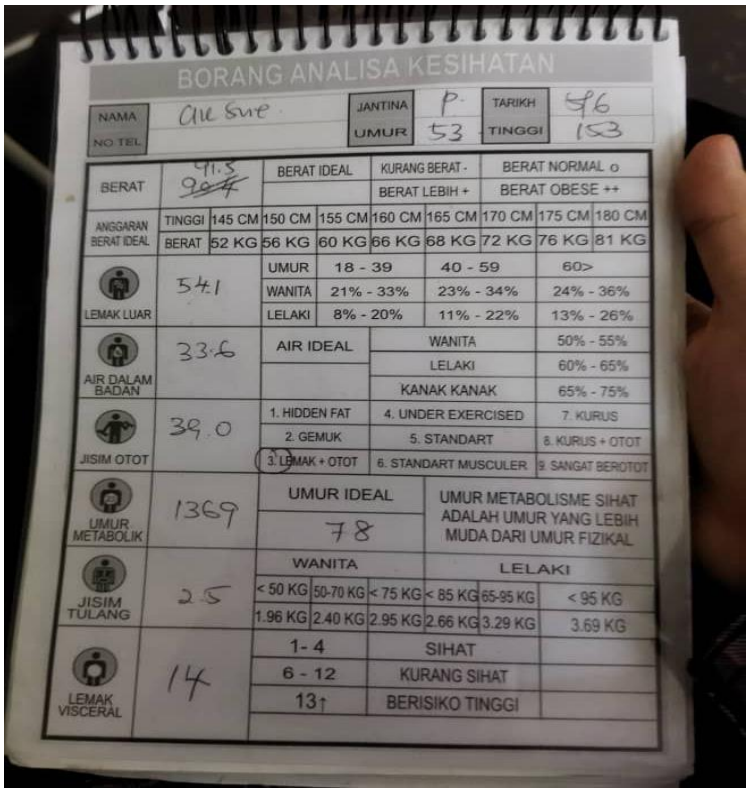


Figure 1.1 *Body Scan Analysis form*

1.3 GOAL AND OBJECTIVE

The goal of this project is to build web-based application for the user For Kelab Sihat Pekan.

I. To identify the process of Slim Fit Coaching System For Kelab Sihat Pekan

II. To develop a web-based application for Slim Fit Coaching System For Kelab Sihat Pekan

III. To test the functionality of Slim Fit Coaching System For Kelab Sihat Pekan

1.4 SCOPE

The scope of the project is has been discussed and agree as follows:

I. User scope:

i) Admin of Kelab Sihat Pekan

ii) Coach that has been registered by HerbaLife

iii) Coachee in age more than13 years old

II. System scope:

i) Covered the process between admin, coach and coachee.

ii) Covered health progress of coachee health update, online and offline program

III. Development scope:

i) Using Visual Studio Code, XAMPP software

1.5 SIGNIFICANT OF PROJECT

The significant of the project as follows:

i) Admin: Admin can implement automatic method in generating report

ii) Coach: Coach can implement new way to guide the coachee to create engagement with coachee

iii) Coachee: Coachee can have a process of gaining ideal weight in an interactive way

1.6 REPORT ORGANIZATION

This report contains of five chapters. Chapter 1 explain about the overview of the project including the Introduction, Problem Statements, Objective of the project, Scope and Thesis Organization.

Chapter 2 briefly explain about the literature review on existing systems that related with online coaching.

Chapter 3 explains about the methodology used in this project. This project Software Development Life Cycle (SDLC) which is based on the Rapid Application Development (RAD) model approach. This model consist of four phases which are Requirements Planning, User Design, Rapid Construction and cutover.

Chapter 4 explains about result and discussion based on development and testing of this project. In this chapter, all the results and output of the project were briefly discuss. These include the software development, application testing, collecting data and result of the project.

Chapter 5 conclude and summarize the final result on this project. The limitation and further works were discussed thoroughly in this chapter.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 2 is about the review of existing coaching system. Three existing system were explained in detail and compare. The comparisons will focus on the Graphical User Interface (GUI), target user, functions provided, advantages and disadvantages of the system. Comparisons between the three existing system recommend the weaknesses, the strength and the effectiveness of the existing system. The comparisons are done to ensure that the system that will be develop in this project is a better version.

2.2 EXISTING SYSTEM

In this section, three existing system will be reviewed. These three system are:

I. FitFromHome (https://www.fitfromhome.my/)

II. noomii (https://www.noomii.com/health-and-fitness-coach-malaysia)

III. WELLNESS ACADEMY (https://www.wellnessacademy.my/)

2.2.1 Existing system 1: FitFromHome

During a pandemic and lockdowns, Fit From Home was founded. It was developed because KD Trainer, an in-person firm, was no longer able to assist customers during the lockdown. The goal is to help even more people by using technology to spread our message to various individuals in different regions of the world. They will advise everyone on how many calories and macronutrients you will require based on your own objectives. Coachee will meet with our dietician twice a month through Zoom for a live Q&A session.

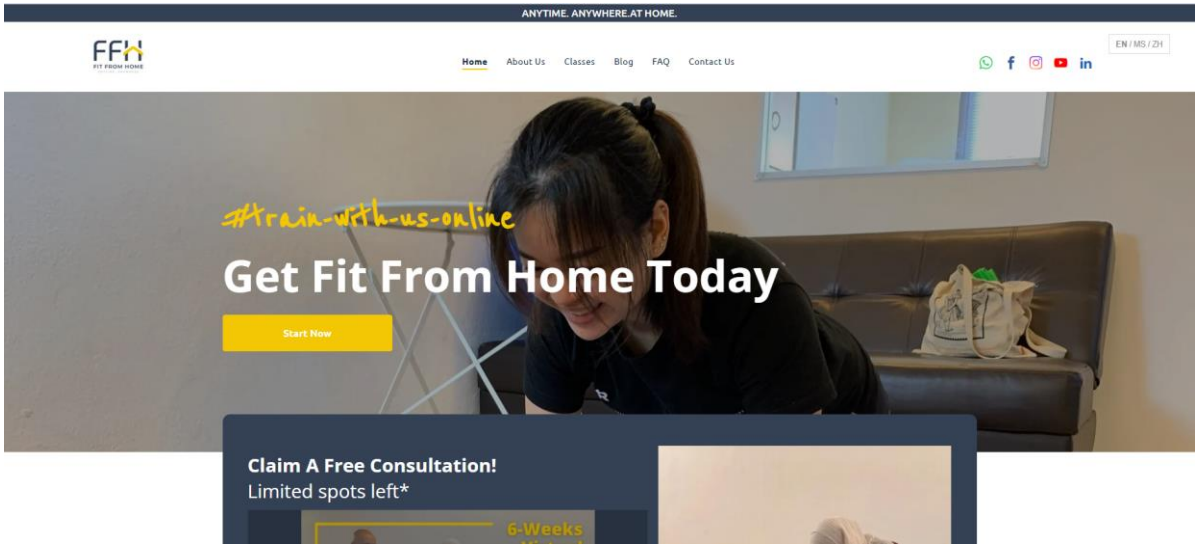


Figure 2.1 *FitFromHome main web based interface*

From the figure 2.1, the main interface includes top bar for user to know about system, to contact and so on. The “start now” button proceed to WhatsApp application.

2.2.2 Existing system 2: noomii

Noomii is a free online service that assists people in finding the right life coach, career coach, or business coach. Hundreds of independent coaches from the United States, Canada, and more than 30 other countries are included in Noomii's huge and comprehensive database of professional coaches. Based on their individual goals, personality, and history, the system will swiftly and efficiently match customers with their appropriate coach. PairCoach Enterprises Inc, a privately held firm headquartered in Vancouver, Canada, owns Noomii.

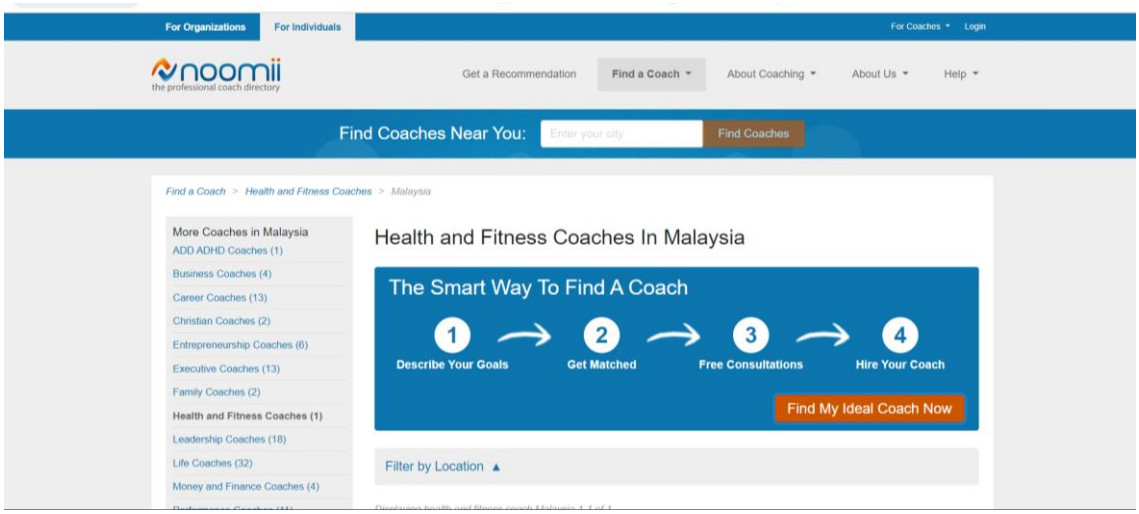


Figure 2.2 *noomii main web baesd interface*

From the figure 2.2, the main interface includes top bar for user to find a coach and so on. User need to enter city to find coach.

2.2.3 Existing system 3: WELLNESS ACADEMY

Both corporate partners and the general public benefit from WELLNESS ACADEMY's education and training. The courses will assist people in being healthy by implementing small, gradual, and long-term lifestyle adjustments. Through health education, wellness lifestyle practises, and health screening activities, the academy will interact with individuals from all backgrounds to foster a feeling of community and belonging, which will inspire increased creativity and productivity.

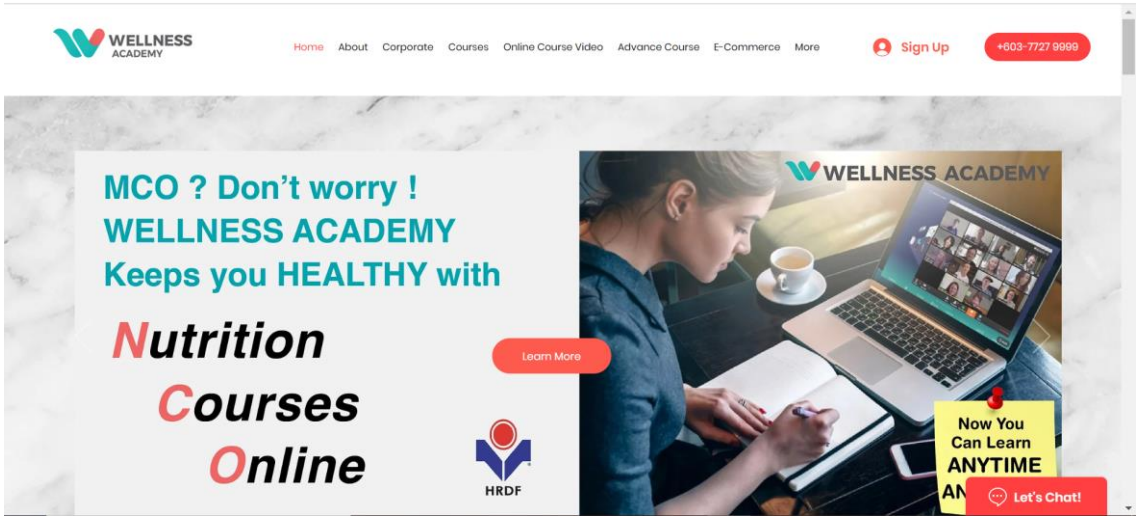


Figure 2.3 *WELLNESS ACADEMY main web baesd interface*

From the figure 2.3, the main interface includes top bar for user to sign up and so on. Also in the middle, there have learn more button for user to know about this system.

2.3 COMPARISION OF EXISTING SYSTEM

The table 2.1 below shows the comparison of existing system include platform type, target user, function provided, advantage and disadvantage.

System	FitFromHome	noomii	WELLNESS ACADEMY
Platform	Web based	Web based	Web based
Target user	-Individual	-Individual -Organization	-Individual
Functions provided	-Registration -Login -Contact coach	-Registration -Login -Choose coach -Find nearest coach	-Registration -Login -Choose course type
Advantage	-Interactive user interface -Have link direct to WhatsApp's	- Interactive user interface -Available a different type of coach; not only health and fitness coaches, but include business, career, life and relationship	-Interactive user interface -Have chat box and link direct to WhatsApp's
Disadvantage	-No direct information about the coaching step. User need to click FAQ button.	-No chat box or link direct to WhatsApp's -No home button	-No successful testimony picture or video

Table 2.1 *SFCS Comparision of existing system*

2.4 COMPARISON FROM PREVIOUSE STUDY

Below shows the journal articles and conference paper that related to this study:

1. myPace: An Integrative Health Platform for Supporting Weight Loss and Maintenance Behaviors (Barnett et al., 2015)

2. Design and Evaluation of an Interactive Exercise Coaching System for Older Adults: Lessons Learned(Ofli et al., 2016)

3. Automated e-Coaching System Architecture Framework for Promoting Physical Activity(IEEE Systems & Institute of Electrical and Electronics Engineers, n.d.)

4. Behavioral Informatics and Computational Modeling in Support of Proactive Health Management and Care(Pavel et al., 2015)

5. An IoT-Aware Architecture for Smart Healthcare Coaching(Amato & Coronato, 2017)

Table 2.2 below shows comparison from the journal articles and conference paper that related to this study include system name, approaches, and system outcome.

NO.	TITLE	SYSTEM NAME	APPROACHES	SYSTEM OUTCOME
1.	myPace: An Integrative Health Platform for Supporting Weight Loss and Maintenance Behaviors	myPace	Not stated	1) facilitating communication between the dietitian and the patient between consultations 2) facilitating self-reflection in goal setting and supportive accountability 3) creating understanding of the condition and commitment to change by setting small steps to monitor progress 4) supporting motivation by achieving small steps with feedback from the dietitian
2.	Design and Evaluation of an Interactive Exercise Coaching System for Older Adults: Lessons Learned	Not stated	-Using Microsoft Kinect -Using MySQL	1)User can watch several introductory videos, start the warm-up, or start a new exercise session. 2)User can access to the camera setup where the Kinect camera tilt can be adjusted. Each exercise consists of three stages: 1) Instructions—including a demonstration of the routine 2) Execution—computer-assisted exercise by the user, and 3) Exercise summary—the overall evaluation of the performance.
3.	Automated e-Coaching System Architecture Framework for Promoting Physical Activity	e-coaching system	-Using MySQL	1) User can insert and modify their information and settings details 2) Identifying and determining the user's stage of change level 3) Setting goals based on the identified user's stage of change 4) Monitoring the physical activity behaviour: self-monitoring device is provided to the user to measure their physical activity 5) Reasoning about the changes required for updating the rules
4.	Behavioral Informatics and Computational Modeling in	Health Coaching Platform	-Using Microsoft Kinect	**1)** Participant's responses to questions, observations of caregivers, or clinicians as noted in the electronic health record, a

	Support of Proactive Health Management and Care			participant's telephone use history, purchasing history, or similar sources of behaviour related data may all provide information used in computational models to estimate activities or patient state 2) System assessed sleep hygiene issues, anxiety, and circadian rhythm patterns before recommending changes to the environment or relaxation exercises
5.	-An IoT Aware Architecture for Smart Healthcare Coaching	-Smart Healthcare Coaching	-Using XMPP (Extensible Messaging and Presence Protocol)	1)The system makes prediction and the recovery of anomalous situations resulting from anomalous 2) The system makes transmission of patient's data to the medical centre to be evaluated by physician or access to medical services in emerging situation; 3) System monitors multi-parameter patient monitoring (blood pressure, glucose, etc) 4) Training program personalized for the improvement of the patient's outcome.

Table 2.2 *Comparision from previous study*

2.5 SUMMARY

Based on the review done in Section 2.2, explain about the details of the system. Including user interface (UI) for FitFromHome System, noomii system and WELLNESS ACADEMY system. As for section 2.3, table 2.1 shows the summary of the comparison of three existing system. There are 5 elements that used for comparison such as platform, target user, functions provided, advantage, disadvantage. For section 2.3, table 2.2 shows comparison between previous study from the journal articles and conference paper for 4 elements; title, system name, approaches and system outcomes.

According to the review, each system has its own set of benefits and drawbacks. However, there are certain commonalities and differences in the systems' characteristics, as well as various limitations for each system. The useful information based on the study that had been conducted may be found in this chapter completed can be used to the planned application system to improve it.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This chapter gives a summary regarding the methodology used in the development of the proposed project. Section 3.2 is the project framework elaboration of the chosen methodology which is the Rapid Application Development (RAD) model methodology. Then, section 3.3 explains project requirement involve in the project.

3.2 PROJECT FRAMEWORK

The systems development life cycle (SDLC) is a phrase involved requirement gathering, requirement analysis, high level design, low level design, implementation, testing anf deployment & maintenance (Mishra, A., & Dubey, D. ,2013) . The development of an application must be done in a specific way. This strategy, known as methodology, is necessary to ensure that the application is developed in a methodical manner, on time, and without errors. To put it another way, methodology refers to the explanation of why specific actions, methods, and steps were employed in the development of applications.

Under the Software Development Life Cycle (SDLC), researchers have suggested a number of techniques, including the Waterfall model, Agile Software Development, Rapid Application Development (RAD), and Joint Application Development (JAD). In guiding and completing this project, which is the development of web application, Rapid Application Development (RAD) model methodology is chosen.

Figure 3.1 below shows the flow phase of Rapid Application Development (RAD) model

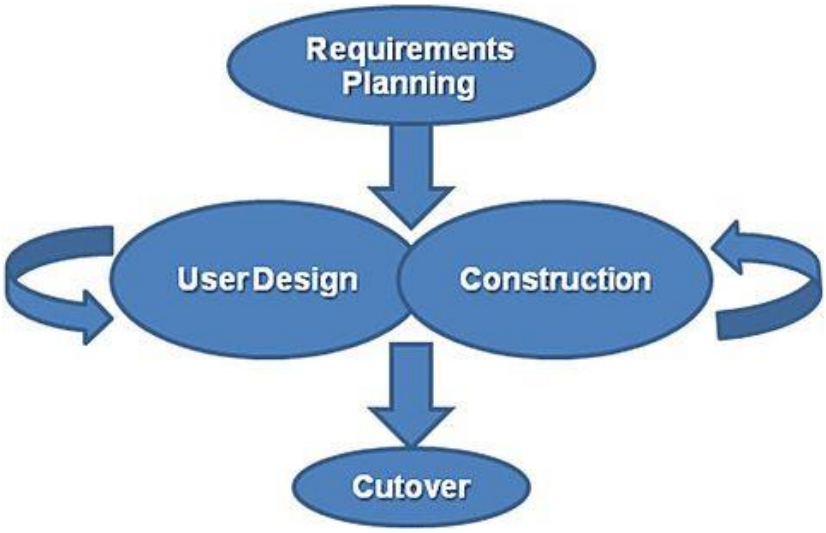


Figure 3.1 *RAD model of Software Development Life Cycle Phases*

Rapid Application Development (RAD) methodology is a methodology refers to a development life cycle intended to produce systems with higher quality and much faster development than the conventional life cycle. At every stage of the development process, RAD methodology is intended to be adaptable to changes and to accept new inputs, such as features and functions.

First and foremost, the requirement planning step. This stage corresponds to the project scoping meeting. Even though it is shorter than in other project management approaches, the planning phase is nevertheless essential to the project's success. Developers, customers (software users), and team members communicate at this stage to define the project's goals and expectations as well as any present or future problems that would need to be fixed throughout the development. Researching the present issue, establishing the project's needs, and finalising the requirements with each stakeholder's permission are the main components of this stage.

Next is user design. The user design will be developed through several prototype iterations once the project's scope has been determined. This is the RAD methodology's core component and what distinguishes it from other project management approaches. Clients and developers collaborate closely throughout this stage to make sure that their demands are satisfied at every stage of the design process. The consumers may evaluate

each product prototype at each level to make sure it matches their expectations, almost like custom software development. With this approach, designers have the option to make changes to the model as they go until they find a good design.

Phase 3, rapid construction. The working model is created in phase three using the prototypes and beta systems from phase one. Developers can build the final working model more quickly than they could by using a traditional project management methodology because the majority of the issues and changes were addressed during the thorough iterative design phase. The phase is divided into multiple smaller sections, including Unit, Integration, and System Testing, Coding, Program and Application Development, and Preparation for Rapid Construction.

The last phase, phase 4. The finished product is launched during this stage of implementation. It includes user training in addition to data conversion, testing, and switchover to the new system.

3.3 PROJECT REQUIREMENT

Based on discussion that has been made with Encik Amir. In this section are functional requirement, non-functional requirement, contains and limitations.

3.3.1 Functional requirement

1. The system must allow admin make registration for coach and coachee
2. The system must allow coach and coachee for make registration
3. The system must allow admin, coach and coachee should can login to the system
4. The system must allow admin should can manage user account
5. The system must allow admin should can handle all the data including view and generate report
6. The system must allow coach and coachee should can manage health progress
7. The system must allow coach and coachee to manage program
8. The system must allow coach and coachee to manage payment data
9. The system must allow coach, coachee and admin to manage forum

3.3.2 Non-Functional requirement

1. The system shall take not more than 20 seconds to successfully load the system
2. The system shall grant access to accounts when users enter the correct username and password

3.3.3 Constrains

1. Cost: Transportation costs to meet client

3.3.4 Limitation

1. Each coachee can only have one coach

2. Each coach can have more than 1 coachee

3.4 PROPOSED DESIGN

3.4.1 FlowChart Diagram

Figure 3.2, 3.3 and 3.4 below shows flowchart for each user. Flowchart visually displays the sequence of activities in a process and who is responsible for those activities

Admin

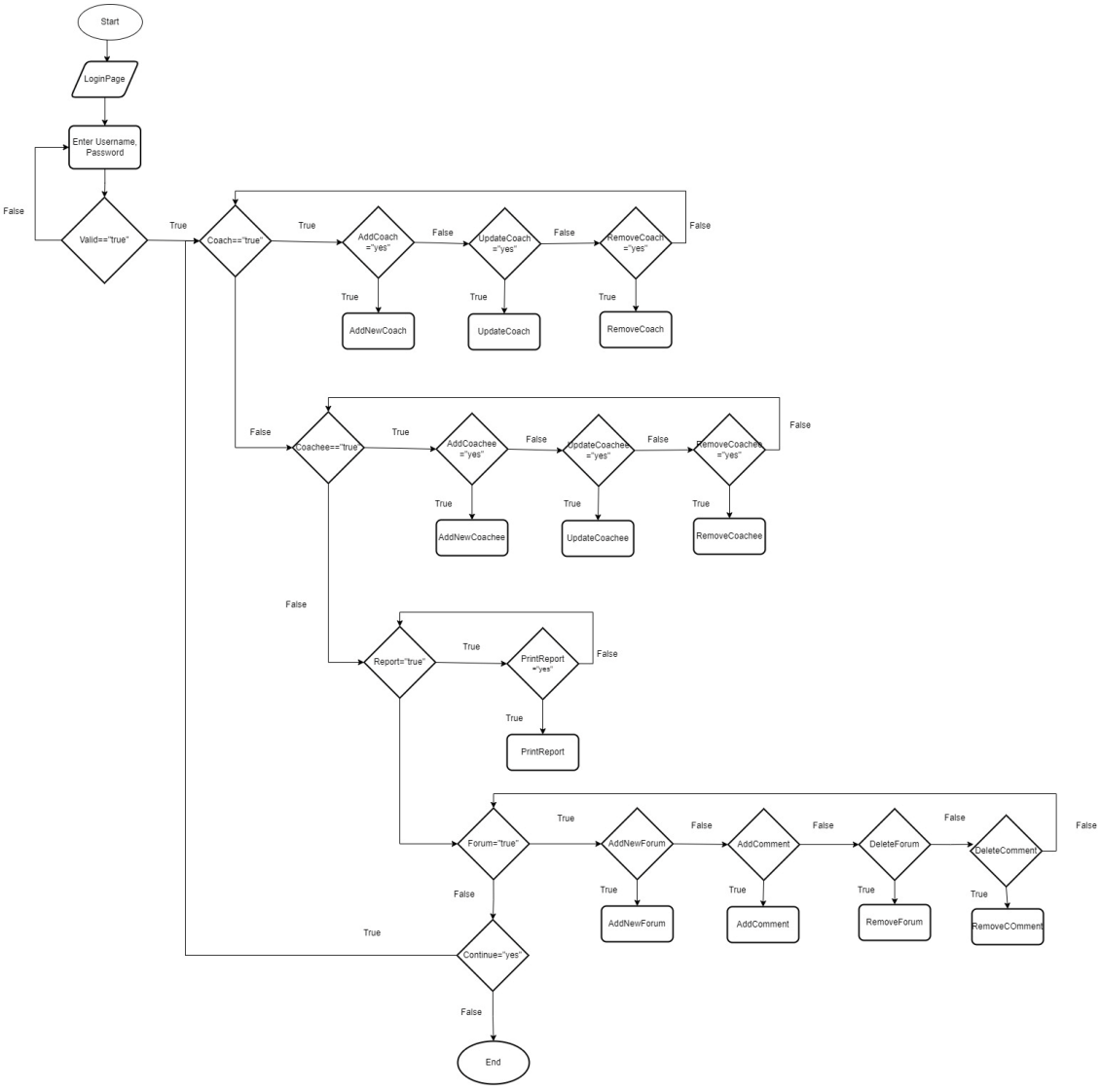


Figure 3.2 *Flowchart for admin*

Coach

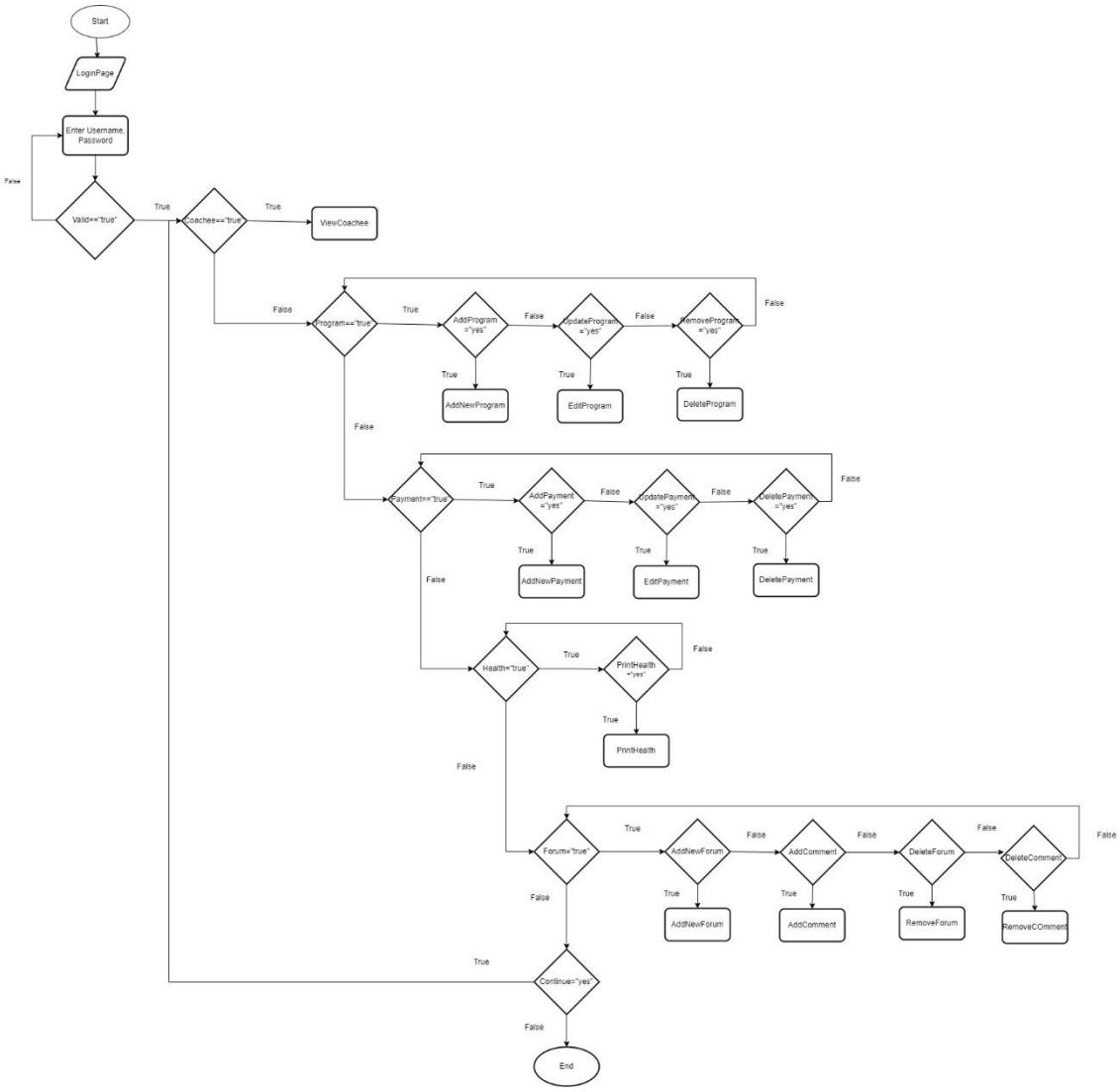


Figure 3.3 *Flowchart for coach*

Coachee

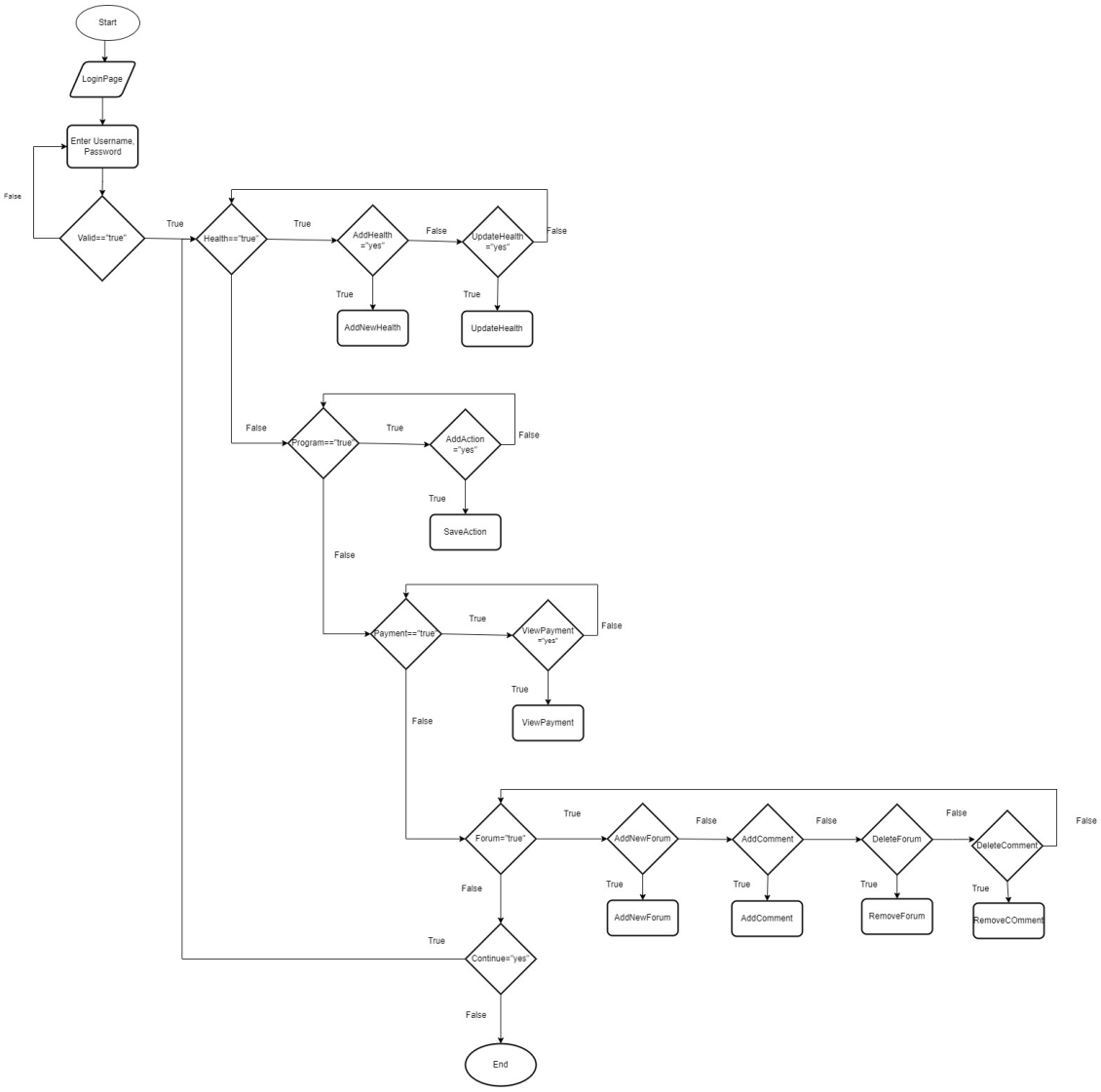


Figure 3.4 *Flowchart for coachee*

3.4.2 Context Diagram

Figure 3.5 shows the context diagram for SFCS. This diagram shows the data flows between users' and the system. Refer SRS Document in Appendix B for more information.

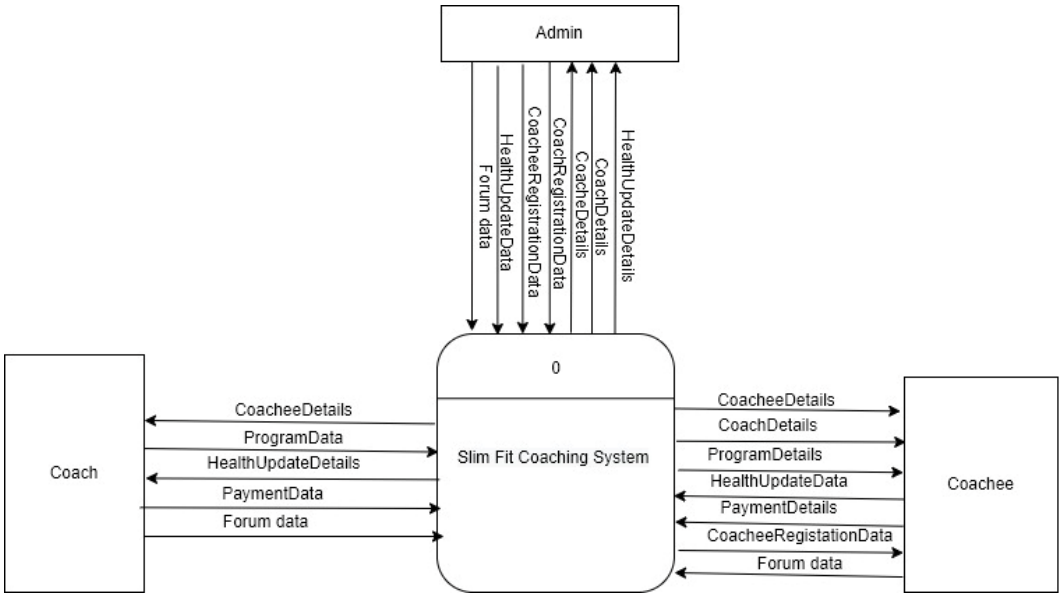


Figure 3.5 *Context diagram for SFCS*

3.4.3 Use Case Diagram and Description

Figure 3.6 shows the use case diagram for SFCS. And table 3.1 shows use case description. This diagram shows what user can use in the system. Refer SRS Document in Appendix B for more information

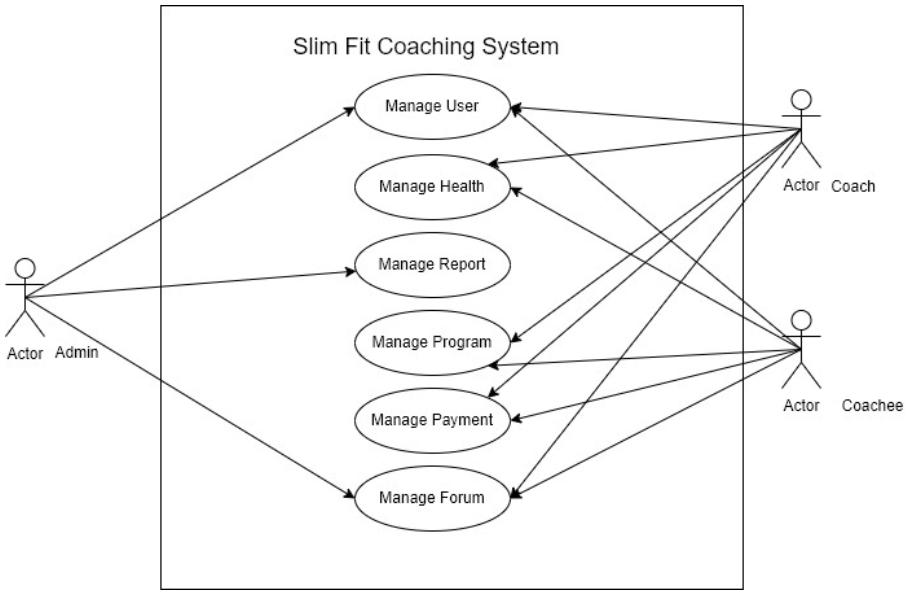


Figure 3.6 *Use case diagram for SFCS*

MODULE NAME	**USER**	**DESCRIPTION**
Manage User	Admin	Make registration for coach, register coachee
	Coach	Make registration
	Coachee	Make registration
Manage health	Coach	View health update
	Coachee	View, add, update health
Manage Report	Admin	Generate report
Manage Program	Coach	View, add, delete, update program
	Coachee	View, update program action
Manage payment	Coach	View, add, delete update payment
	Coachee	View payment
Manage forum	Admin	Comment, delete, add new forum
	Coach	Comment, delete, add new forum
	coachee	Comment, delete, add new forum

Table 3.1 *SFCS Use case description*

3.4.4 Activity diagram

Figure below shows the activity diagram for SFCS. This visually presents a series of actions or flow of control in a system.

3.4.4.1 Manage User Data Flow diagram

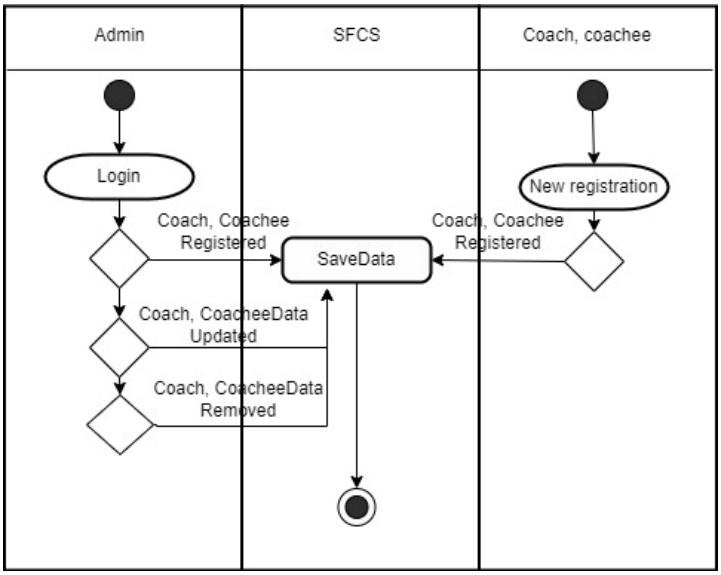


Figure 3.7 *Activity diagram for manage user*

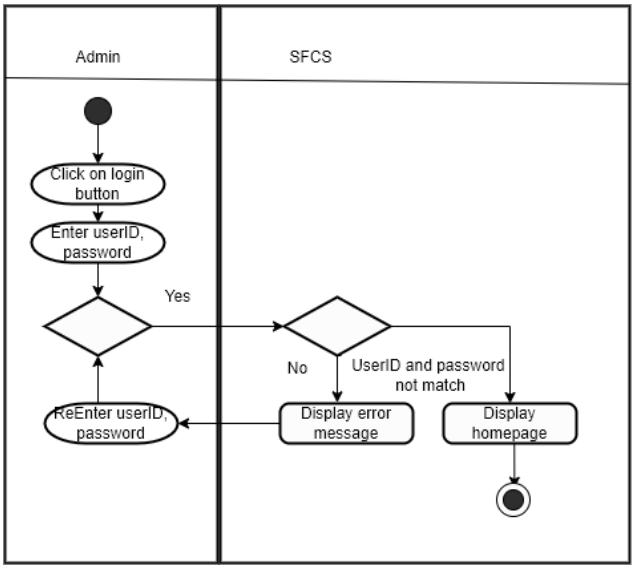


Figure 3.8 *Activity diagram for login*

3.4.4.2 Manage Health Data Flow diagram

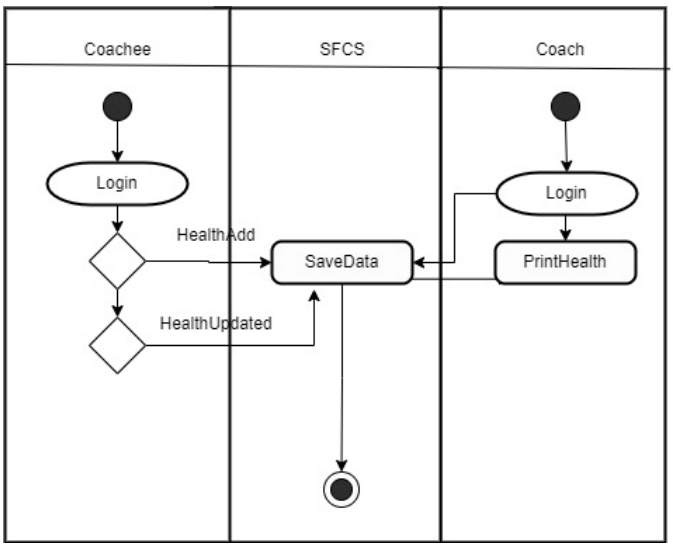


Figure 3.9 *Activity diagram for manage health*

3.4.4.3 Manage Report Data Flow diagram

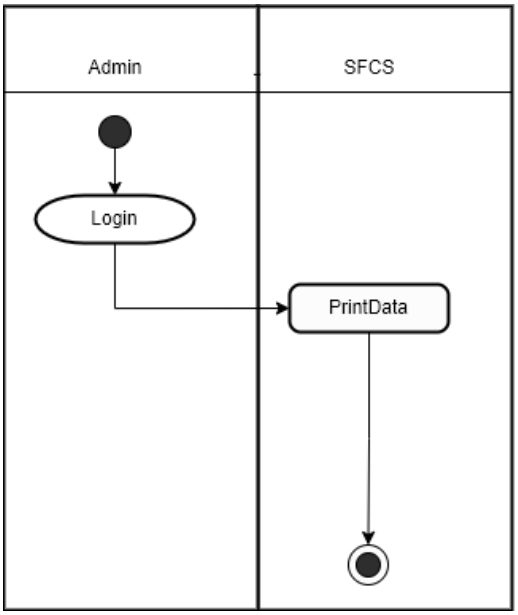


Figure 3.10 *Activity diagram for manage report*

3.4.4.4 Manage Program Data Flow diagram

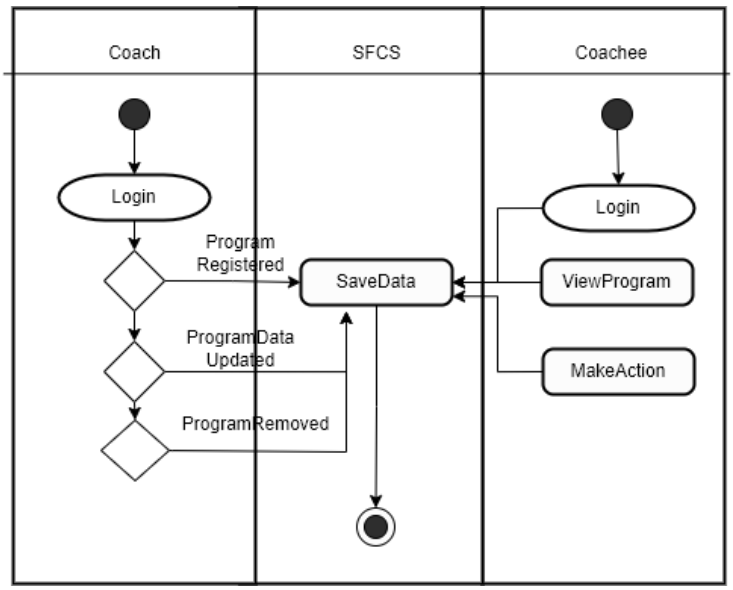


Figure 3.11 *Activity diagram for manage program*

3.4.4.5 Manage Payment Data Flow diagram

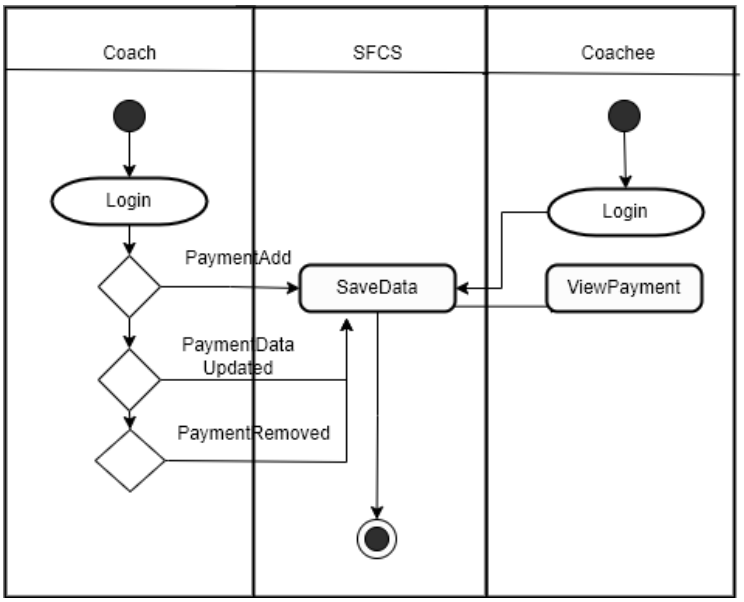


Figure 3.12 *Activity diagram for manage payment*

3.4.4.6 Manage Forum Data Flow diagram

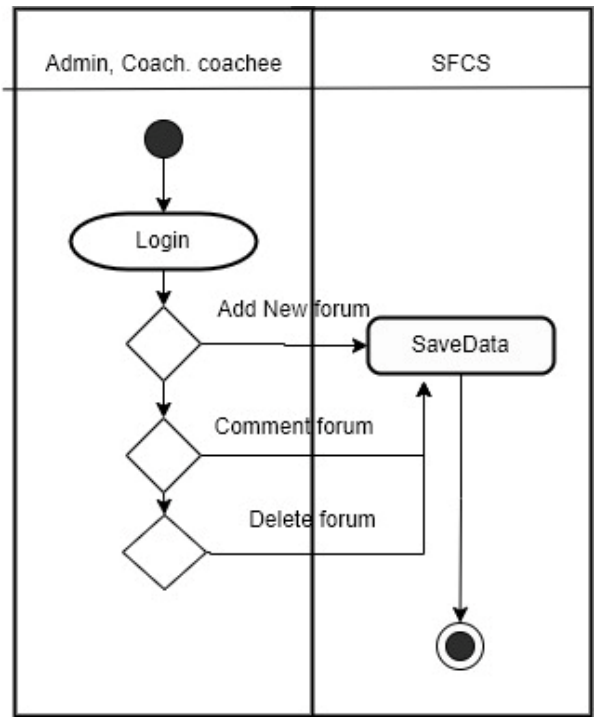


Figure 3.13 *Activity diagram for manage forum*

3.5 DATA DESIGN

3.5.1 ERD

Figure 3.13 shows the data flow diagram for SFCS.It shows the contents of a data store.

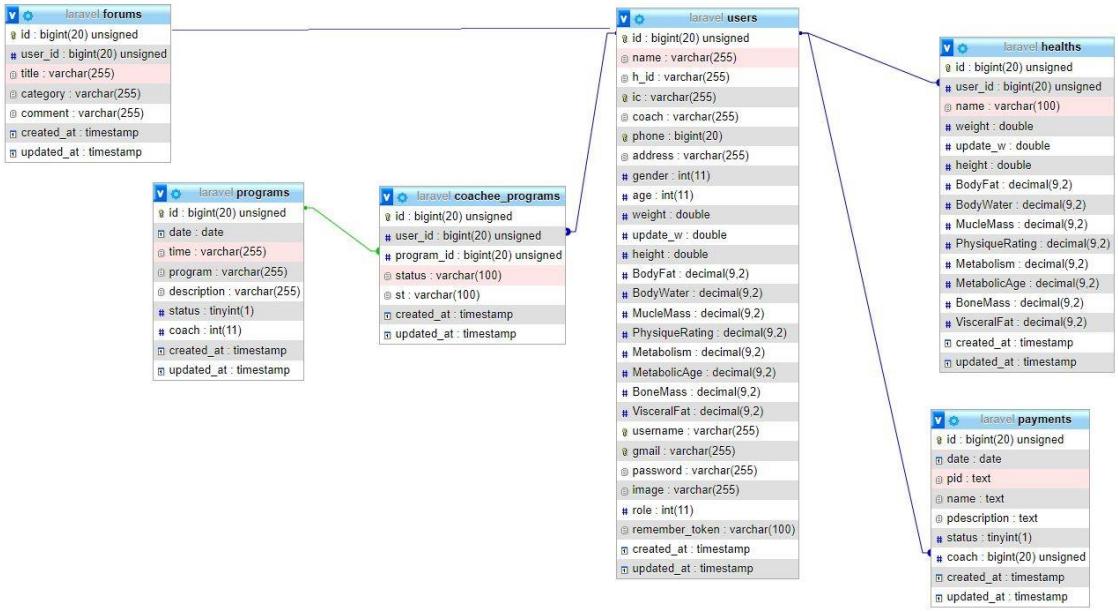


Figure 3.14 *ERD for SFCS*

3.5.2 Database

Table Users

Name	Type
id **(PK)**	bigint(20)
name	varchar(255)
h_id	varchar(255)
ic **(FK)**	varchar(255)
coach	varchar(255)
phone **(FK)**	bigint(20)
address	varchar(255)
gender	int(11)
age	int(11)
weight	double
update_w	double
height	double
BodyFat	decimal(9,2)
BodyWater	decimal(9,2)
MucleMass	decimal(9,2)
PhysiqueRating	decimal(9,2)
Metabolism	decimal(9,2)
MetabolicAge	decimal(9,2)
BoneMass	decimal(9,2)
VisceralFat	decimal(9,2)
username **(FK)**	varchar(255)
gmail **(FK)**	varchar(255)
password	varchar(255)
image	varchar(255)
role	int(11)
remember_token	varchar(100)
created_at	timestamp
updated_at	timestamp

Table 3.2 *Table Users*

Table Health

Name	Type
id **(PK)**	bigint(20)
user_id **(FK)**	bigint(20)
name	varchar(100)
weight	double
update_w	double
height	double
BodyFat	decimal(9,2)
BodyWater	decimal(9,2)
MucleMass	decimal(9,2)
PhysiqueRating	decimal(9,2)
Metabolism	decimal(9,2)
MetabolicAge	decimal(9,2)
BoneMass	decimal(9,2)
VisceralFat	decimal(9,2)
created_at	timestamp
updated_at	timestamp

Table 3.3 *Table Health*

Table Programs

Name	Type
id **(PK)**	bigint(20)
date	date
time	varchar(255)
program	varchar(255)
description	varchar(255)
status	tinyint(1)
coach	int(11)
created_at	timestamp
updated_at	timestamp

Table 3.4 *Table Programs*

Table Coachee Programs

Name	Type
id **(PK)**	bigint(20)
user_id	bigint(20)
program_id	bigint(20)
status	varchar(100)
st	varchar(100)
created_at	timestamp
updated_at	timestamp

Table 3.5 *Table Coachee Program*

Table Payments

Name	Type
id **(PK)**	bigint(20)
date	date
pid	text
name	text
pdescription	text
status	tinyint(1)
coach	bigint(20)
created_at	timestamp
updated_at	timestamp

Table 3.6 *Table Payments*

Table forums

Name	Type
id **(PK)**	bigint(20)
user_id	bigint(20)
title	varchar(255)
category	varchar(255)
comment	varchar(255)
created_at	timestamp
updated_at	timestamp

Table 3.7 *Table Forums*

3.6 PROTOTYPE

Figure below shows the prototype for each user. More details in appendix B (SRS).

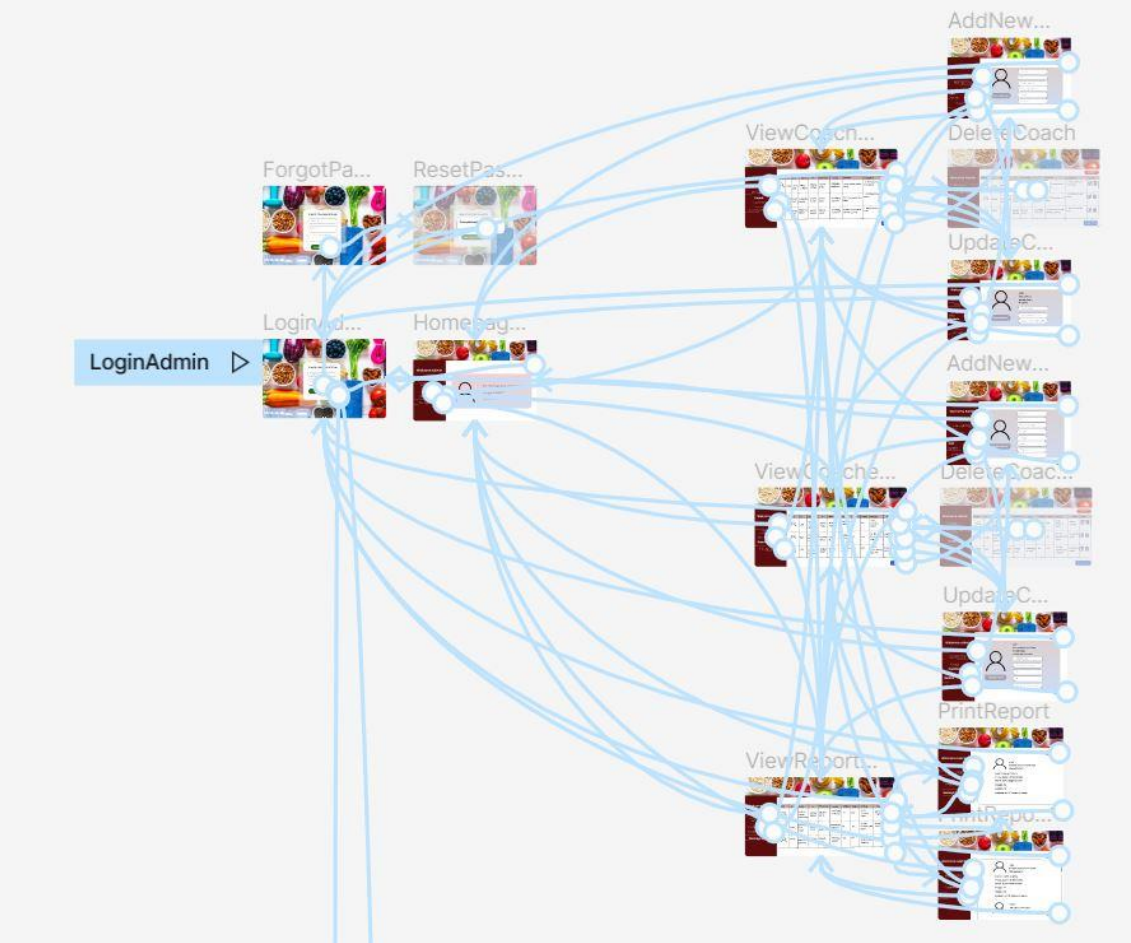


Figure 3.15 *Prototype for Admin*

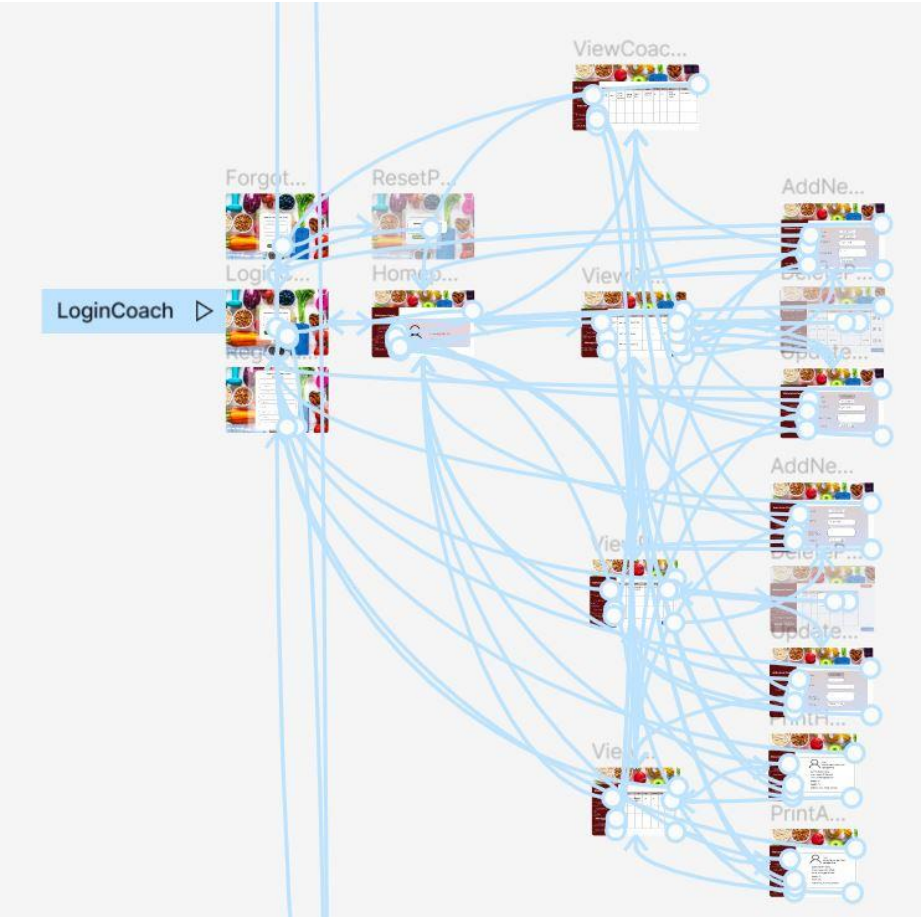


Figure 3.16 *Prototype for Coach*

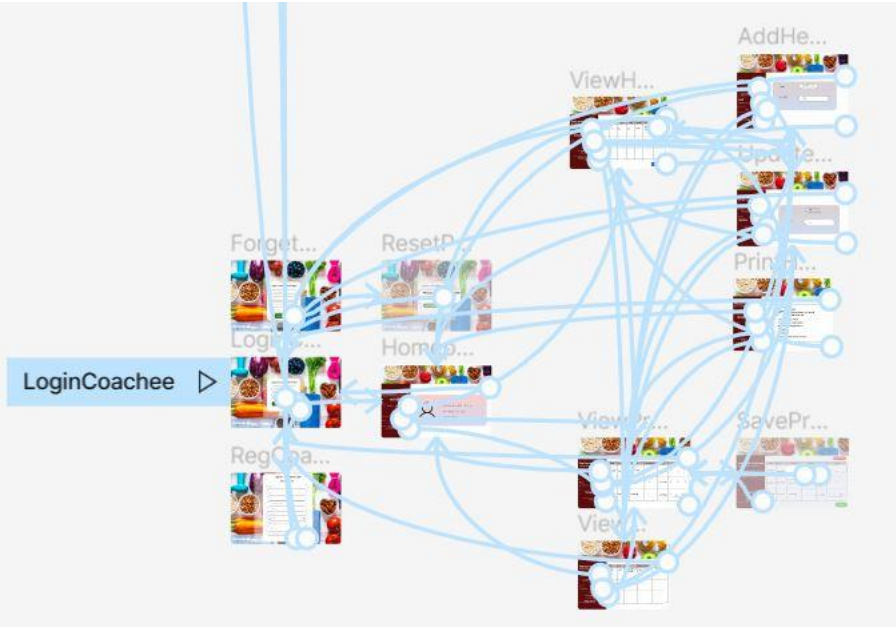


Figure 3.17 *Prototype for coachee*

3.7 PROTOTYPE DESIGN

Figma is a vector graphics editor and prototyping tool that is primarily web-based, with desktop applications for macOS and Windows enabling additional offline features. Figma prototypes can be viewed and interacted with in real time using the Figma mobile app for Android and iOS. More details in SRS and for demonstrations, refer appendix A - item no. 1 for more information

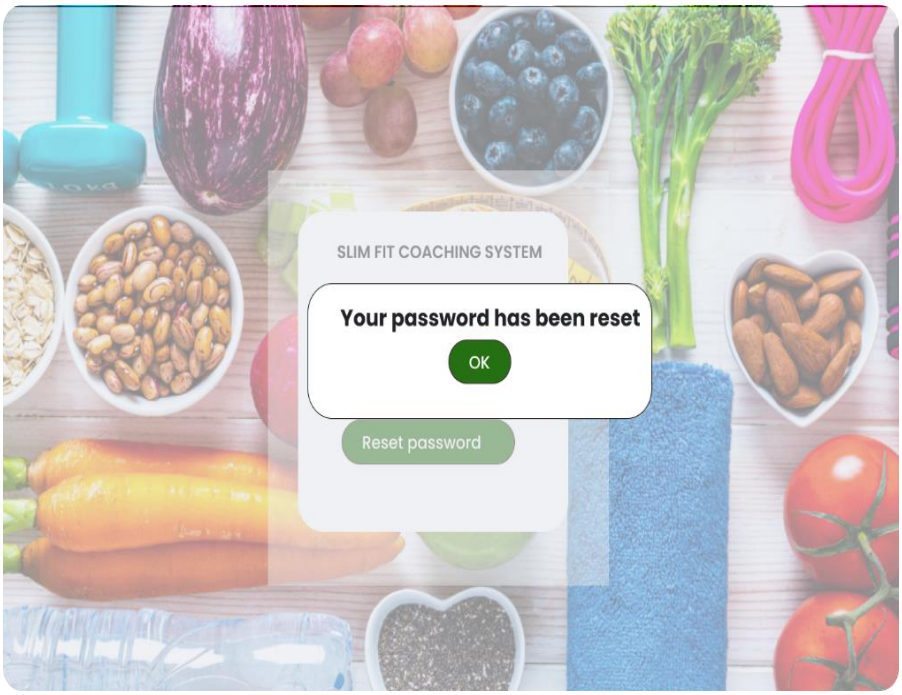
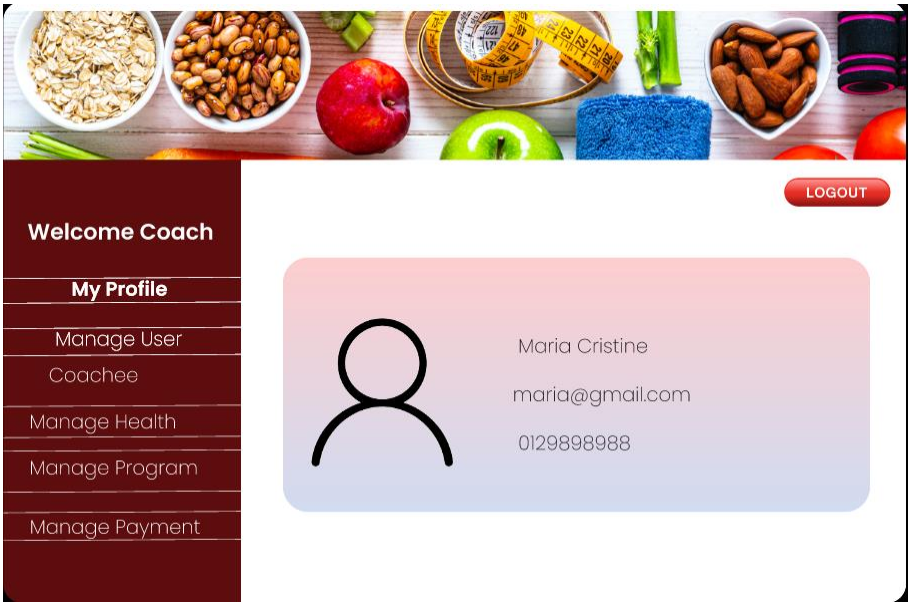
3.8 PROTOTYPE USABILITY

Usability is defined by ISO as “the capability of a software product to be understood, learned, used, and attractive to the user, when used under specified conditions (ISO IEC, “Software Engineering-Product QualityPart 1-Quality Model”). Table 3.8 below shows the usability description (Nielsen, n.d.).

USABILITY	DESCRIPTION
Visbility of system status	The system should always keep users up to date on what's going on by providing suitable feedback in a timely manner.
User control and freedom (navigation)	Users frequently make mistakes with system functions, necessitating the use of a clearly designated "emergency escape." Without having to engage in a lengthy conversation, you can get rid of the undesirable state. Undo and redo are two features that should be supported.
Consistency	Users should not have to guess what different words, situations, or actions signify. Stick to the platform's norms.
Error Prevention	A thorough design that avoids a problem from developing in the first place is much better than effective error messages. Either remove or check for error-prone circumstances and provide users with a confirmation option before committing to an action.
Match between system and the real world	The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

Table 3.8 *Usability description*

Table 3.9 below shows the implementation of usability in prototype.

USABILITY	DESCRIPTION
Visbility of system status 	The user knows the password has been reset
User control and freedom (navigation) 	User can click any button to see the details

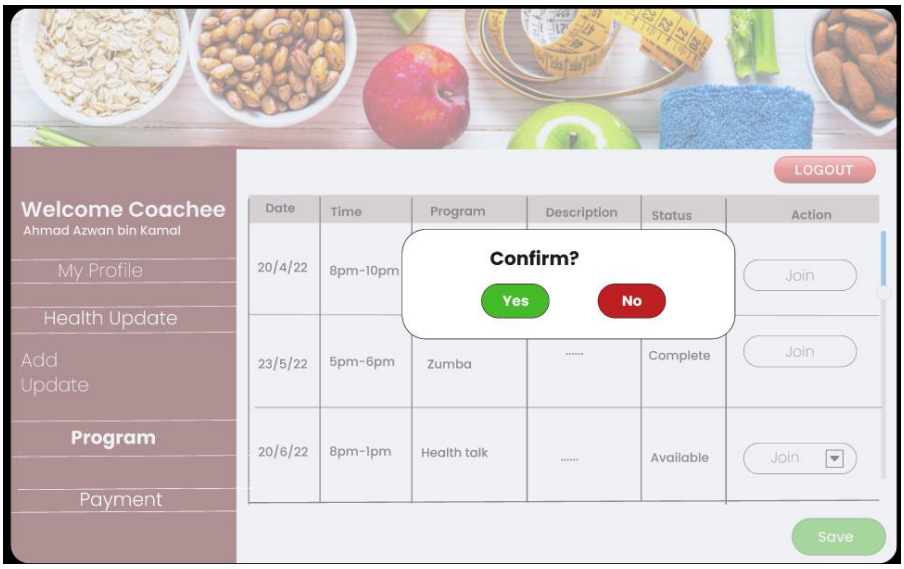
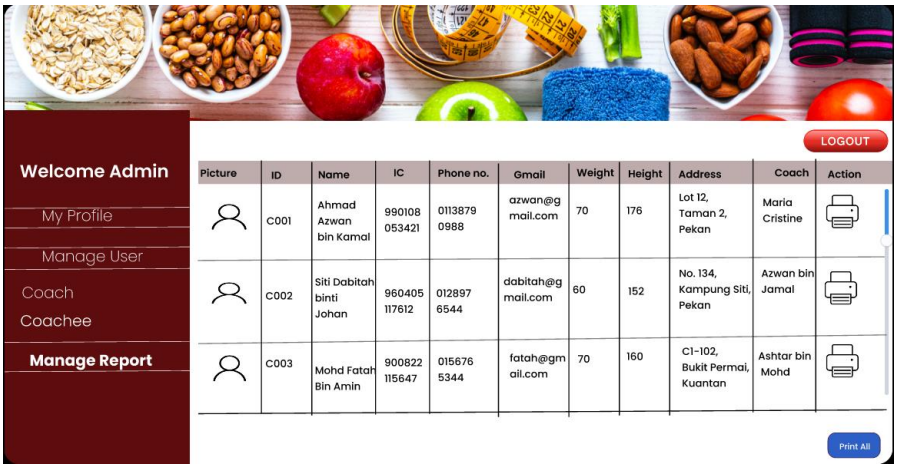
Consistency 	All the button has the same size. For logout button, it color with red color to alert the user
Error Prevention 	The user will decide again whether to confirm the action or not. User can cancel and re submit action again
Match between system and the real world 	The order of the detail of the report same between system and real word

Table 3.9 *Implementation of usability in prototype*

3.9 TESTING PLAN

One of the most critical steps in the development of a system is testing. It will be done when the implementation step is finished, and any issues discovered will be fixed (Jamil et al., 2017) by using User Acceptance Test (UAT) form Software Testing is the process of executing a program or system with the intent of finding errors. The importance of testing can be considered from life-critical software (e.g., flight control) testing which can be highly expensive because of risk regarding schedule delays, cost overruns, or outright cancellation (S. Amland, 2000).

There are three functionality testing done for SFCS which is unit testing, integration testing and system testing. The test explain as table follows:

Testing	**Description**
Unit testing	Testing is carried out for each of SFCS modules. If an error occurs, debugging will be performed before rerunning the test.
Integration testing	After unit testing is completed and all detected errors have been corrected, the integration between the two systems may begin.
System testing	Testing is carried out as a whole. Functionality, communication between components. It will be tested for both functional and non-functional needs to ensure that it meets the needed standard.

Table 3.10 *Testing plan*

NO	MODULE	ACTIVITIES	STATUS		COMMENT
			YES	NO	
1	Registration	Coach registration	✅		
2		Coachee registration	✅		
3	Login	Admin login	✅		
4		Coach login	✅		
5		Coachee login	✅		
6	Report	Print report	✅		
7	Program	Add new program	✅		
8		Edit Program	✅		
9		Remove Program	✅		
10	Payment	Add payment	✅		
11		Edit payment	✅		
12		Delete payment	✅		
13	Health	Add health update	✅		
14		Update health update	✅		

This test has been performed by:

Name:

Signature:

Date:

Figure 3.18 *Example of UAT form*

3.10 POTENTIAL USE OF PROPOSED SOLUTION

1. Enhance consumer pleasure and experience. The user will explore the system. Admin will generate report automatically, coach will easy to update any activities that will conduct and coachee will easy to update their health progress and view the progress.

2. Simplify the entire Kelab Sihat Pekan procedure. All current processes will be simplified. The user just has to log in to the system and follow the on-screen instructions to complete the procedure.

3. Reduce the amount of time it takes for the processes of Kelab Sihat Pekan. The current procedure takes a long time. Searching for user form by manually consume a lot of time. The amount of time it takes to retrieve the data will be reduced.

4. Reduce waste use of paper. The the data is kept on paper. There is a good chance that the data will be lost. By using the system, all data is saved, and the user no longer has to worry about it also will save money on paper.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 INTRODUCTION

The SFCS implementation plan is established in this chapter. It lists every task involved in developing SFCS. The test data for SFCS is created upon implementation. SFCS is put to the test to make sure it works and to look for any potential errors.

4.2 IMPLEMENTATION

The implementation guidelines and processes for creating SFCS are covered in detail in this section. Both the project's construction process and the processes that went into its development are documented. The development environment will be mentioned, and SFCS functionality will be discussed.

4.2.1 Development Environment

It is set up for the development of SFCS. The computer will be configured as the SFCS localhost server. The web server is XAMPP localhost since it is a free and simple to install Apache distribution that includes MariaDB, PHP, and Perl. CrossPlatform (X), Apache (A), MariaDB (M), PHP (P), and Perl make up the acronym XAMPP (P). It is a straightforward, lightweight installation of Apache that makes setting up a local web server for testing and deployment very simple.

The XAMPP control panel interface is depicted in Figure 4.1 below. The Apache and MySQL Module must be launched by selecting start.

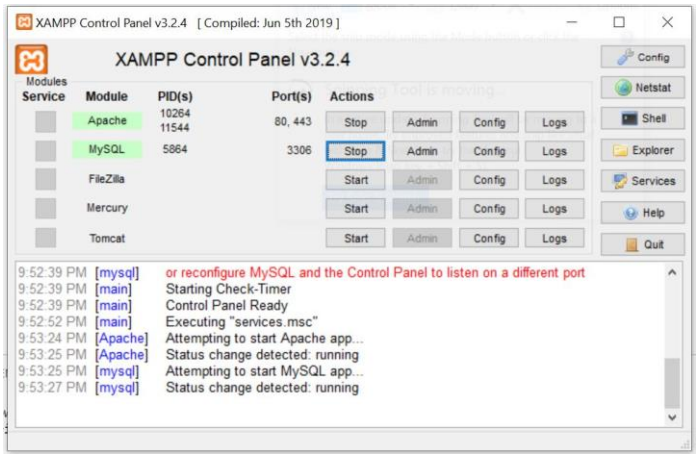


Figure 4.1 *XAMPP Control panel*

Database is important because it will save all the data. Database will be configured correctly so that there are no issues. PhpMyAdmin is the database server for SFCS. Database name is laravel. As shown in figure 4.2

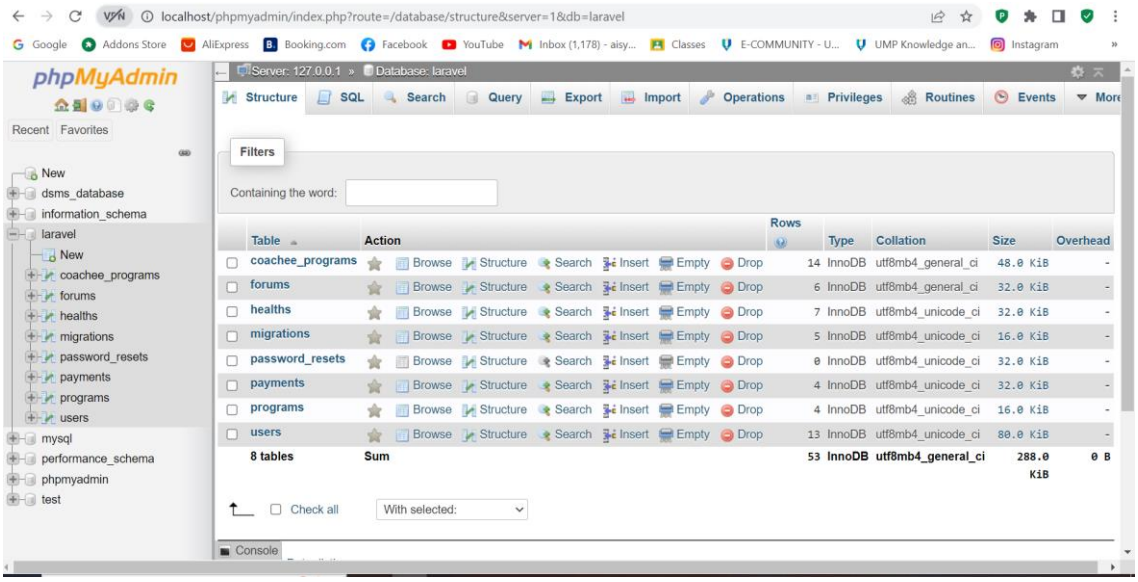


Figure 4.2 *phpMyAdmin*

To run SFCS, in the Visual Studio Code choose Terminal > New Terminal. Enter “php artisan serve”. It will start Laravel development server. As shown in figure 4.3

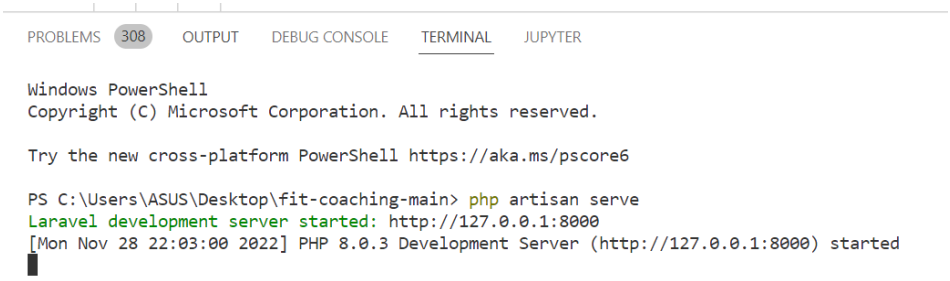


Figure 4.3 *Command to start Laravel development server*

Other development tools that used in this Project is Visual Studio Code. It is available for macOS, Linux and Windows. Visual Studio Code features incredibly quick source code editor is included, making it ideal for regular use. With hundreds of languages supported, VS Code makes it easy to get started right away and be productive with features like syntax highlighting, bracket matching, auto-indentation, box selection, snippets, also traverse code with ease thanks to intuitive keyboard shortcuts, simple modification, and community-contributed keyboard shortcut mappings. The example of implementation as shown in figure 4.4

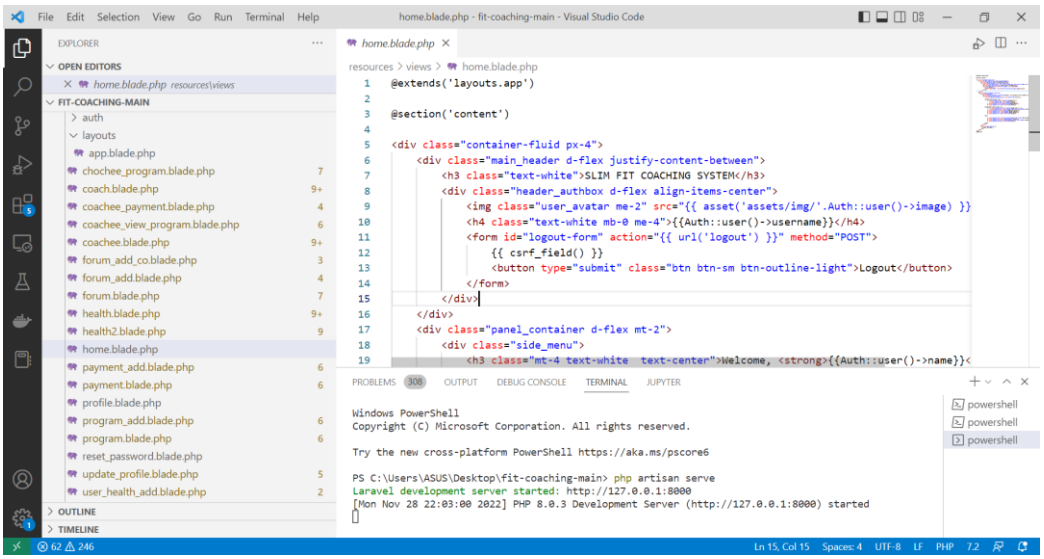


Figure 4.4 *vsCode*

4.2.2 System Functionality

This section discusses SFCS capabilities and how it interfaces with all users. refer appendix A - item no. 2 for more information

4.2.2.1 Manage user module

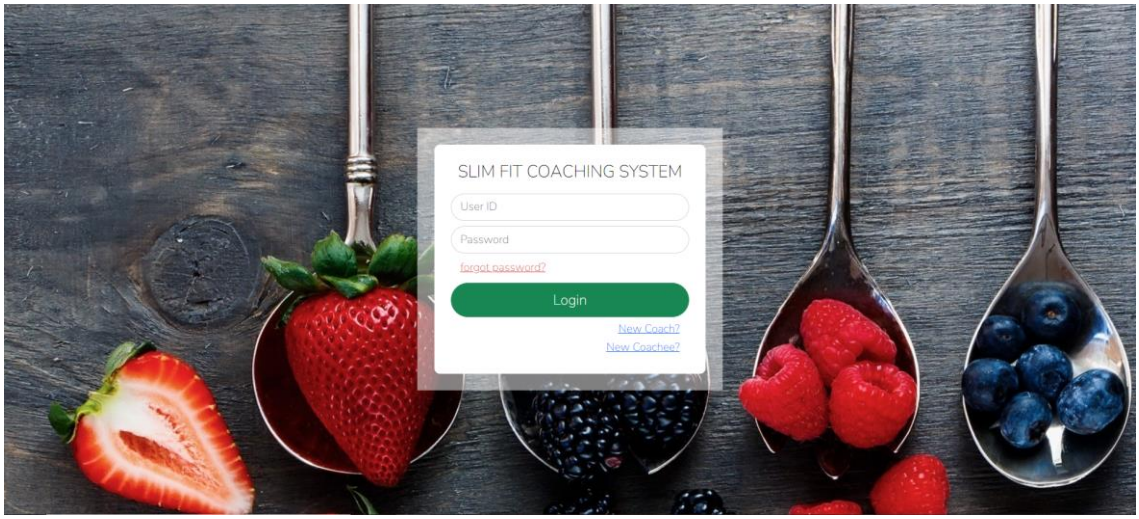


Figure 4.5 *Loginpage*

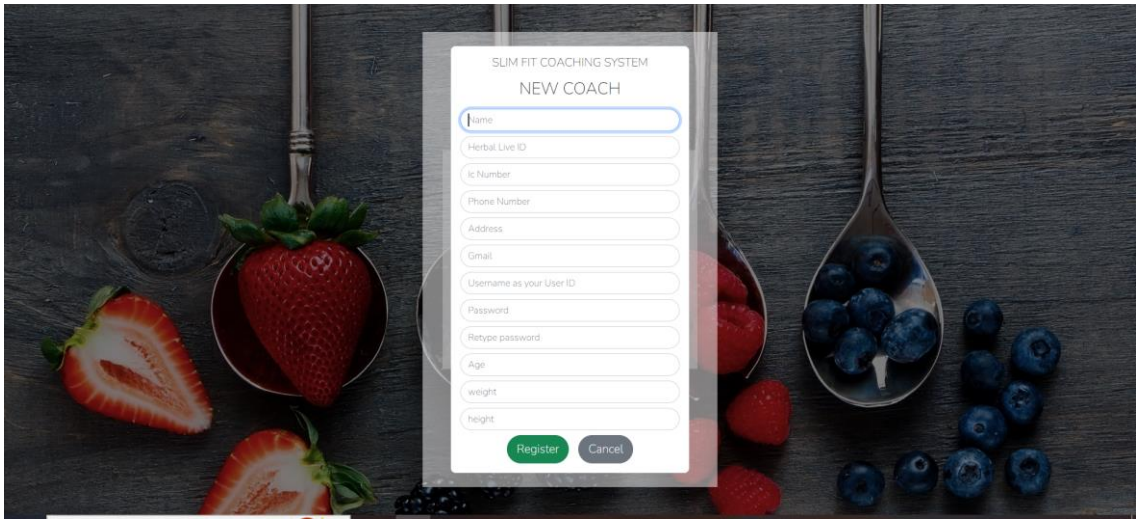


Figure 4.6 *New coach registration*

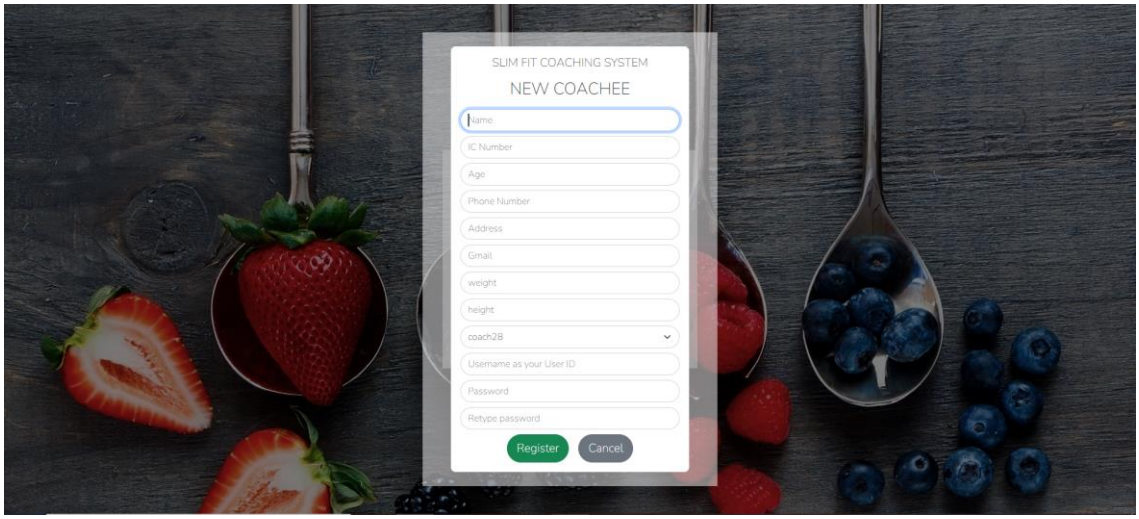


Figure 4.7 *New coachee registration*

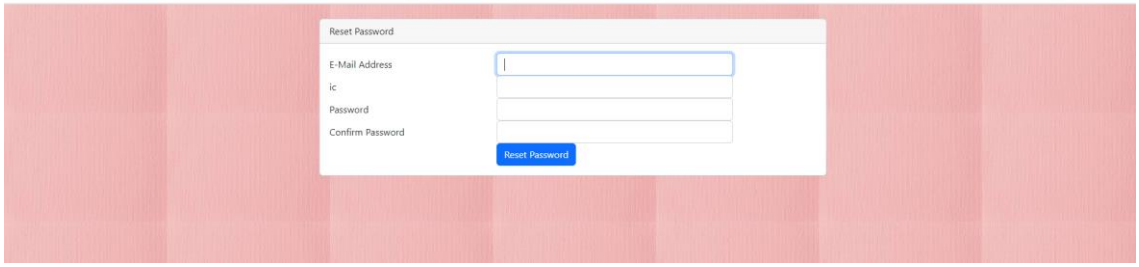


Figure 4.8 *Forget password*

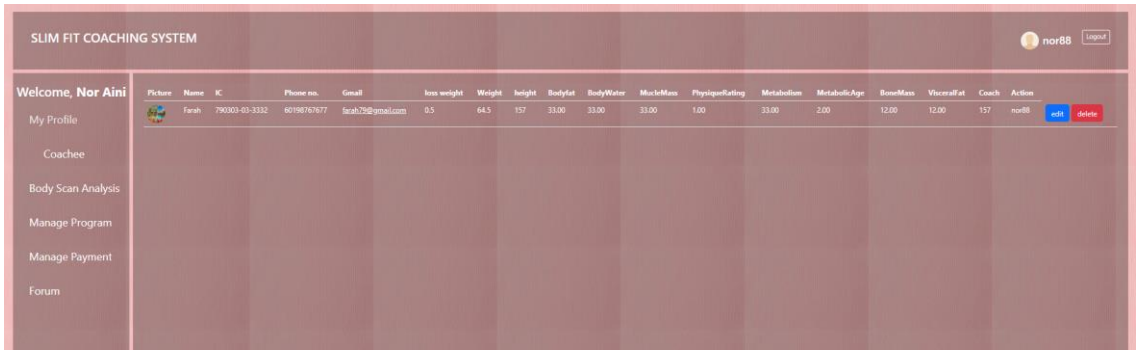


Figure 4.9 *Coach view coachee details*

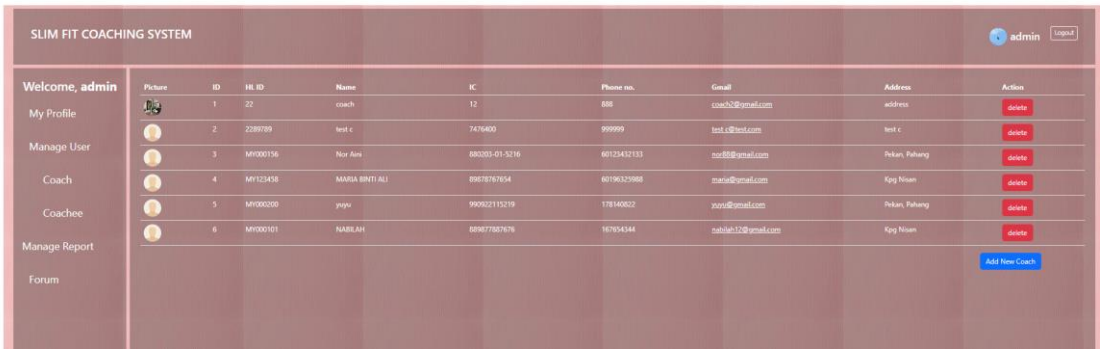


Figure 4.10 *Admin can view all users details*

4.2.2.2 Manage health module

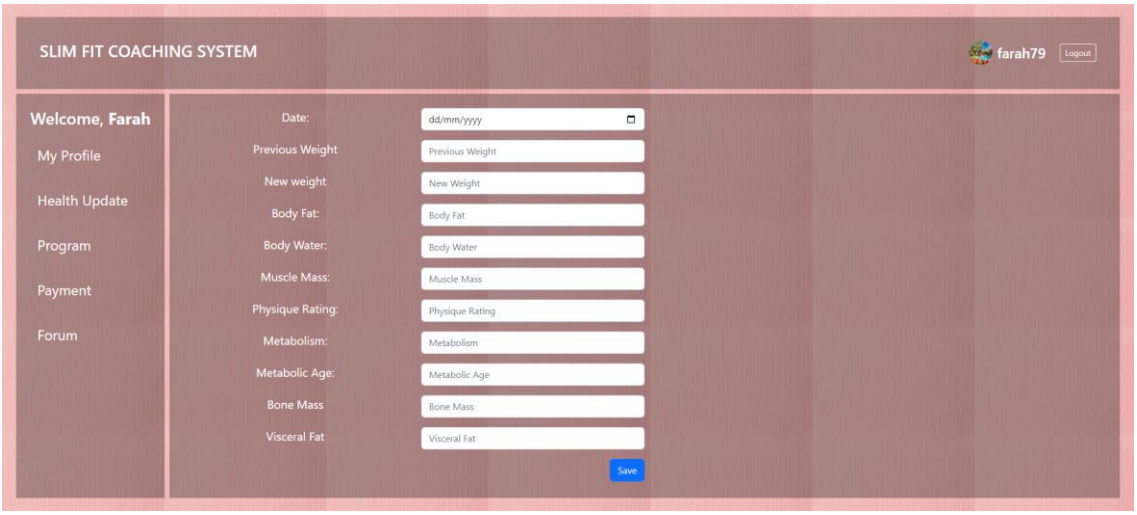


Figure 4.11 *Coachee add new health update*

4.2.2.3 Manage report module

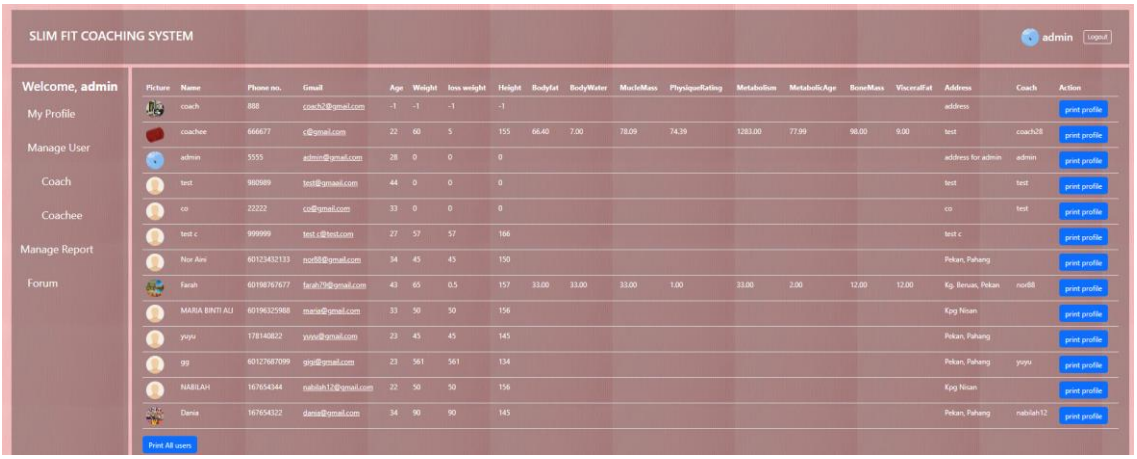


Figure 4.12 *Admin can view report for all users*

4.2.2.4 Manage program module

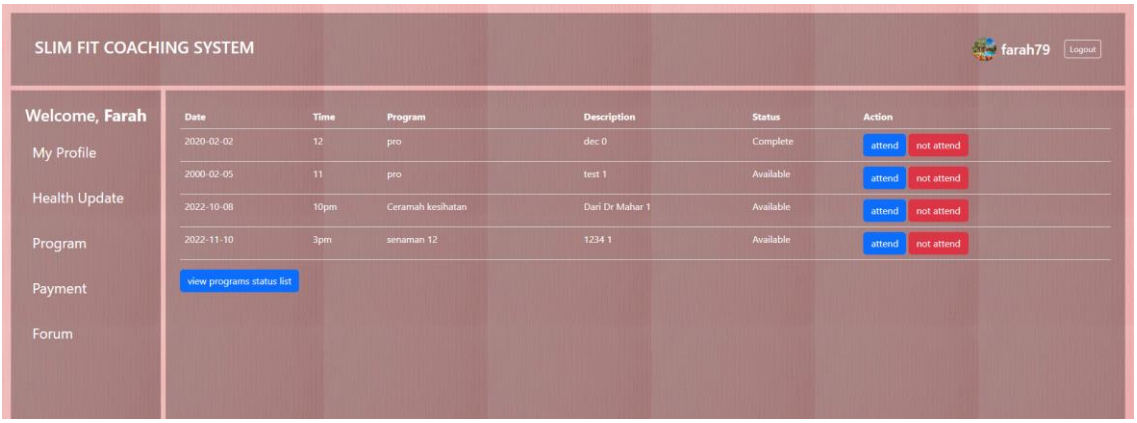


Figure 4.13 *Coachee can decide to attend or not attend program*

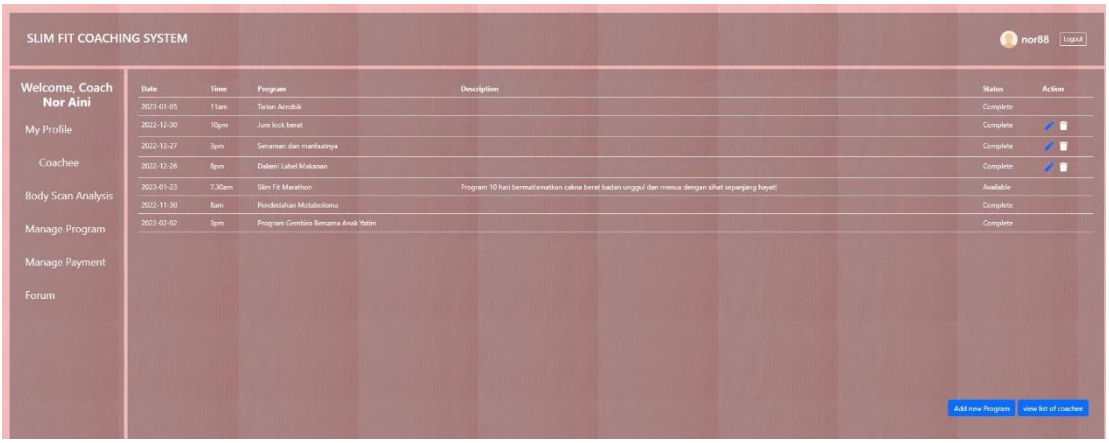


Figure 4.14 *Coach can manage program*

4.2.2.5 Manage payment module

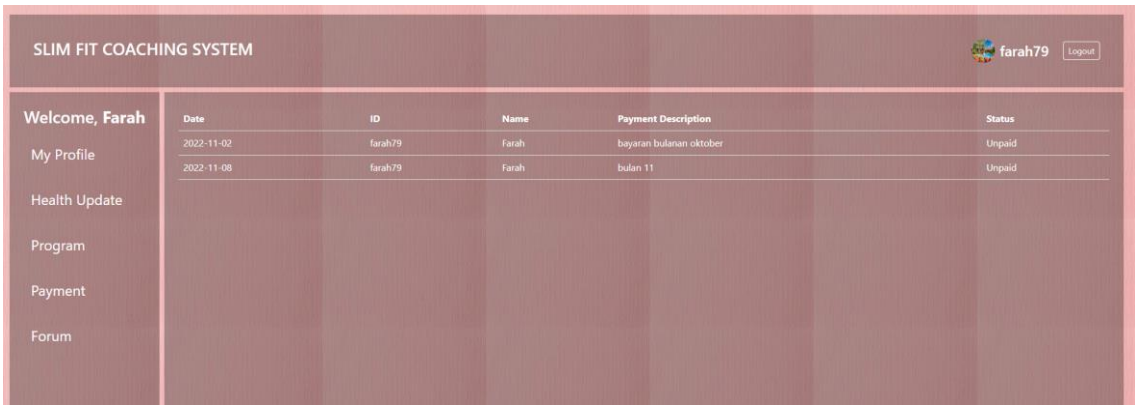


Figure 4.15 *Coachee can view payment details*

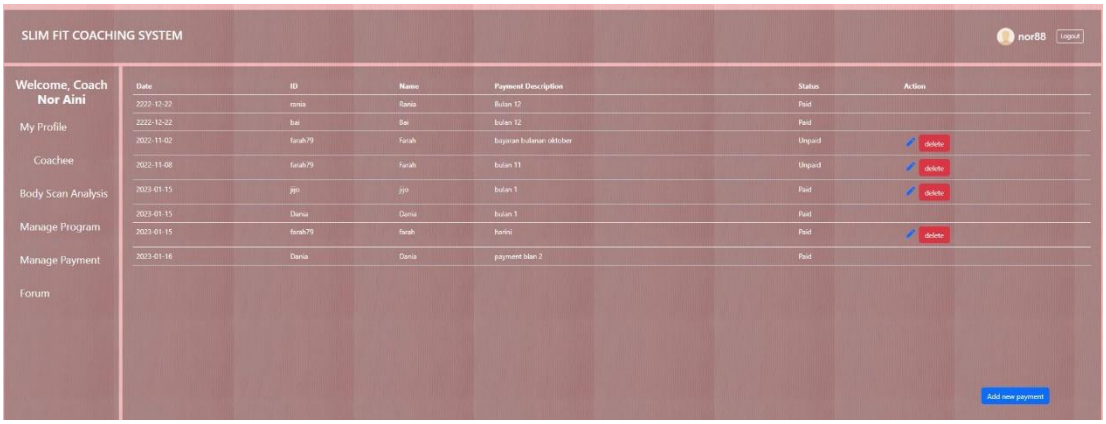


Figure 4.16 *Coach can manage payment details*

4.2.2.6 Manage forum module

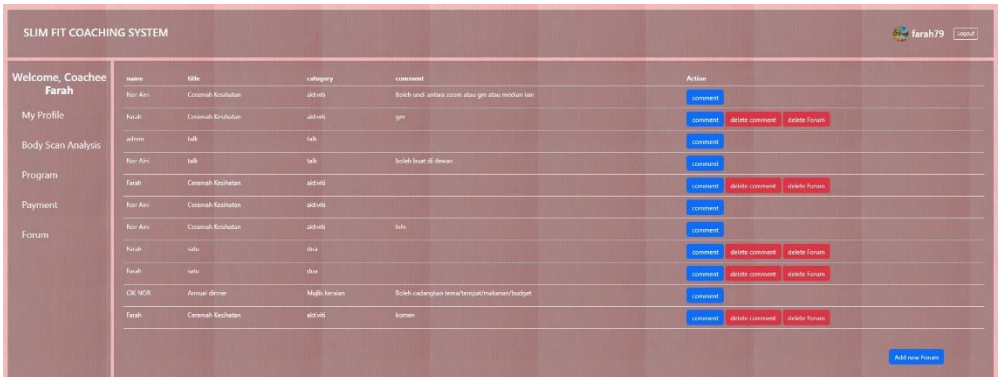


Figure 4.17 *Coachee can add, delete, comment forum*

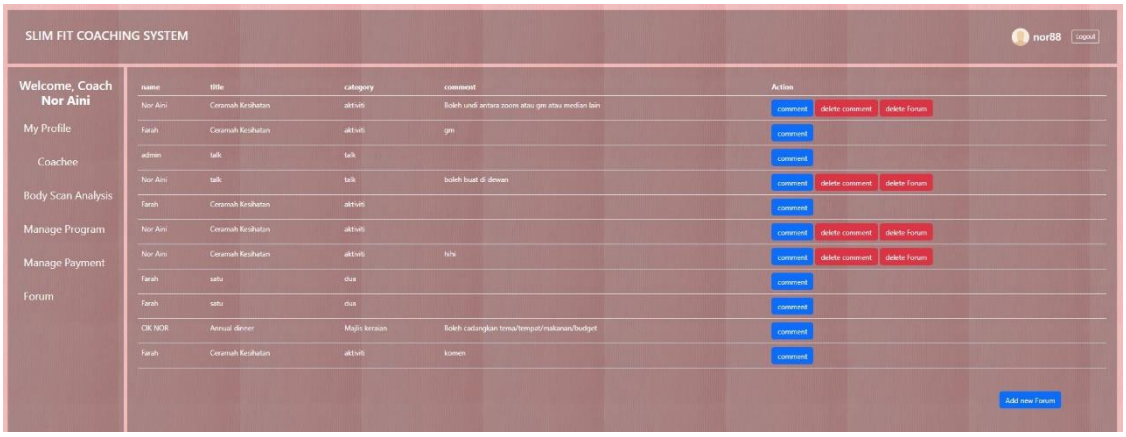


Figure 4.18 *Coach can add, delete, comment forum*

4.3 TESTING AND RESULT DISCUSSION

One of the crucial steps in the creation of a system is testing. Every bug discovered will be fixed after the implementation step is finished. This section will list every test that was conducted for the SFCS

4.3.1 Functional Testing

Functional testing is a type of software testing which verifies that each function of the software application, operates in conformance with the functional requirements (Guru99, n.d.). Unit testing, integration testing, and system testing are the three types of feature testing done for.

a) Unit testing - Each module that SFCS has is tested separately. Debugging will be carried out if an error occurs, and this test will be repeated.

b) The integration testing – The integration between the modules is checked after unit testing is complete and all errors are corrected. This is done to make sure no modules can communicate with one another when sending error data.

c) System testing - The entire system is tested. Functional and non-functional needs, as well as communication between modules, will be tested to ensure it complied with the necessary specification.

Below shows the result of User Acceptance Testing from google form. Refer Appendix E and F for more information.

NO	USER	ACTIVITIES	SUCCESS	UNSUCCESSFULL
1.	Admin	Login the system	SUCCESS	
2.		Reset password	SUCCESS	
3.		Register new coach	SUCCESS	
4.		Register new coachee	SUCCESS	
5.		View coach and coachee details	SUCCESS	
6.		Generate report	SUCCESS	
7.		Add new forum	SUCCESS	
8.		Delete forum	SUCCESS	
9.		Comment forum	SUCCESS	
10.		Delete forum comment	SUCCESS	
11.	Coach	Login the system	SUCCESS	
12.		Reset password	SUCCESS	
13.		Register new account	SUCCESS	
14.		View coachee health	SUCCESS	
15.		Add new program	SUCCESS	
16.		Update program	SUCCESS	
17.		Add new payment detail	SUCCESS	
18.		Update payment detail	SUCCESS	
19.		Add new forum	SUCCESS	
20.		Comment forum	SUCCESS	
21.		Delete forum	SUCCESS	
22.		Delete forum comment	SUCCESS	
23.	Coachee	Login the system	SUCCESS	
24.		Reset password	SUCCESS	
25.		Register new account	SUCCESS	
26.		Add new health update	SUCCESS	
27.		View health update	SUCCESS	
28.		Edit health update	SUCCESS	
29.		View program	SUCCESS	
30.		Program action (attend/not attend)	SUCCESS	
31.		View payment	SUCCESS	
32.		Add new forum	SUCCESS	
33.		Comment forum	SUCCESS	
34.		Delete forum	SUCCESS	
35.		Delete forum comment	SUCCESS	

Table 4.1 *Testing plan result*

CHAPTER 5

CONCLUSION

5.1 OVERVIEW

This chapter gives a general conclusion about the proposed project in the thesis. In section 5.2, the section discusses about the constraints faces for the developed web application. Next, section 5.3 gives a brief description of the future work that will be done in improving the system. Last but not lease, the conclusion are stated in section 5.4.

5.2 CONSTRAINS

Below shows some constraints of Slim Fit Coaching System .

5.2.1 Development Constraints

1. Time

A very limited time for Develop System

2. Cost

Cost of transportation to Meet Client

5.2.2 System Constraints

1. Internet source

SFCS need internet connection for user to access the system

2. Platform

SFCS only capable by using computer/laptop. It is not compatible with smart phone and tablets

3. User

Only user that has been register for Kelab Sihat Pekan allow to use the system

5.3 FUTURE WORK

After SFCS installation, research is conducted to enhance SFCS. For the admin, report section, the system should show the performance of coach and coachee. The system needs to display the coach who has the best performance as the one who organizes the most programs. For the coachee, the system needs to display the coachee who has reached the target. So that if there is a coachee who does not reach the target, the coach will focus on that coachee

For Coachee, the system should show the meal indicator that shows the current needs for coachee. Coachee will know the meal that should be taken to archive health target. Also, there should be a dashboard to show an overview their health update. Coachee can track and monitor their progress and make better decisions; meal taken daily

For Coach, there should be a dashboard to show an overview their coachee health update. Coach can track and monitor their coachee progress

The system should function on tablets and smart phone. Nowadays, individuals prefer utilising their smartphone over desktop computers to access content. Additionally, if SFCS is compatible with smart phones, individuals may access it from anywhere and carry their smartphones with them.

As a result, SFCS has to be enhanced, and new versions will be issued in the future.

5.4 CONCLUSION

In conclusion, Slim Fit Coaching System (SFCS) for Kelab Sihat Pekan has fulfilled the objectives and can be a solution that transforms the present paper-based club procedure into an electronic one. As a result, the load can be lessened as minimal papers are required to be kept. The user records will be recorded in the system database. So, it prevents record loss. Finally, users can use SFCS to obtain the relevant data efficiently.

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APPENDIX A
VIDEO EXPLAINATION

1. Demonstration of prototype design:

   https://drive.google.com/drive/folders/1n0a-eXCQvtf3ve0DEHJTi72ZoS7x9_ht?usp=sharing

2. Demonstration of system functionality:

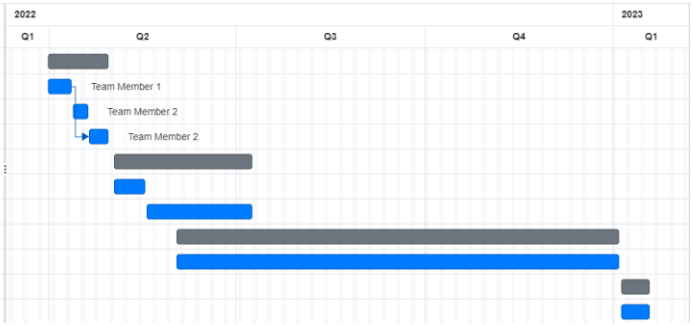
   https://drive.google.com/file/d/1gg2LJ6qYlmpSgV4giHk_nmZo3rdkC-OC/view?usp=sharing

APPENDIX B (SRS)

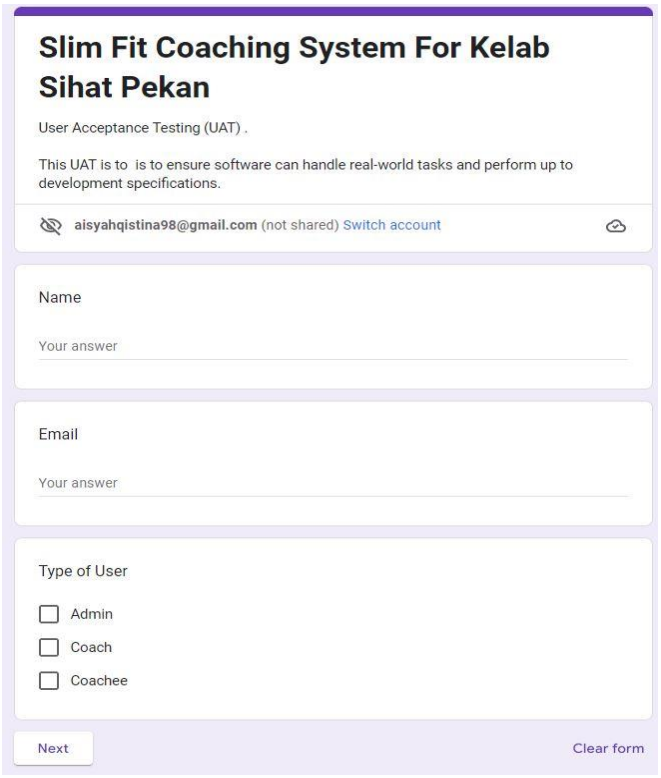
APPENDIX C (SDD)

APPENDIX D
GANTT CHART

ID	Name	Start Date	End Date	Duration
1	Requirement Planning	Mar 31, 2022	Apr 29, 2022	22 days
2	Research about Kelab process	Mar 31, 2022	Apr 11, 2022	8 days
4	Research existing system	Apr 12, 2022	Apr 19, 2022	6 days
3	Walkthrough with client	Apr 20, 2022	Apr 29, 2022	8 days
5	User design	May 02, 2022	Jul 08, 2022	50 days
8	Design prototype	May 02, 2022	May 17, 2022	12 days
7	Propose story board	May 18, 2022	Jul 08, 2022	38 days
9	Construction	Jun 01, 2022	Jan 03, 2023	154 days
10	Develop System	Jun 01, 2022	Jan 03, 2023	154 days
11	Cutover	Jan 04, 2023	Jan 18, 2023	10 days
12	User Acceptence Test	Jan 04, 2023	Jan 18, 2023	10 days



APPENDIX E
UAT FORM



Slim Fit Coaching System For Kelab Sihat Pekan

User Acceptance Testing (UAT) .

This UAT is to is to ensure software can handle real-world tasks and perform up to development specifications.

aisyahqistina98@gmail.com (not shared) Switch account

Name

Your answer

Email

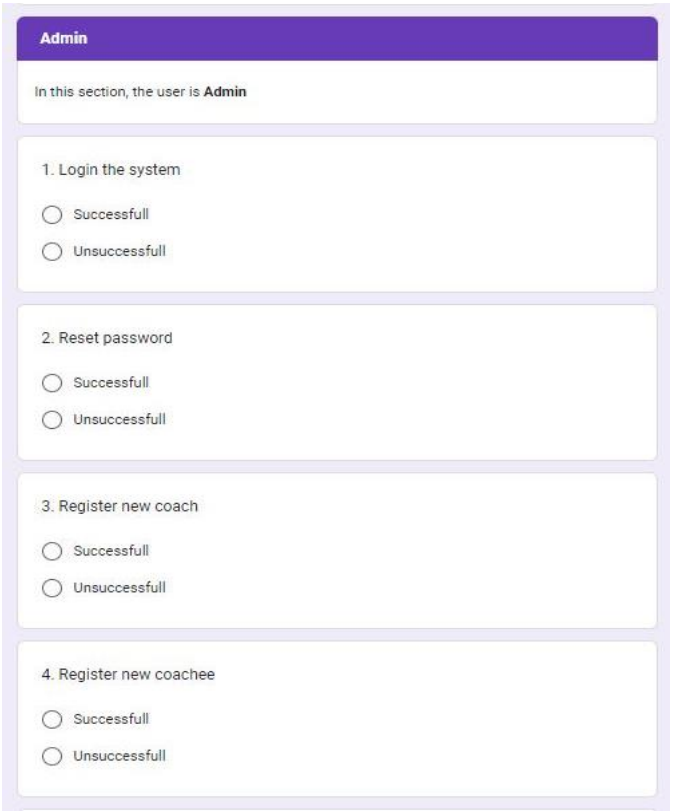
Your answer

Type of User

- [ ] Admin
- [ ] Coach
- [ ] Coachee

Next

Clear form



Admin

In this section, the user is **Admin**

1. Login the system

- ◯ Successfull
- ◯ Unsuccessfull

2. Reset password

- ◯ Successfull
- ◯ Unsuccessfull

3. Register new coach

- ◯ Successfull
- ◯ Unsuccessfull

4. Register new coachee

- ◯ Successfull
- ◯ Unsuccessfull

5. View coach and coachee details

- ◯ Successfull
- ◯ Unsuccessfull

6. Generate report

- ◯ Successfull
- ◯ Unsuccessfull

7. Add new forum

- ◯ Successfull
- ◯ Unsuccessfull

8. Delete forum

- ◯ Successfull
- ◯ Unsuccessfull

9. Comment forum

- ◯ Successfull
- ◯ Unsuccessfull

10. Delete forum comment

- ◯ Successfull
- ◯ Unsuccessfull

Back Next Clear form

Coach

In this section, the user is **Coach**

1. Login the system

- ◯ Successfull
- ◯ Unsuccesssfull

2. Reset password

- ◯ Successfull
- ◯ Unsuccesssfull

3. Register new account

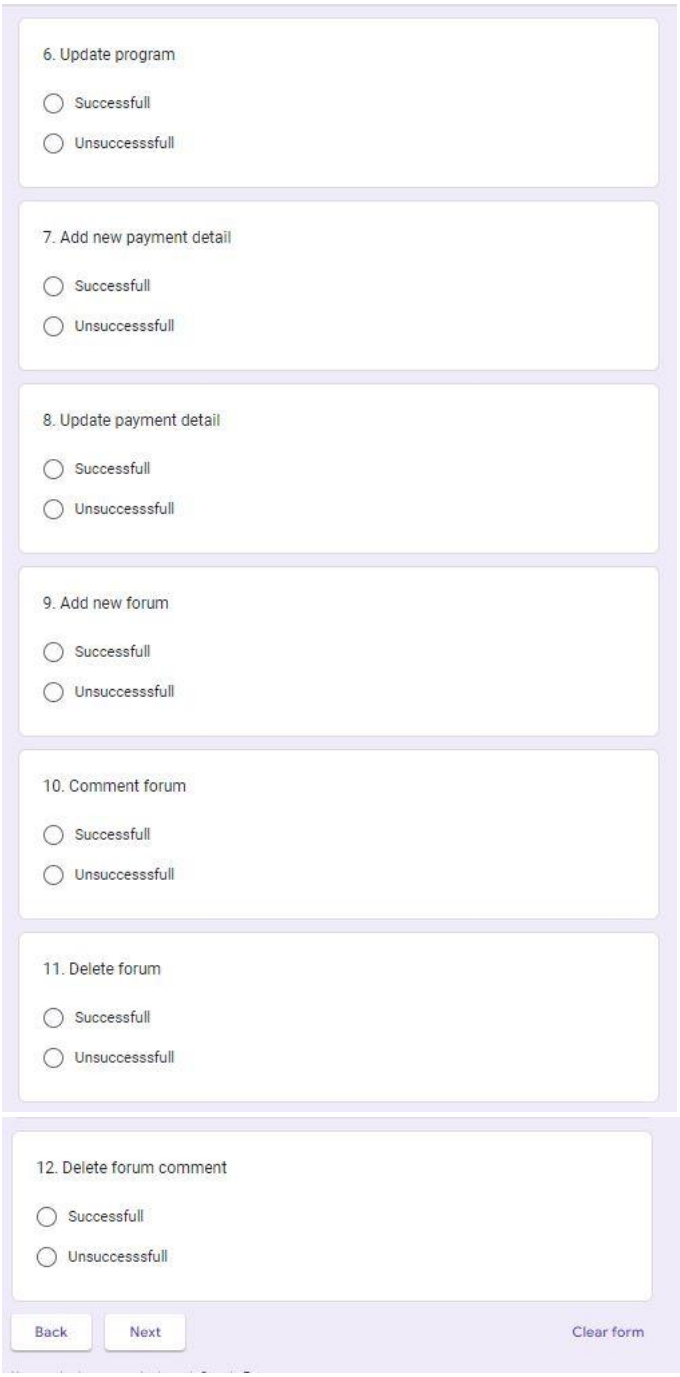
- ◯ Successfull
- ◯ Unsuccesssfull

4. View coachee health

- ◯ Successfull
- ◯ Unsuccesssfull

5. Add new program

- ◯ Successfull
- ◯ Unsuccesssfull


6. Update program
Successfull
Unsuccesssfull
7. Add new payment detail
Successfull
Unsuccesssfull
8. Update payment detail
Successfull
Unsuccesssfull
9. Add new forum
Successfull
Unsuccesssfull
10. Comment forum
Successfull
Unsuccesssfull
11. Delete forum
Successfull
Unsuccesssfull
12. Delete forum comment
Successfull
Unsuccesssfull
Back
Next
Clear form

Coachee

In this section, the user is **Coachee**

1. Login the system

- ◯ Successfull
- ◯ Unsuccessfull

2. Reset password

- ◯ Successfull
- ◯ Unsuccessfull

3. Register new account

- ◯ Successfull
- ◯ Unsuccessfull

4. Add new health update

- ◯ Successfull
- ◯ Unsuccessfull

5. View health update

- ◯ Successfull
- ◯ Unsuccessfull

6. Edit health update

- Successfull
- Unsuccessfull

7. View program

- Successfull
- Unsuccessfull

8. Program action (attend/not attend)

- Successfull
- Unsuccessfull

9. View payment

- Successfull
- Unsuccessfull

10. Add new forum

- Successfull
- Unsuccessfull

11. Comment forum

- Successfull
- Unsuccessfull

12. Delete forum

- Successfull
- Unsuccessfull

13. Delete forum Comment

- Successfull
- Unsuccessfull

Back Next Clear form

SUGGESTION

Suggestion

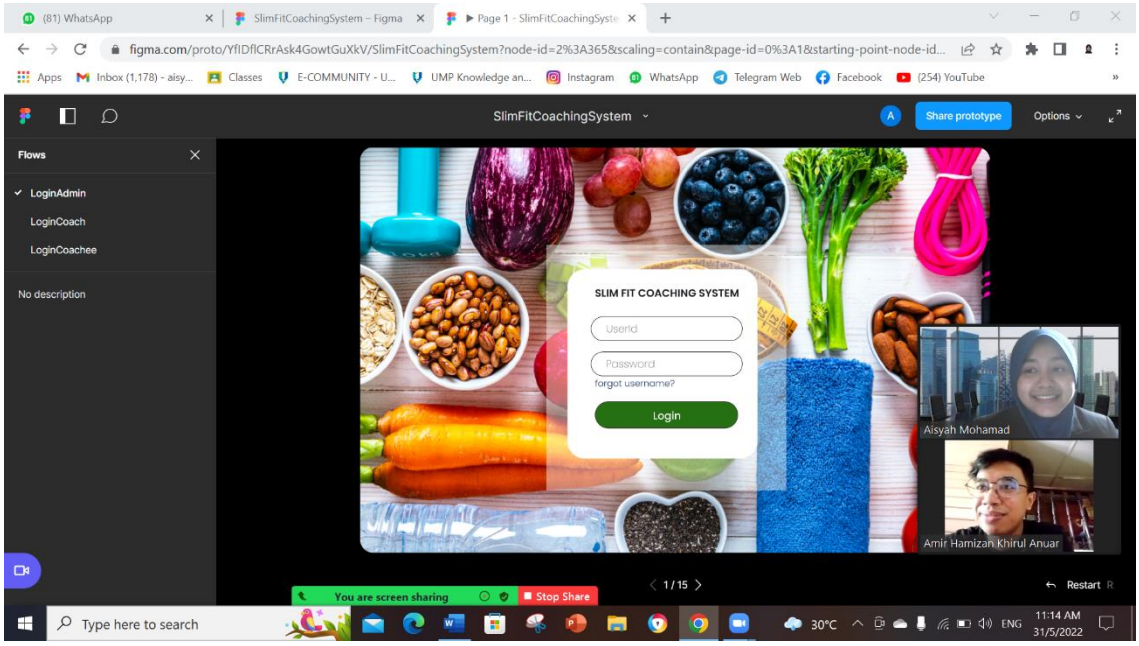
Your answer

Back Submit Clear form

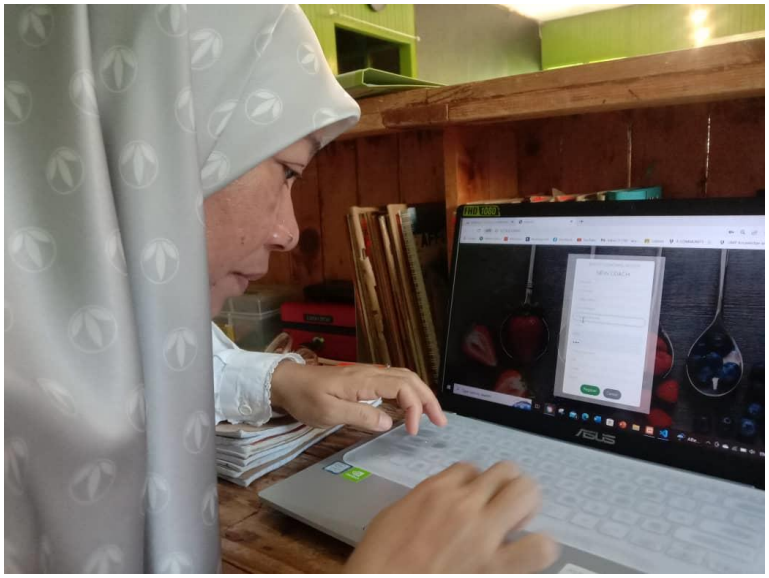
APPENDIX F (PICTURE)

Kick off meeting

Prototype presentation



User Acceptance Testing meeting



2022

SOFTWARE REQUIREMENT SPECIFICATION (SRS)

SLIM FIT COACHING SYSTEM for KELAB SIHAT PEKAN

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Bachelor of Computer Science (Software Engineering)
Faculty of Computer System and Software Engineering

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Figure 3.29 Update health interface (coachee)
Figure 3.30 Print health update interface (coachee)

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CHAPTER 1

1.1 PROJECT DESCRIPTION

Slim Fit Coaching System (SFCS) for Kelab Sihat Pekan is a web-based system that convert the manual procedure of Kelab Sihat Pekan (KSP) into computerized system. It removes the usage of paper that has been use to record most of the data. This system is used by admin, coach and coaches. SFCS has 6 primary module which are manage user, manage health, manage report, manage program, manage payment and manage forum.

Manage user module allow admin, coach and coachee to control the system. Admin can register for coach and coachee, while coach and coachee can register their self and all the users can login to the system.

Manage health module allow caoachee to update their heatlh update and coach can view their coachee updates

Manage report module allow for admin to view and generate all the details including details of coach and coachee, and also the health update for coachee

Manage program module is for coach and coachee. Coach can view, add, delete and update the program. Coachee can view and update program action.

Manage payment module is for coach and cochee. Coach can view health update while coachee can view, add, delete and update health status.

Manage forum module is for all the users. All users can communicate by add new forum, comment and delete forum or comment

1.2 SYSTEM IDENTIFICATION

System Title: Slim Fit Coaching System

System Abbreviation: SFCM

System Identification Number: SFCS_01_2022

1.3 CONTEXT DIAGRAM

Figure 1.1 shows the context diagram for SFCS. This diagram shows the interaction with internal software system.

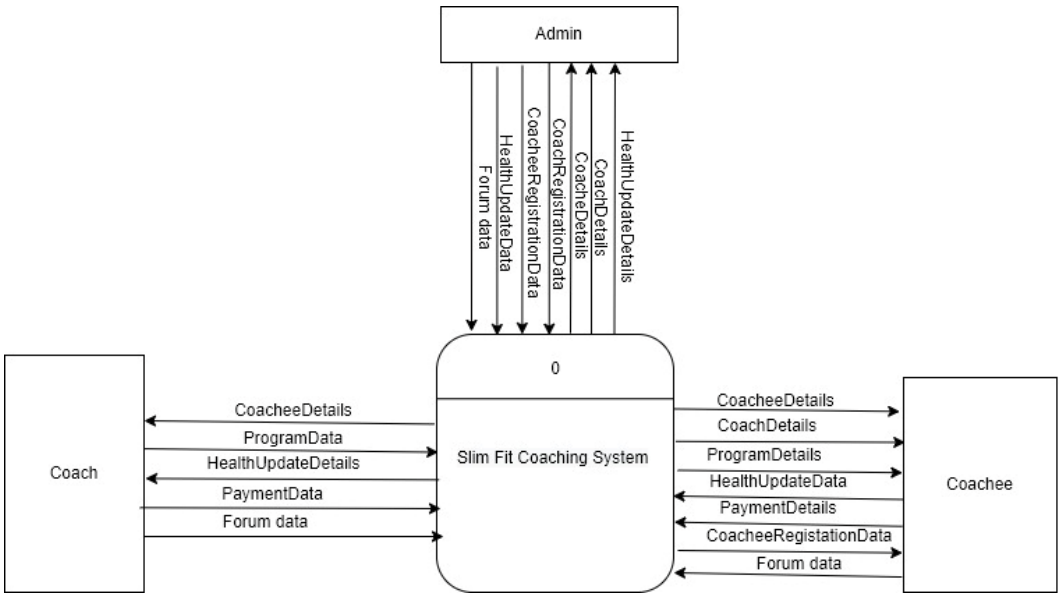

Figure 1.1 *Context diagram for SFCS*

The system has three user which are admin, coach and coachee. Admin allow to register coach and coachee. For coach and coachee, they can register for their self. The registration data are keep in the system. All user need to login to the system. Admin get all the data and can generate into report. Coach will update the data for program and payment. Coachee can view the list of program and view the payment details. Coachee will update their health data and coach can view the updated health details. All users also can use forum to communicate with each other.

1.4 DATA FLOW DIAGRAM

Figure 1.2 shows the data flow diagram for SFCS. This diagram shows the data flows between users' and the system.

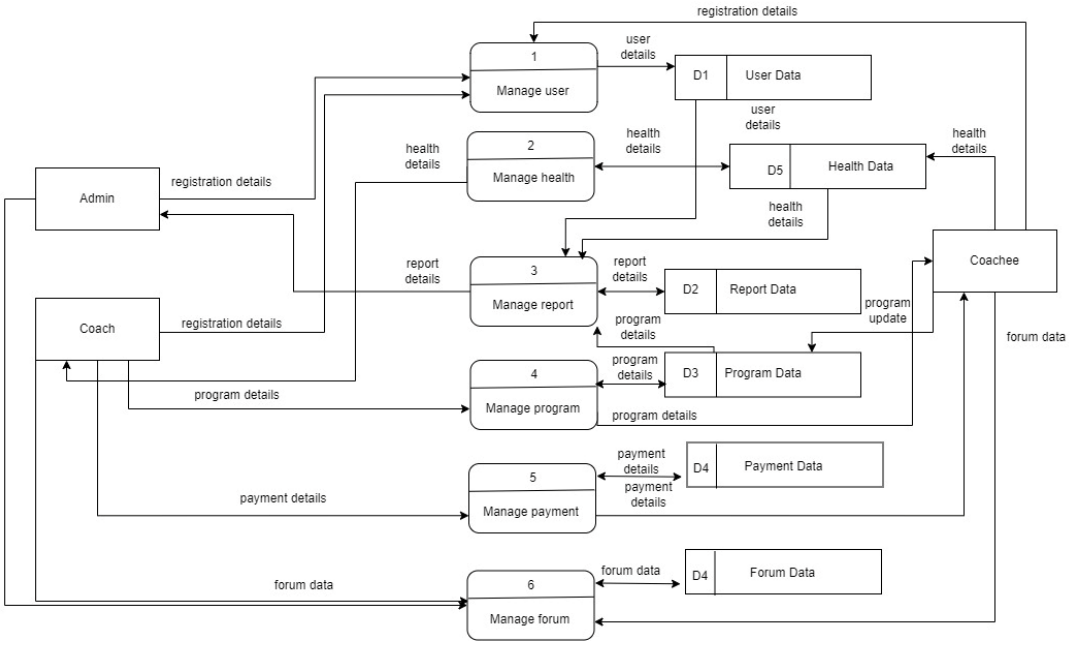

Figure 1.2 *Data flow diagram for SFCS*

CHAPTER 2

2.1 USE CASE DIAGRAM AND DESCRIPTION

Figure 2.1 shows the use case diagram for SFCS. And table 2.1 shows use case description. This diagram shows what user can use in the system.

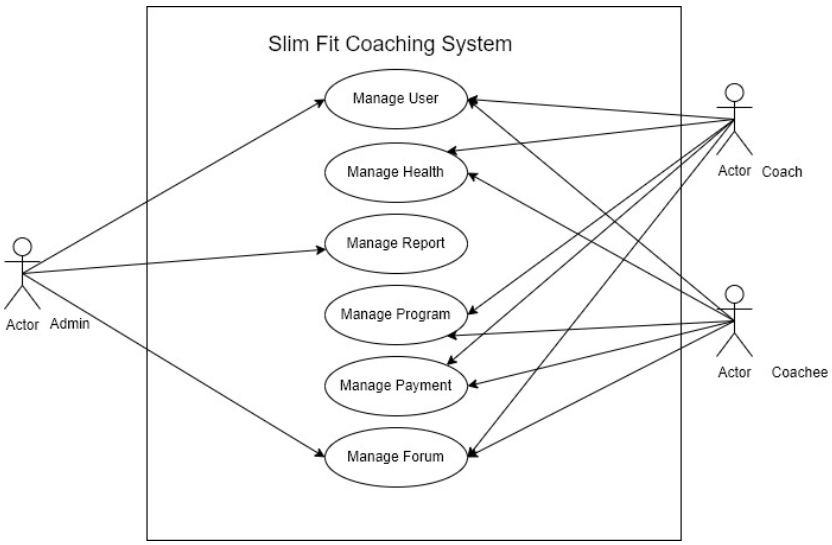

Figure 2.1 *SFCS use case diagram*

MODULE NAME	USER	DESCRIPTION
Manage User	Admin	Register coach, register coachee
	Coach	Make registration
	Coachee	Make registration
Manage health	Coach	View health update
	Coachee	View, add, delete, update health
Manage Report	Admin	Generate report
Manage Program	Coach	View, add, delete, update program
	Coachee	View, update program action
Manage payment	Coach	View, add, delete update payment
	Coachee	View payment
Manage forum	Admin	Comment, delete, add new forum
	Coach	Comment, delete, add new forum
	coachee	Comment, delete, add new forum

Table 2.1 *SFCS Use case description*

2.1.1 MANAGE USER MODULE

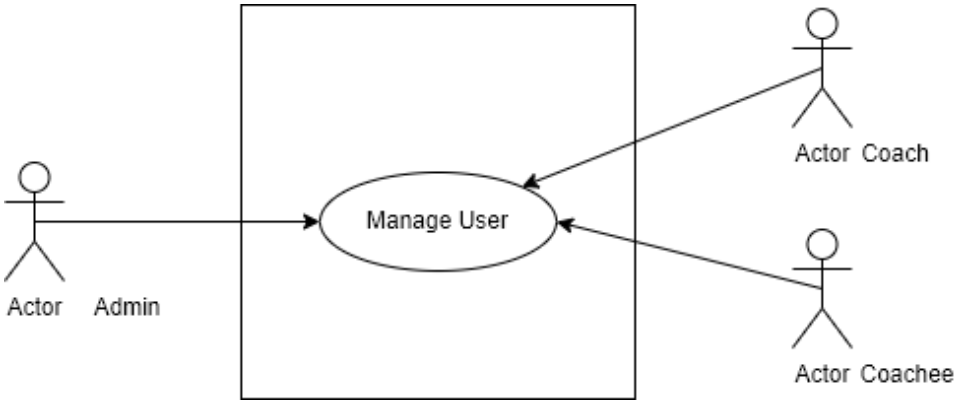

Figure 2.2 *Manage User Use case*

Use Case ID	UC01
Brief Description	This use case able user to make registration
Actor	Admin, Coach, Coachee
Pre-Conditions	Admin has login to the system. Coach and coachee is at welcome page Coach already login
Basic Flow	**Admin has login to system** 1.Admin click <<Coach>> button 2.The system query data from the database and display. 3.The admin views the information 4.Admin click <<Add New Coach>> button [A1: Add New Coach] 5. The system saves the details to the database. 6.Admin click <<Remove>> button [A2: Remove Coach] 7. The system saves the information to the database 8.Admin click 'Coachee' button 9.The system query data from the database and display. 12.The admin views the information 13.Admin click <<Add New Coachee>> button [A3: Add New Coachee] 14. The system saves the details to the database. 15.Admin click <<Remove>> button [A4: Remove Coachee] 16. The system saves the information to the database

	17. Use case end Coach (in welcome page) 1.Coach click <<New Coach?>> button [A5: Coach new registration] 2.Use case end Coachee (in welcome page) 1.Coach click <<New Coachee?>> button [A6: Coachee new registration] 2.Use case end Coach (already login) 1.Coach click <<Coachee>> button 2.The system query data from the database and display. 3.The Coach views the information
Alternative Flow	**Admin** **A1: Add New Coach** 1.The system displays the add coach form. 2.The admin enters details and click add 3.The system verifies and saves the database. **A2: Remove Coach** 1.The system deletes the data and removes the database. **A3: Add New Coachee** 1.The system displays the add coach form. 2.The admin enters details and click add 3.The system verifies and saves the database. **A4: Remove Coachee** 1.The system deletes the data and removes the database. **Coach** **A5: Coach New Registration** 1.The system displays the coach registration form. 2.The coach enters details and click register 3.The system verifies and saves the database. **Coachee** **A6: Coachee New Registration** 1.The system displays the coachee registration form. 2.The coachee enters details and click register

	3.The system verifies and saves the database.
Exception Flow	N/A
Post-Conditions	The list of information is successful and updated.
Constrain	N/A

Table 2.2 Manage User use case Description

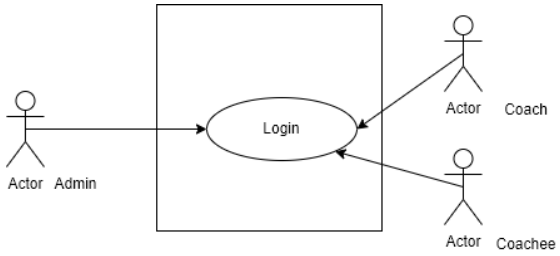

Figure 2.3 *Login Use case*

Use Case ID	UC01
Brief Description	This use case is able user to login
Actor	Admin, Coach, Coachee
Pre-Conditions	User has make registration
Basic Flow	**Admin, Coach, Coachee** 1.The use case start when system redirect user to login page 2. User enter user id and password 3.User press <<login>> button 4.System redirect to home page 4. If ID or password incorrect, system will pop up alert message [E1: Alert message] 5. User click <<forgot password?>> button [A1: Forgot password] 6. Use case end
Alternative Flow	**A1: Forgot password** 1.The system displays the forget password form. 2.The user enters details and click reset password 3.The flow continue to step 2 in basic flow
Exception Flow	**E1: Alert message** 1. System will pop up “Invalid password” message 2. Step continue to step 2 in basic flow.
Post-Conditions	System will direct to home page
Constrain	N/A

Table 2.3 Manage Login use case Description

2.1.2 MANAGE HEALTH MODULE

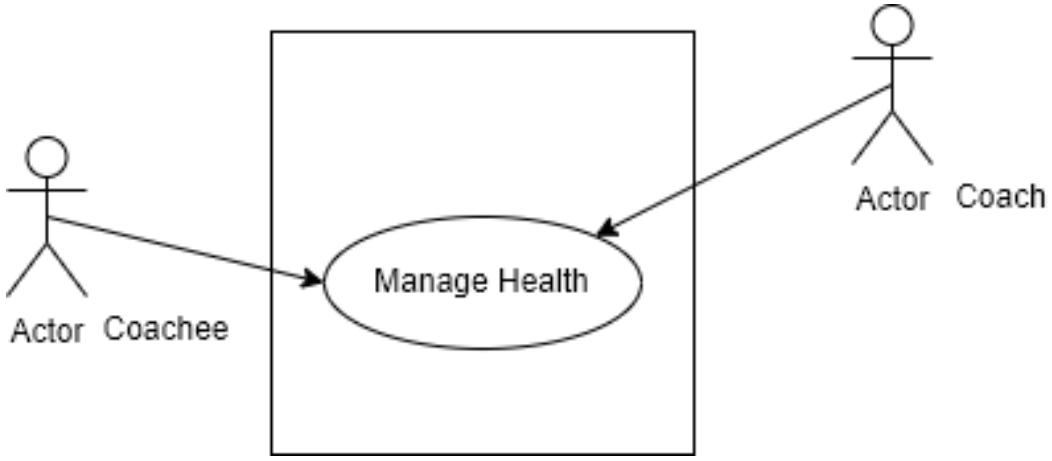

Figure 2.4 *Manage Health Use case*

Use Case ID	UC02
Brief Description	This use case is able user to view, add, update, delete, print health update
Actor	Coach, Coachee
Pre-Conditions	The user has login to the system
Basic Flow	**Coach** 1.Coach click <<Body Scan Analysis>> button 2.The system query data from the database and display. 3.The Coach views the information 4.Coach click <<Print>> button [A1: Print] 5.Coach click <<Print All Coachee>> button [A2: Print All] 4. Use case end **Coachee** 1.Coach click <<Body Scan Analysis>> button 2.The system query data from the database and display. 3.The Coachee views the information 4.Coach click <<Add Your Body Scan Analysis>> button [A1: Add New Health Update] 5. The system saves the details to the database 6. Coachee click <<Edit>> button [A2: Edit Health Update] 7. The system saves the information to the database. 8. Use case end

Alternative Flow	**Coach** **A1: Print** 1.The system query the data from the database, display and print. **A2: Print All** 1.The system query the data from the database, display and print. **Coachee** **A1: Add New Health Update** 1.The system displays the new health update form. 2.The coachee enters details and click add 3.The system verifies and saves the database. **A2: Edit Health Update** 1.The system query the data from the database and display. 2.The coachee changes the previous information and clicks save. 3.The system verifies and updates the database.
Exception Flow	N/A
Post-Conditions	The health information saved
Constrain	N/A

Table 2.4 *Manage Health Use case Description*

2.1.3 MANAGE REPORT MODULE

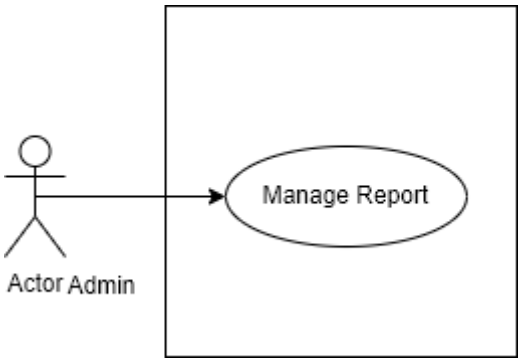

Figure 2.5 *Manage Report Use case*

Use Case ID	UC03
Brief Description	This use case is able user to view and print report
Actor	Admin
Pre-Conditions	User has login to the system
Basic Flow	Admin 1.Admin click <<Manage report>> button 2.The system query data from the database and display. 3.The admin views the information 4.Coach click <<Print Profile>> button [A1: Print Report] 5.Coach click <<Print All User>> button [A2: Print All Report] 6. Use case end
Alternative Flow	**A1: Print Report** 1.The system query the data from the database, display and print. **A2: Print Report** 1.The system query the data from the database, display and print.
Exception Flow	N/A
Post-Conditions	Report will printed
Constrain	N/A

Table 2.5 Manage Report use case Description

2.1.4 MANAGE PROGRAM MODULE

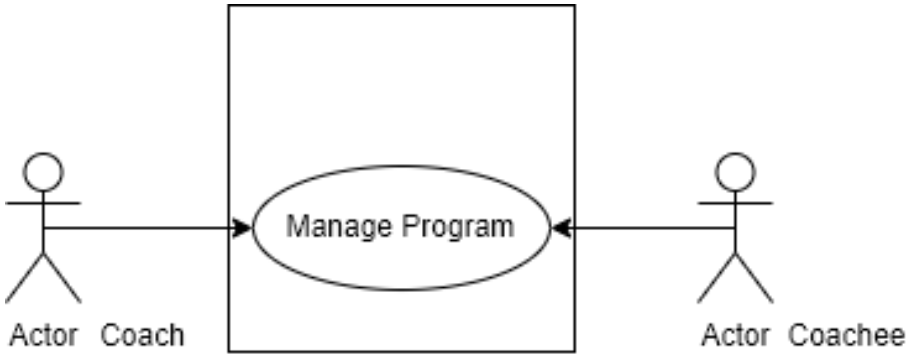

Figure 2.6 Manage Program use case

Use Case ID	UC04
Brief Description	This use case is able user to view, add, update, delete program
Actor	Coach, Coachee
Pre-Conditions	User has login to the system
Basic Flow	**Coach** 1.Coach click <<Manage Program>> button 2.The system query data from the database and display. 3.The Coach views the information 4.Coach click <<Add New Program>> button [A1: Add New Program] 5. The system saves the details to the database 6. Coach click <<Edit>> button [A2: Edit Program Detail] 7. The system saves the information to the database. 8. Coach click <<Remove>> button [A3: Remove Program] 9. The system saves the information to the database 10. Use case end **Coachee** 1.Coachee click <<Program>> button 2.The system query data from the database and display. 3.The Coachee views the information 4.Coachee choose action [A1: Choose Action] 5. The system saves the information to the database. 10. Use case end
Alternative Flow	**Coach**

	A1: Add New Program 1.The system displays the new program form. 2.The coach enters details and click add 3.The system verifies and saves the database. **A2: Edit Program Detail** 1.The system query the data from the database and display. 2.The coach changes the previous information and clicks save. 3.The system verifies and updates the database. **A3: Remove Program** 1.The system deletes the data and removes the database. **Coachee** **A1: Choose Action** 1.The system displays the dropdown button. 2.The coachee choose action 3.The system verifies and saves the database.
Exception Flow	N/A
Post-Conditions	The program information saved
Constrain	N/A

Table 2.6 Manage Program use case Description

2.1.5 MANAGE PAYMENT MODULE

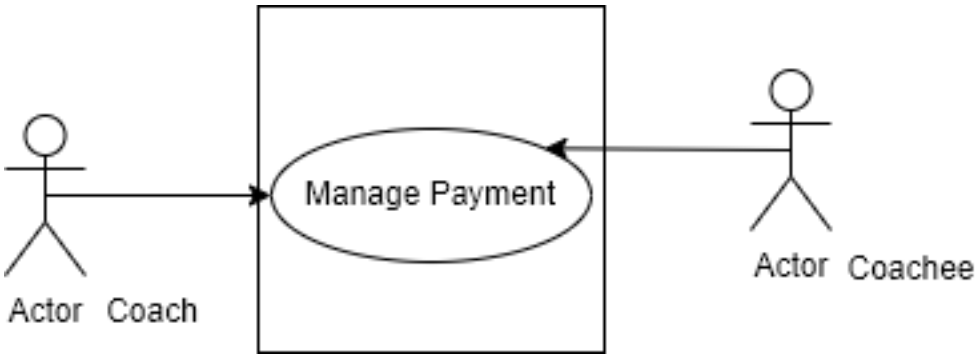

Figure 2.7 *Manage Payment Use case*

Use Case ID	UC05
Brief Description	This use case is able user to view, add, update, delete payment
Actor	Coach, Coachee
Pre-Conditions	The user has login to the system
Basic Flow	**Coach** 1.Coach click <<Manage Payment>> button 2.The system query data from the database and display. 3.The Coach views the information 4.Coach click <<Add New Payment>> button [A1: Add New Payment] 5. The system saves the details to the database 6. Coach click <<Edit>> button [A2: Edit Payment Detail] 7. The system saves the information to the database. 8. Coach click <<Delete>> button [A3: Remove Payment] 9. The system saves the information to the database 10. Use case end Coachee 1.Coachee click <<Payment>> button 2.The system query data from the database and display. 3.The Coachee views the information 4. Use case end
Alternative Flow	**Coach**

	A1: Add New Payment 1.The system displays the new payment form. 2.The coach enters details and click add 3.The system verifies and saves the database. **A2: Edit Payment Detail** 1.The system query the data from the database and display. 2.The coach changes the previous information and clicks save. 3.The system verifies and updates the database. **A3: Remove Payment** 1.The system deletes the data and removes the database.
Exception Flow	N/A
Post-Conditions	The payment information saved
Constrain	N/A

Table 2.7 *Manage Payment Use case Description*

2.1.6 MANAGE FORUM MODULE

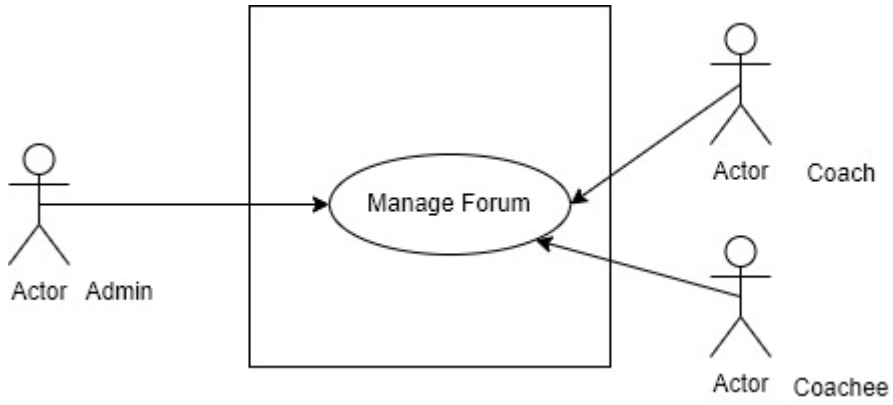

Figure 2.8 *Manage Forum Use case*

Use Case ID	UC06
Brief Description	This use case is able user to view, add, comment, delete forum
Actor	Admin, Coach, Coachee
Pre-Conditions	The user has login to the system
Basic Flow	**Admin, Coach, Coachee** 1.User click <<Forum>> button 2.The system query data from the database and display. 3.The user views the information 4.User click <<Add New forum>> button [A1: Add New Forum] 5. The system saves the details to the database 6. User click <<Comment>> button [A2: Comment] 7. The system saves the information to the database. 8. User click <<Delete Forum>> button [A3: Delete forum] 9. The system saves the information to the database 10. User click <<Delete Comment>> button [A4: Delete Comment] 11. The system saves the information to the database 12. Use case end
Alternative Flow	**Admin, Coach, Coachee** **A1: Add New Forum** 1.The system displays the new forum form.

	2.The user enters details and click add 3.The system verifies and saves the database. **A2: Comment** 1.The system query the data from the database and display. 2.The user comment the previous information and clicks save. 3.The system verifies and updates the database. **A3: Delete forum** 1.The system deletes the data and removes the database. **A4: Delete comment** 1.The system deletes the data and removes the database.
Exception Flow	N/A
Post-Conditions	The forum information saved
Constrain	N/A

Table 2.8 *Manage Forum Use case Description*

2.2 SEQUENCE DIAGRAM

2.1.1 MANAGE USER MODULE

Admin

Figure 2.9 show sequence diagram that allow admin to view, add, edit detail and remove coach.

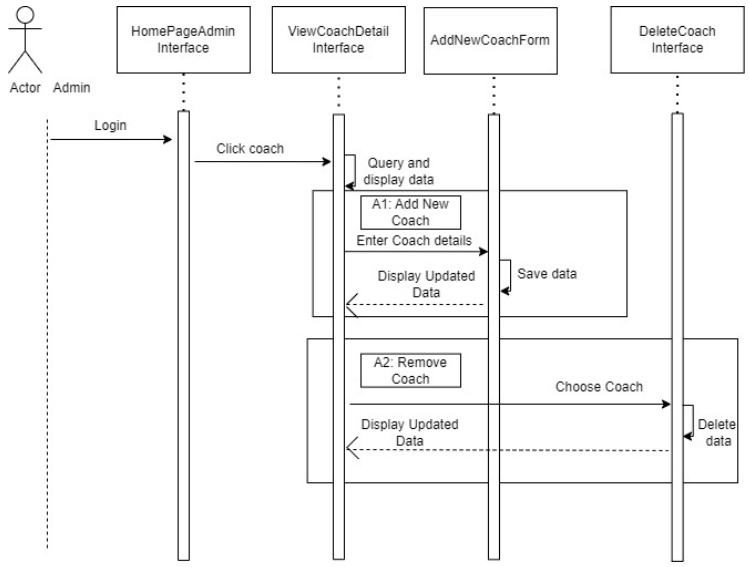

Figure 2.9 *Sequence diagram manage user module (admin)*

Figure 2.10 show sequence diagram that allow admin to view, add, edit detail and remove coachee.

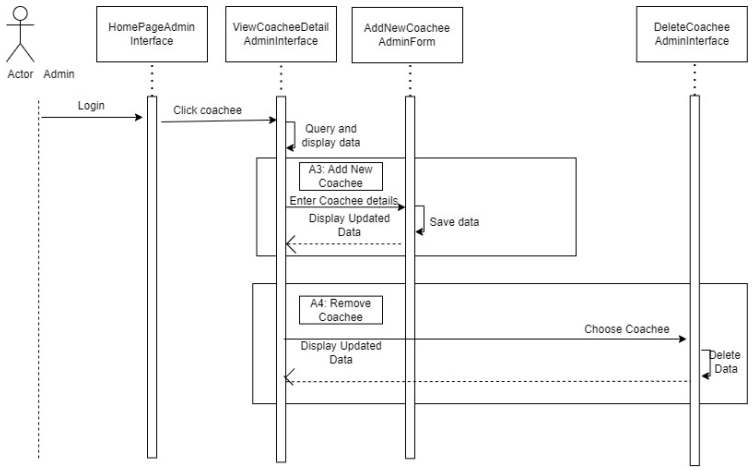

Figure 2.10 *Sequence diagram manage user module (admin)*

Coach

Figure 2.11 show sequence diagram that allow coach to make new registration

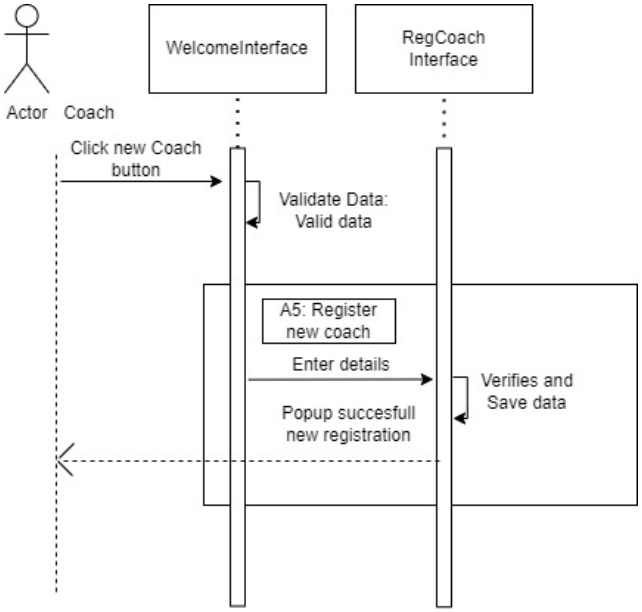

Figure 2.11 *Sequence diagram manage user module(coach)*

Coachee

Figure 2.12 show sequence diagram that allow coachee to make new registration

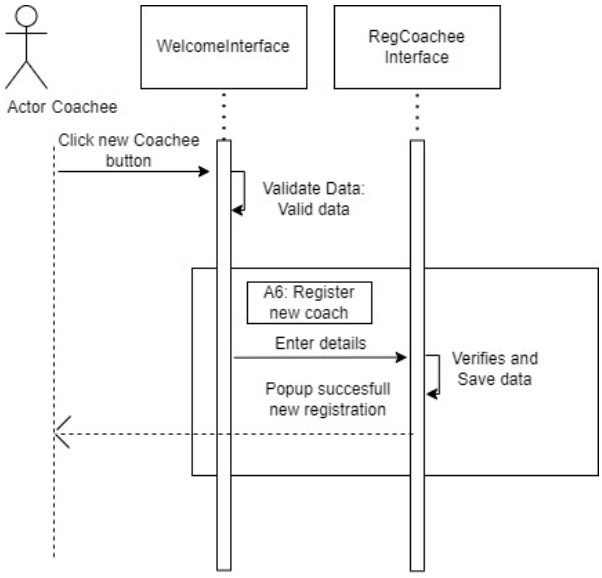

Figure 2.12 *Sequence diagram manage user module(coachee)*

Coach (already login)

Figure 2.13 show sequence diagram that allow coach to view coachee list

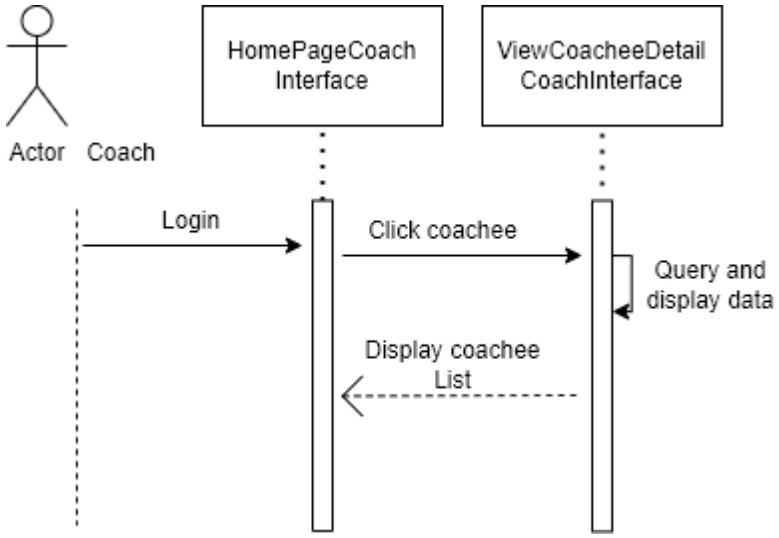

Figure 2.13 *Sequence diagram manage user module (coach-already login)*

Admin

Figure 2.14 show sequence diagram that allow admin to login

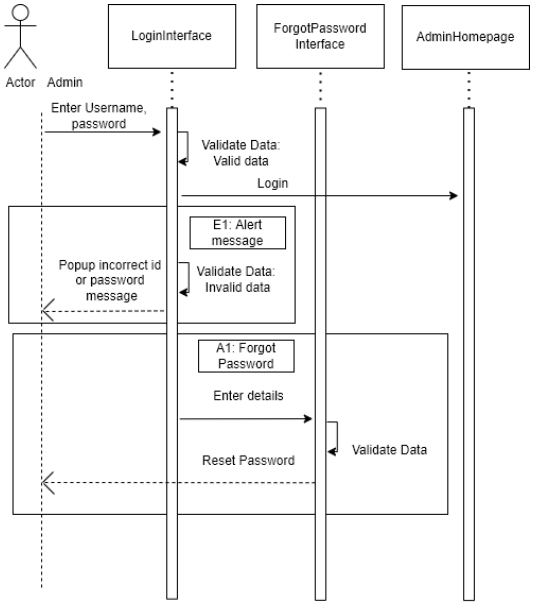

Figure 2.14 *Sequence diagram login (coach)*

Coach

Figure 2.15 show sequence diagram that allow coach to login

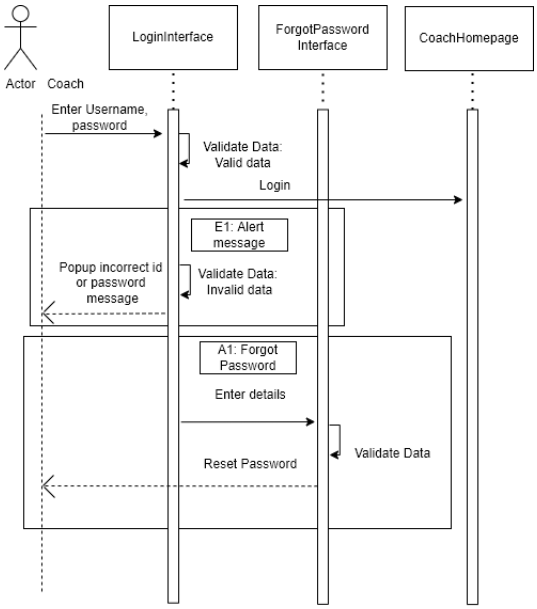

Figure 2.15 *Sequence diagram manage user(coach)*

Coachee

Figure 2.16 show sequence diagram that allow coachee to login

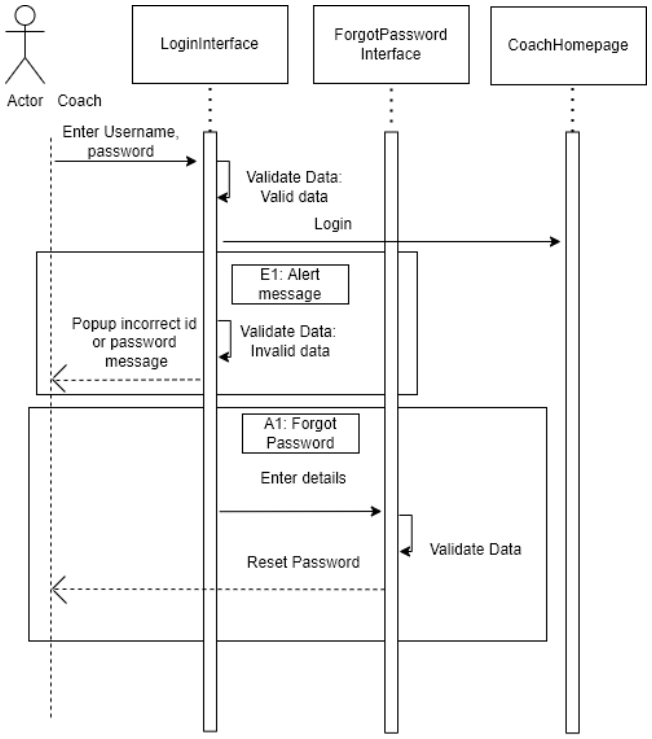

Figure 2.16 *Sequence diagram login(coachee)*

2.1.2 MANAGE HEALTH

Coach

Figure 2.17 show sequence diagram that allow coach to manage health

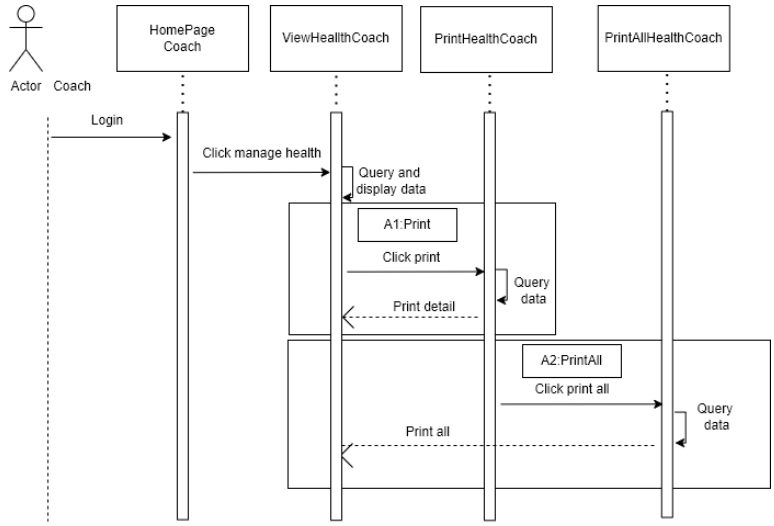

Figure 2.17 *Sequence diagram manage health module(coach)*

Coachee

Figure 2.18 show sequence diagram that allow coachee to manage health

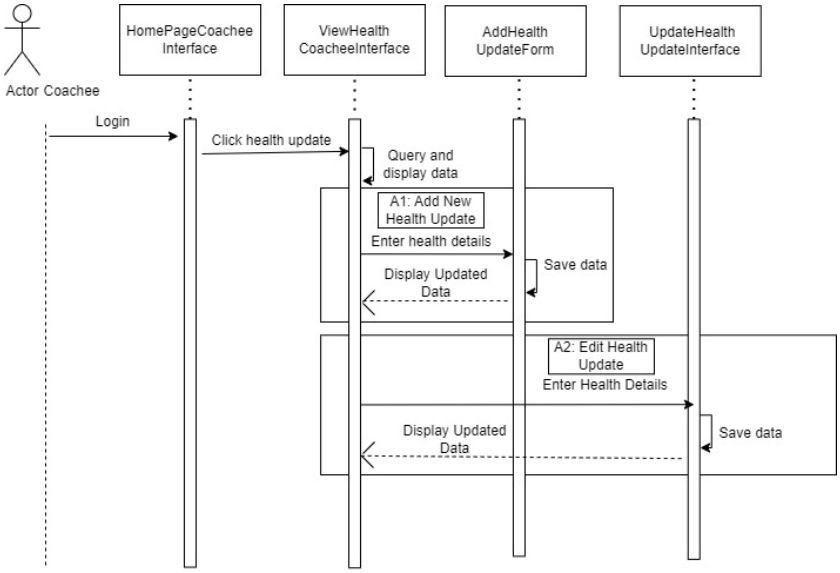

Figure 2.18 *Sequence diagram manage health module (coachee)*

2.1.3 MANAGE REPORT

Admin

Figure 2.19 show sequence diagram that allow admin to manage report

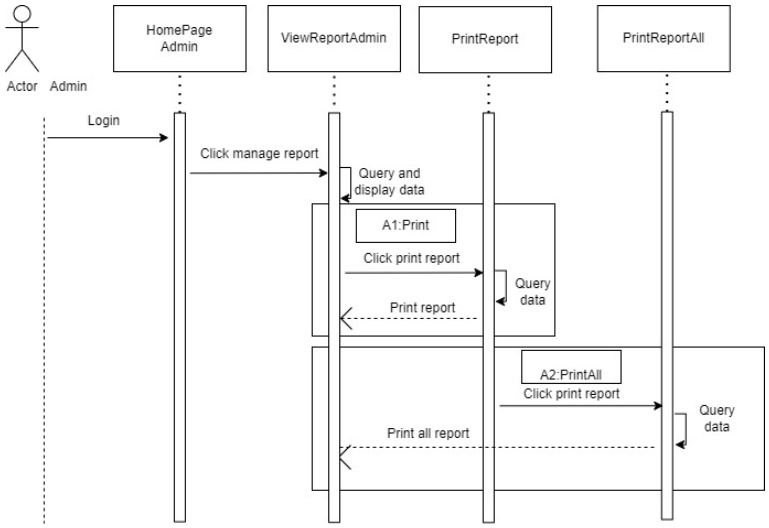

Figure 2.19 *Sequence diagram manage report module*

2.1.4 MANAGE PROGRAM

Coach

Figure 2.20 show sequence diagram that allow coach to manage program

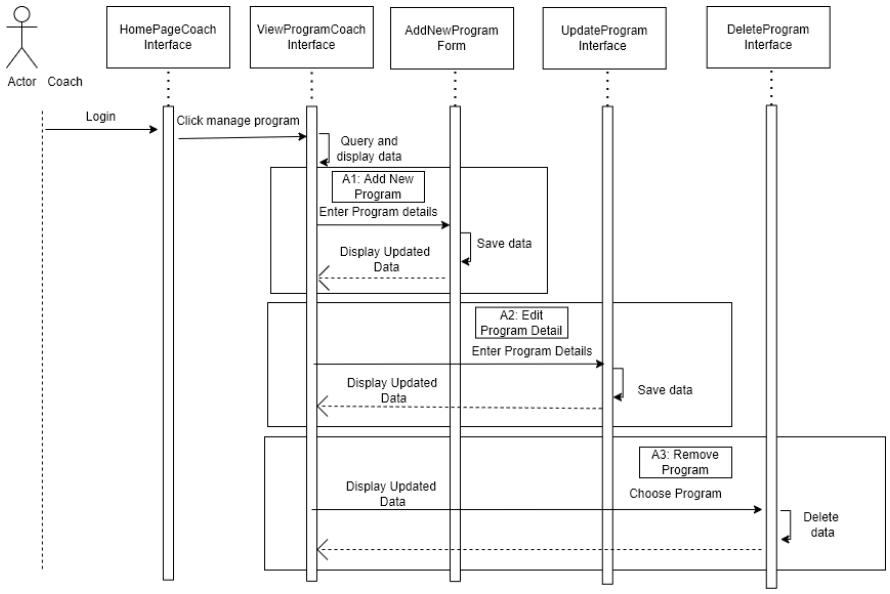

Figure 2.20 *Sequence diagram manage program module(coach)*

Coachee

Figure 2.21 show sequence diagram that allow coachee to manage program

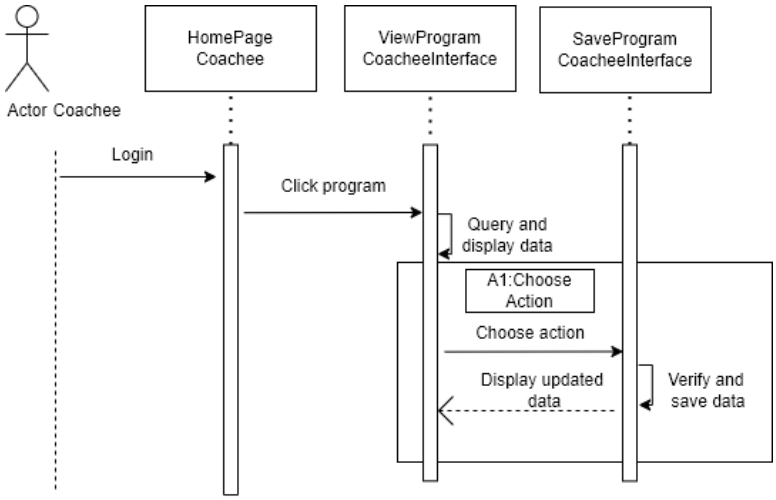

Figure 2.21 *Sequence diagram manage program module(coachee)*

2.1.5 MANAGE PAYMENT

Coach

Figure 2.22 show sequence diagram that allow coach to manage payment

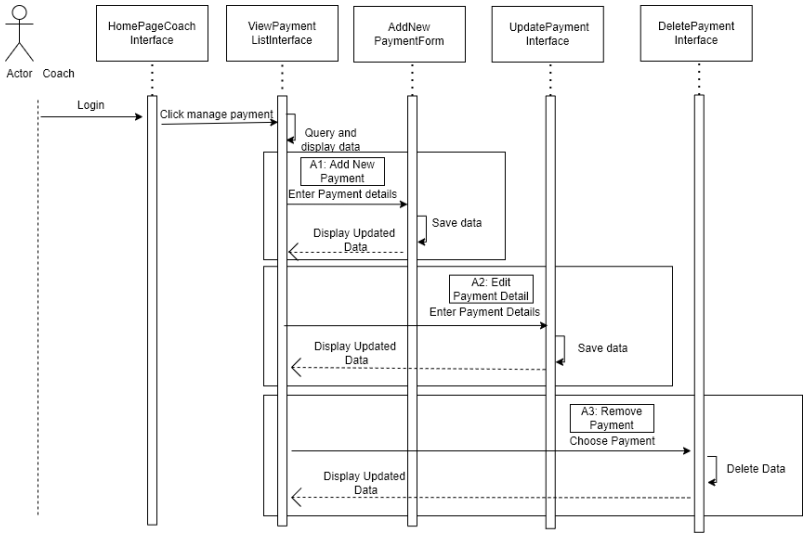

Figure 2.22 *Sequence diagram manage payment module(coach)*

Coachee

Figure 2.23 show sequence diagram that allow coach to view payment

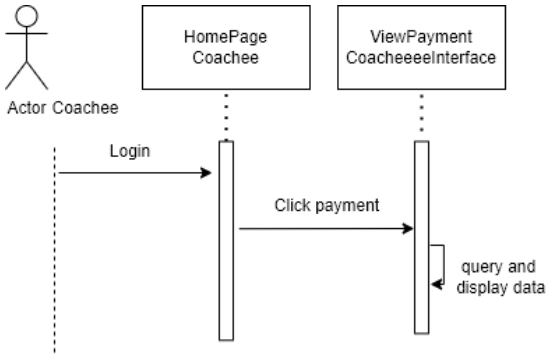

Figure 2.23 *Sequence diagram manage payment module(coachee)*

2.1.6 MANAGE FORUM

Admin, Coach, coachee

Figure 2.24 show sequence diagram that allow coach to manage forum

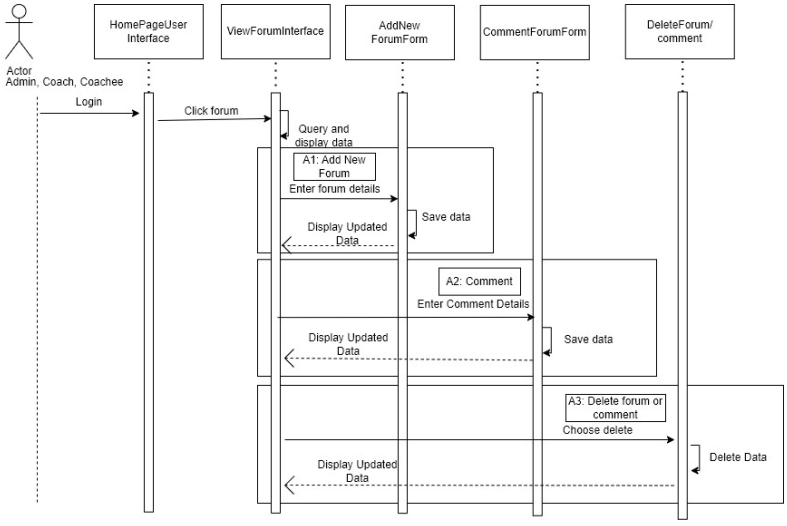

Figure 2.24 *Sequence diagram manage forum module(admin,coach,coachee)*

CHAPTER 3

3.1 INTERFACE DESIGN

Figure below shows the prototype for each user

3.1.1 MANAGE USER

Admin

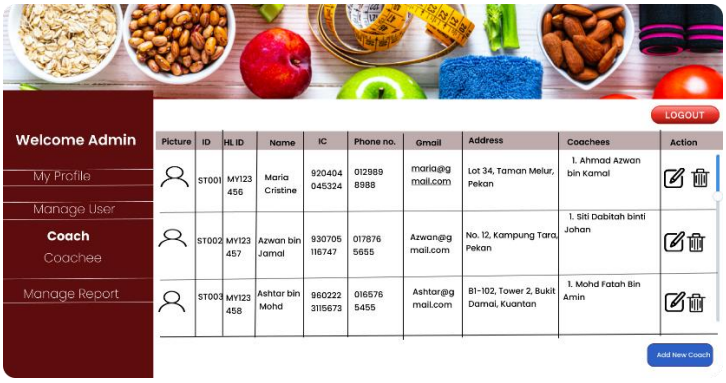

Figure 3.1 *View coach list interface*

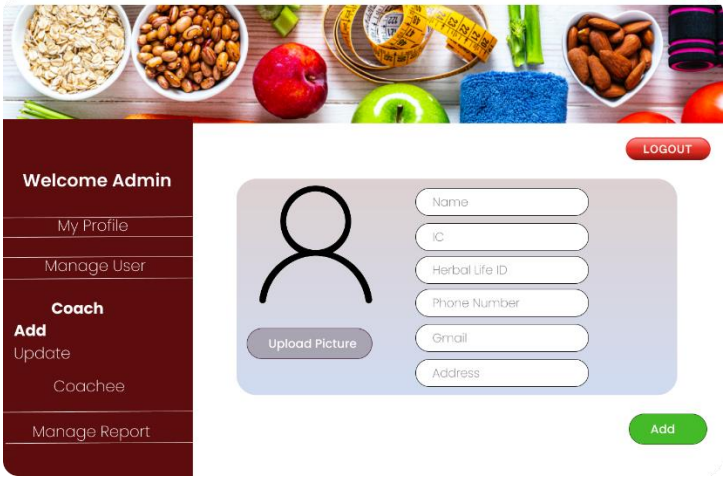

Figure 3.2 *Add new coach form interface*

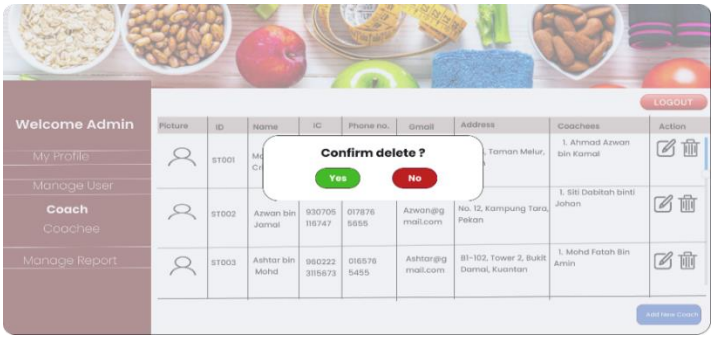

Figure 3.3 *Remove coach interface*

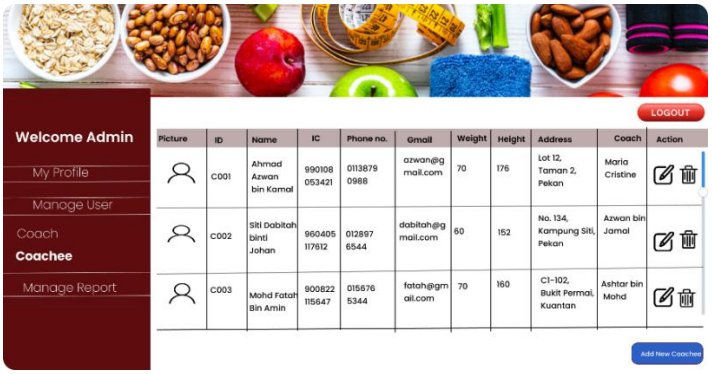

Figure 3.4 *View coachee list interface*

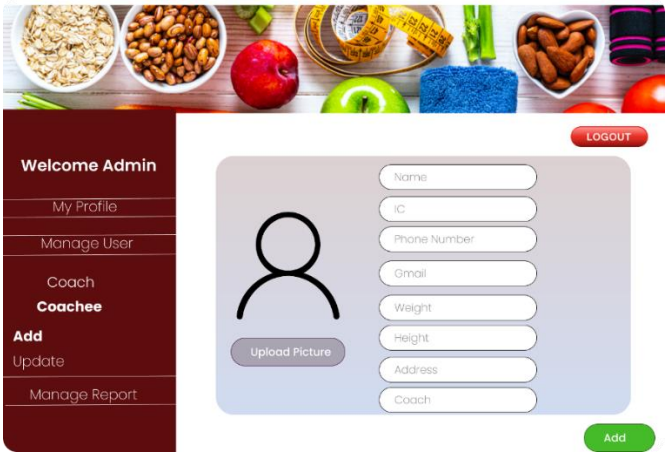

Figure 3.5 *Add new coachee interface*

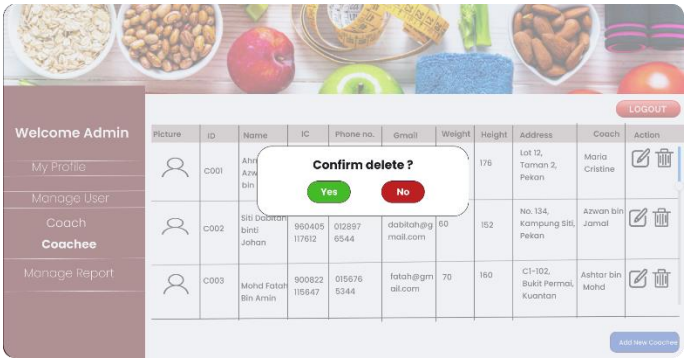

Figure 3.6 *Remove coachee interface*

Coach

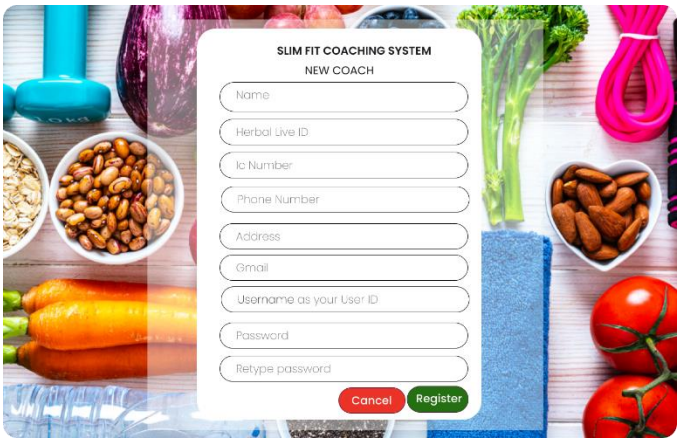

Figure 3.7 *Registration coach form interface*

Coachee

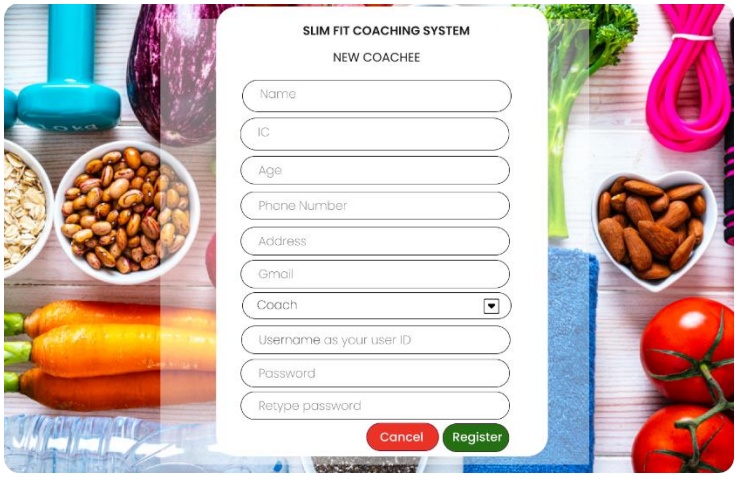

Figure 3.8 *Registration coachee form interface*

Coach (already login)

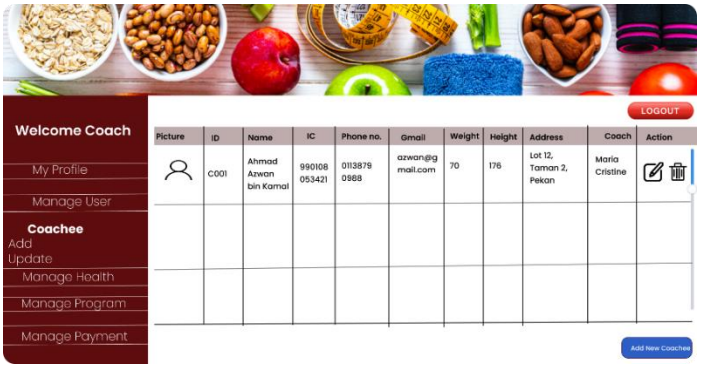

Figure 3.9 *View coachee details interface*

3.1.2 MANAGE LOGIN

Admin, coach, coachee

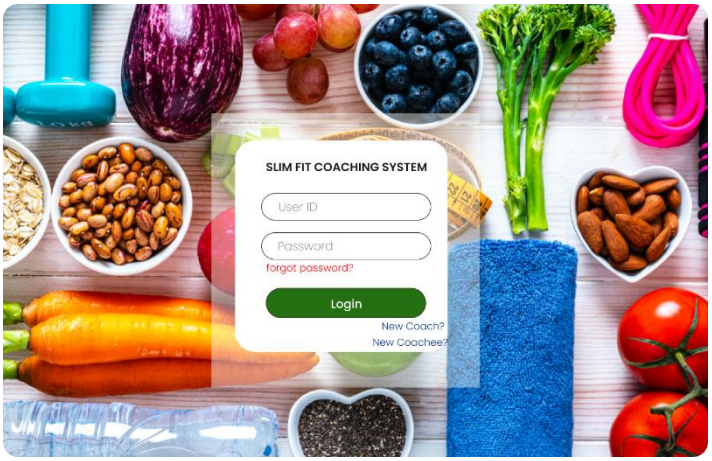

Figure 3.10 *Login interface*

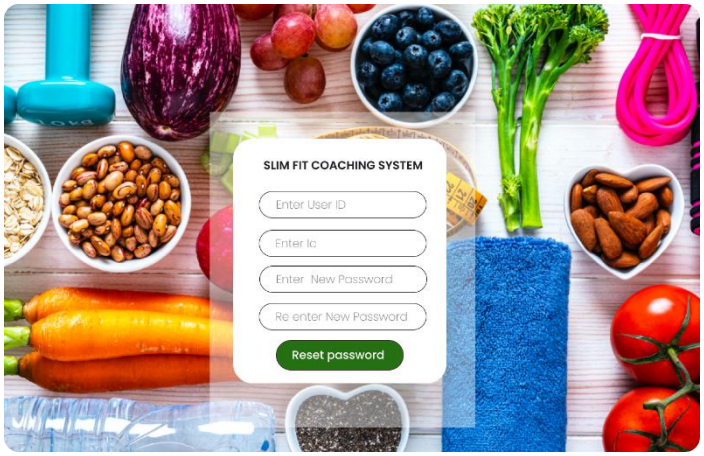

Figure 3.11 *Forgot password interface*

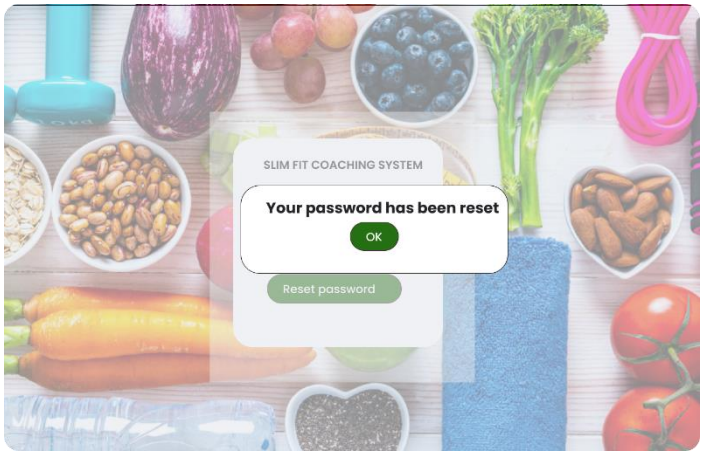

Figure 3.12 *Reset password popup notification*

3.1.3 MANAGE REPORT

Admin

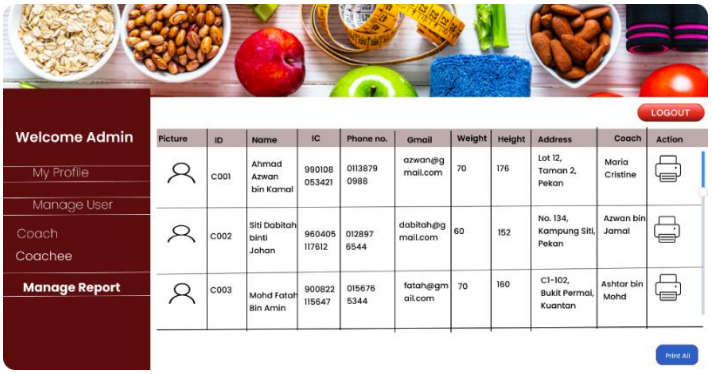

Figure 3.13 *View report interface*

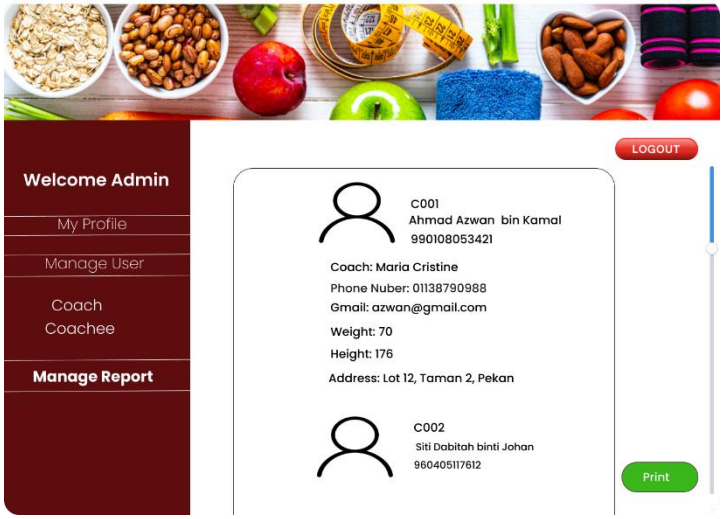

Figure 3.14 *Print report interface*

3.1.4 MANAGE PROGRAM

Coach

Figure 3.15 *View program interface*

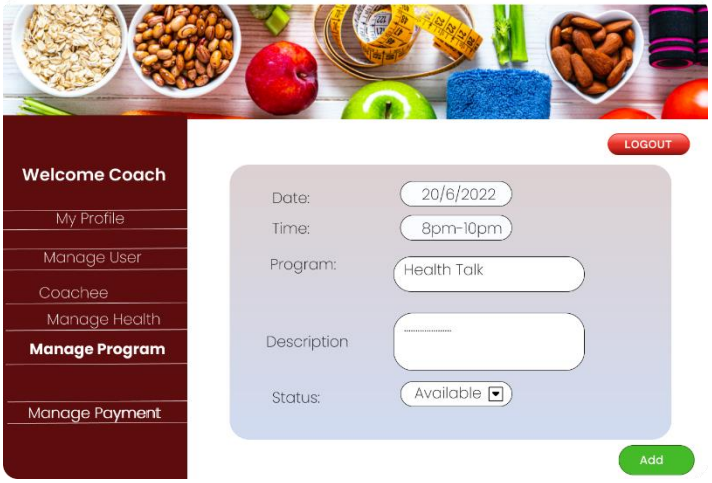

Figure 3.16 *Add new program interface*

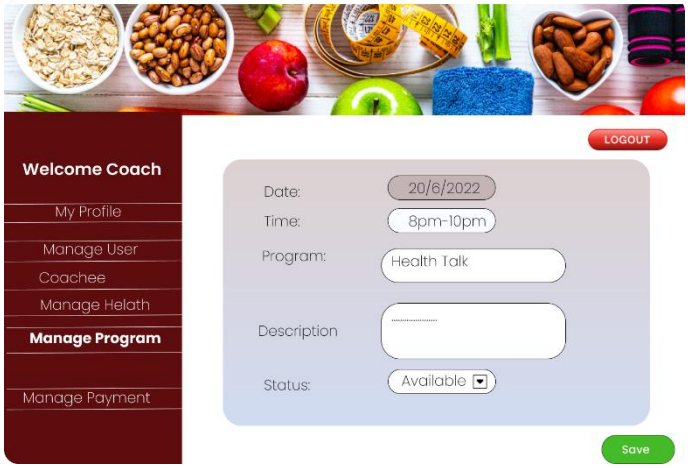

Figure 3.17 *Edit program interface*

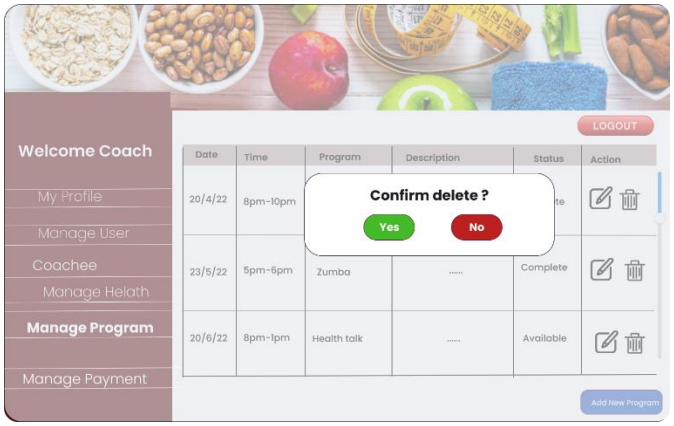

Figure 3.18 *Delete program interface*

Coachee

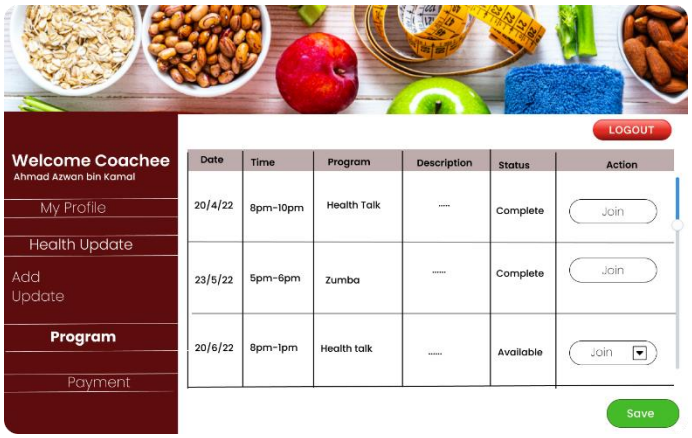

Figure 3.19 *View program interface*

3.1.5 MANAGE PAYMENT

Coach

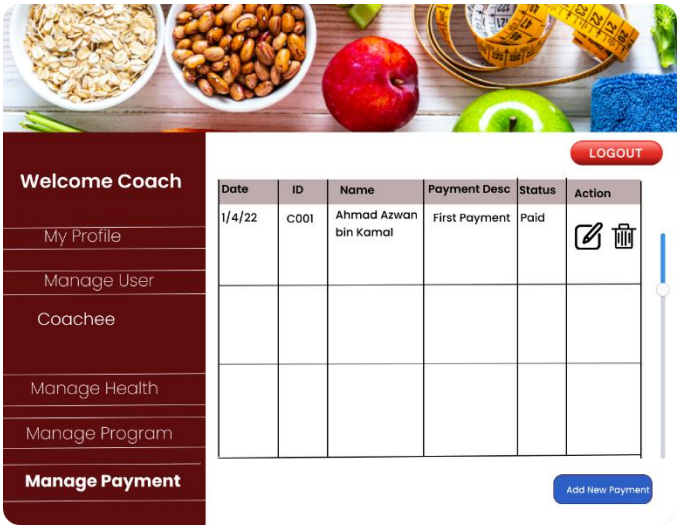

Figure 3.20 *View payment interface*

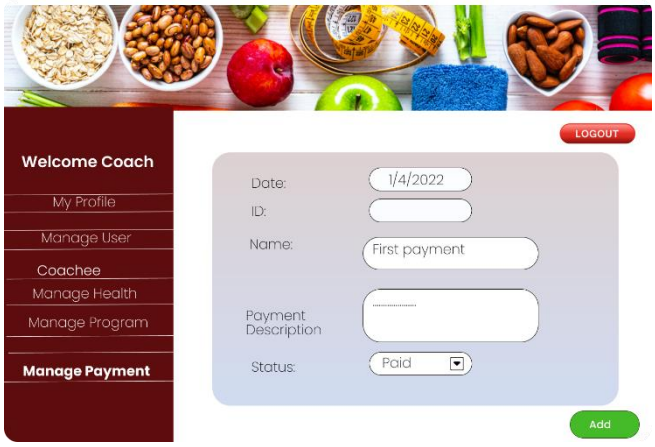

Figure 3.21 *Add new payment*

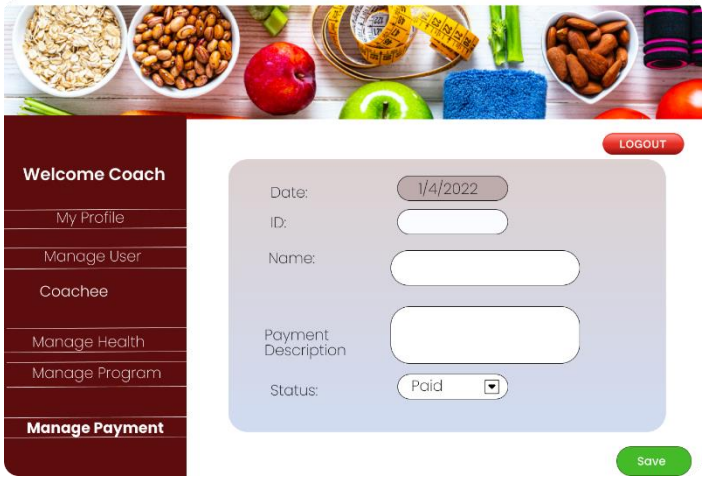

Figure 3.22 *Edit payment interface*

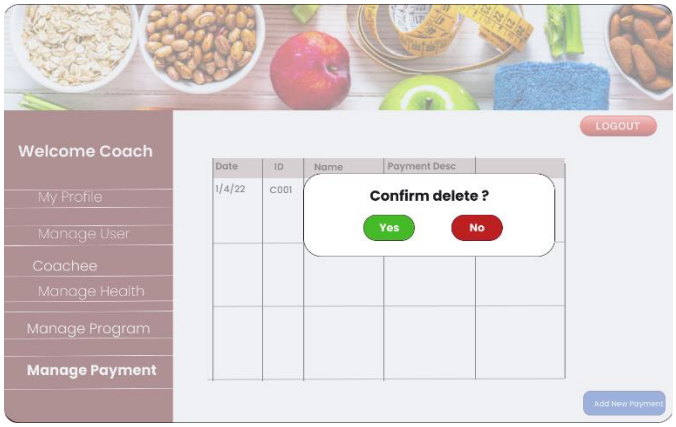

Figure 3.23 *Delete payment interface*

Coachee

Figure 3.24 *View payment interface*

3.1.6 MANAGE HEALTH

Coach

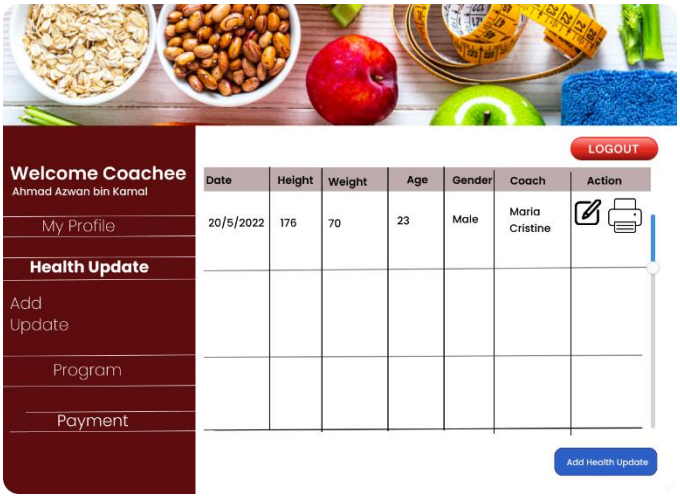

Figure 3.25 *View health interface*

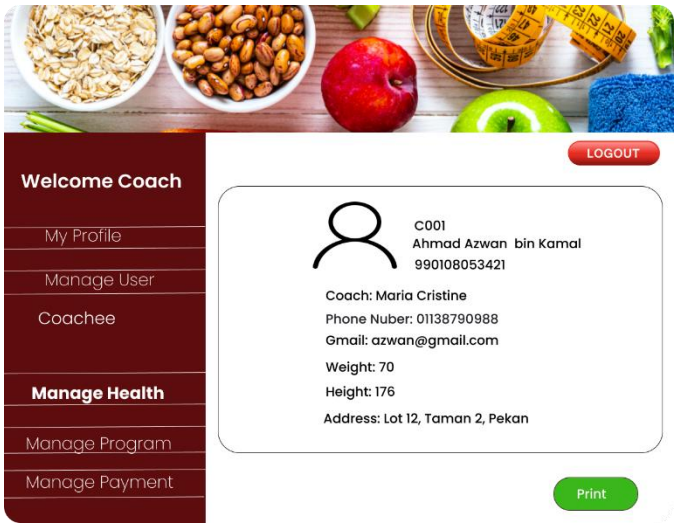

Figure 3.26 *Print health interface*

Coachee

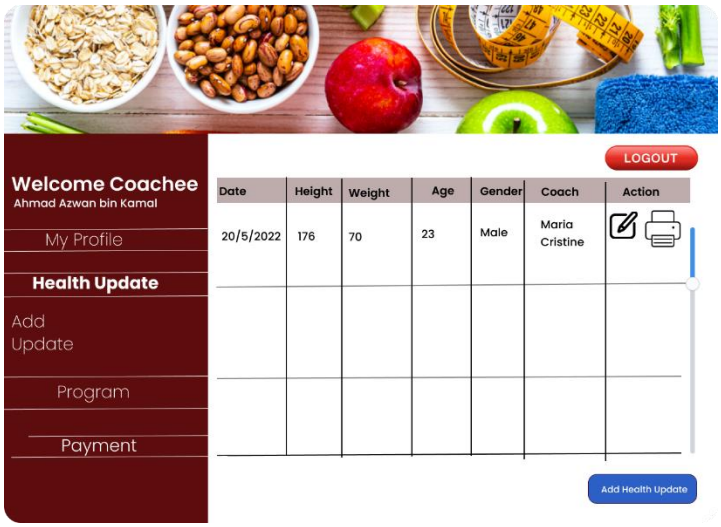

Figure 3.27 *View health interface*

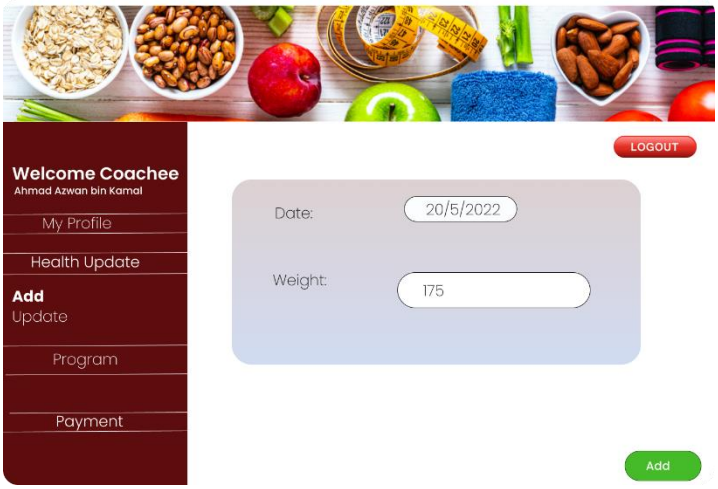

Figure 3.28 *Add health update interface*

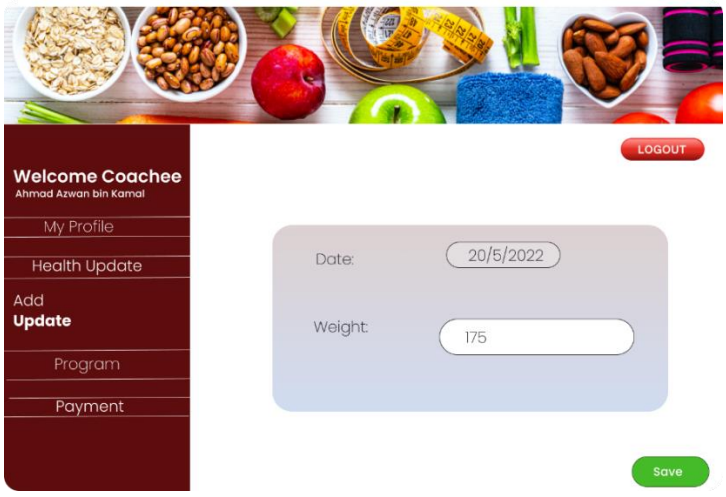

Figure 3.29 *Update health interface*

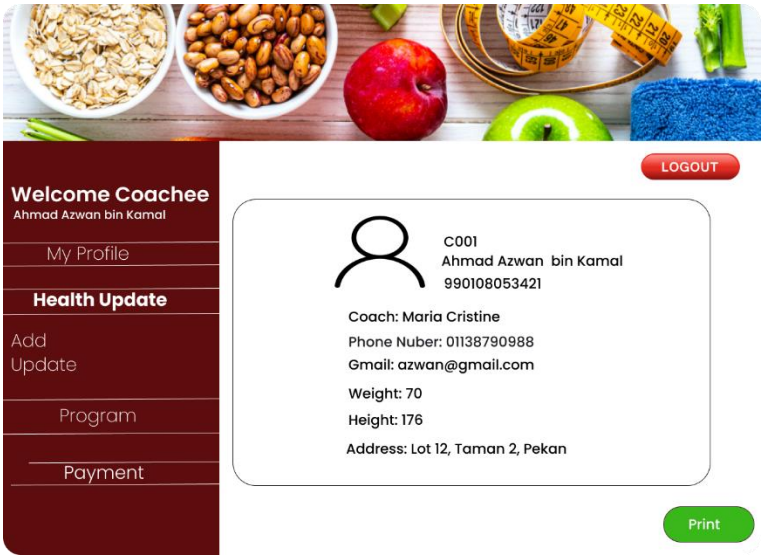

Figure 3.30 *Print health update interface*

3.2 HARDWARE AND SOFTWARE SPECIFICATION

Table 3.1 below shows hardware specification for developing SFCS and table 3.2 below shows software specification

HARDWARE	SPECIFICATION	PURPOSE	QUANTITY
Laptop	Asus 1.80 GHz Intel Core i5	- To prepare system documentation - To design and develop system - To test the system	1
Printer	Canon MP287	- To print	1

Table 3.1 *Hardware Description*

SOFTWARE	PURPOSE
Microsoft Office	- For documentation
Visual studio code	- To code system

Table 3.2 *Software Description*

2022

SOFTWARE DESIGN DESCRIPTION (SDD)

SLIM FIT COACHING SYSTEM For KELAB SIHAT PEKAN

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CHAPTER 1

1.1 PROJECT DESCRIPTION

The main purpose of this Software Design Document (SDD) is to express the real and work design of the Slim Fit Coaching System of Kelab Sihat Pekan. This document contains the complete steps by steps on how the system will be developed. The architectural features of the system breaking down the details of the operation in each module while providing the description of the details for the system to be built.

1.2 SYSTEM IDENTIFICATION

System Title: Slim Fit Coaching System of Kelab Sihat Pekan

System Abbreviation: SFCM

System Identification Number: SFCS_01_2022

1.3 ARCHITECTURE / BLUE PRINT

Figure 1.1 below shows Model View controller (MVC)

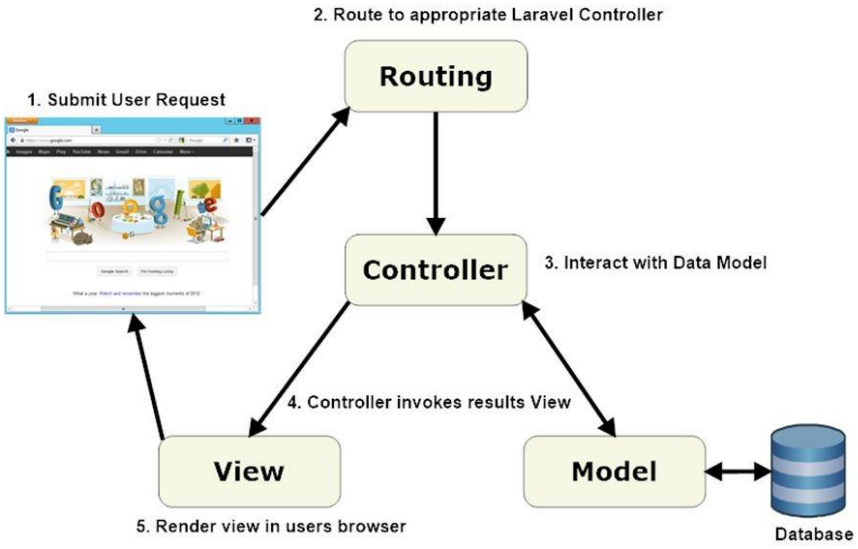

Figure 1.1 *MVC*

1.4 ARCHITECTURE / BLUEPRINT DESCRIPTION

1.4.1 MANAGE USER MODULE

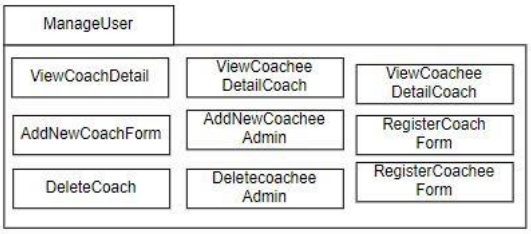

Figure 1.2 *Manage User Module*

ViewCoachDetail	Interface for admin to view all coach details
AddNewCoachForm	Interface for admin to add new coach
DeleteCoach	Interface for admin to delete coach
ViewCoacheeDetailCoach	Interface for admin to view all coachee details
AddNewCoacheeAdmin	Interface for admin to add new coachee
DeleteCoacheeAdmin	Interface for admin to delete coachee
ViewCoacheeDetailCoach	Interface for coach to view all coachee details
RegisterCoachForm	Interface for coach make new registration
RegisterCoacheeForm	Interface for coachee make new registration

Table 1.1 *Manage User Module*

1.4.2 MANAGE HEALTH MODULE

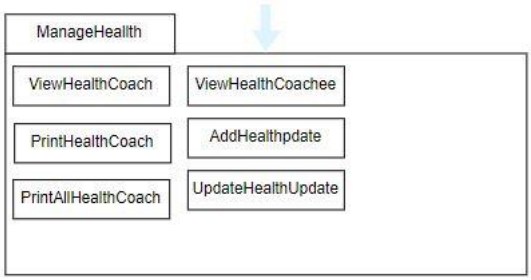

Figure 1.3 *Manage Health Module*

ViewHealthCoach	Interface for coach to view health update of coachee
PrintHealthCoach	Interface for coach to print coaches health details
PrintAllHealthCoach	Interface for coach to print all coaches health details
ViewHealthCoachee	Interface for coachee to view their health update
AddHealthUpdate	Interface for coachee to add new health update
UpdateHealthUpdate	Interface for coachee to update their health update

Table 1.2 *Manage Health Module*

1.4.3 MANAGE REPORTMODULE

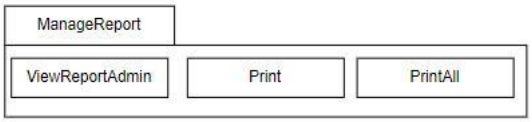

Figure 1.4 *Manage Report Module*

ViewReportAdmin	Interface for admin to view report
PrintReport	Interface for admin to print report
PrintAllReport	Interface for admin to print all report

Table 1.3 *Manage Report Module*

1.4.4 MANAGE PROGRAM MODULE

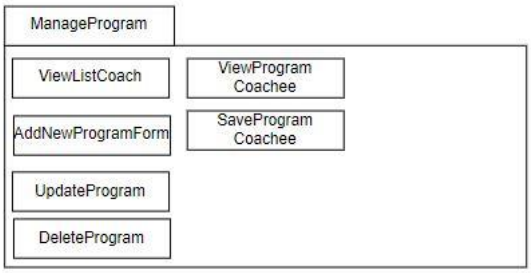

Figure 1.5 *Manage Program Module*

ViewProgramCoach	Interface for coach to view all program
AddNewProgramForm	Interface for coach to add new program
UpdateProgram	Interface for coach to update program
DeleteProgram	Interface for coach to delete program selected
ViewProgramCoachee	Interface for coachee to view all program
SaveProgramCoachee	Interface for coachee after make action on the program

Table 1.4 *Manage Program Module*

1.4.5 MANAGE PAYMENT MODULE

Figure 1.6 *Manage Payment Module*

ViewPaymentList	Interface for coach to view payment
AddNewPaymentForm	Interface for coach to add new payment
UpdatePayment	Interface for coach to update payment details
DeletePayment	Interface for coach to delete payment
VIewPaymentCoachee	Interface for coachee to view payment details

Table 1.5 *Manage Payment Module*

1.4.6 MANAGE FORUM MODULE

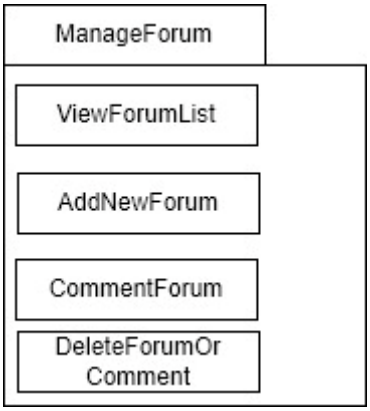

Figure 1.7 *Manage Forum Module*

ViewForumList	Interface for users to view forum
AddNewForumForm	Interface for users to add new forum
CommentForum	Interface for users to make comment
Delete Comment or Forum	Interface for users delete comment of forum

Table 1.6 *Manage Forum Module*

CHAPTER 2

2.1 DETAILED DESCRIPTION

Table 2.1 shows detail description for input

INPUT	OUTPUT	ALGORITHM
Admin		
Login User	Page redirect to homepage	BEGIN Input username, password Click on LOGIN Direct to Adminhomepage END
View coach list	List of coach	BEGIN Click coach Display list of coach END
Register new coach	Registration succesfull	BEGIN Input coach details Click on ADD Display “Registration sucsessfull” END
Remove coach	Remove successfull	BEGIN Input coach Click on REMOVE Display “remove sucsessfull” END
View coachee list (admin)	List of coachee	BEGIN

		Click coachee Display list of coach END
Register new coachee	Registration succesfull	BEGIN Input coachee details Click on ADD Display “Registration sucsessfull” END
Remove coacheee	Remove successfull	BEGIN Input coachee Click on REMOVE Display “remove sucsessfull” END
View report list	List of report	BEGIN Click manage report Display list of report END
Print report	Print begin	BEGIN Clik print Begin print END
View forum list	List of forum	BEGIN Click forum Display list of forum END

Add new forum	New forum succesfull	BEGIN Input forum details Click on ADD END
Comment forum	Update sucsessfull	BEGIN Input commet details Click on SAVE END
Delete forum or comment	Delete successfull	BEGIN Click on DELETE END
Coach		
Login User	Page redirect to homepage	BEGIN Input username, password Click on LOGIN Direct to Coach homepage END
View coachee list (coach)	List of coachee	BEGIN Click coachee Display list of coach END
View program list (coach)	List of program	BEGIN Click manage program Display list of program END
Add new program	Proram registration succesfull	BEGIN

		Input program details Click on ADD Display “Program registration succesfull” END
Edit program detail	Update sucsessfull	BEGIN Input program details Click on SAVE Display “Update sucsessfull” END
Delete program	Delete successfull	BEGIN Input coachee Click on DELETE Display “Delete successfull” END
View payment list (coach)	List of payment	BEGIN Click manage payment Display list of payment END
Add new payment	New payment succesfull	BEGIN Input program details Click on ADD Display “New payment succesfull” END
Edit payment detail	Update sucsessfull	BEGIN

		Input payment details Click on SAVE Display “Update sucsessfull” END
Delete payment	Delete successfull	BEGIN Input payment Click on DELETE Display “Delete successfull” END
View health update (coach)	List of health update	BEGIN Click manage health Display list of health update END
Print health	Print begin	BEGIN Clik print Begin print END
View forum list	List of forum	BEGIN Click forum Display list of forum END
Add new forum	New forum succesfull	BEGIN Input forum details Click on ADD END
Comment forum	Update sucsessfull	BEGIN

		Input commet details Click on SAVE END
Delete forum or comment	Delete successfull	BEGIN Click on DELETE END
Coachee		
Login User	Page redirect to homepage	BEGIN Input username, password Click on LOGIN Direct to Coachee homepage END
View health update	List of health update	BEGIN Click manage health Display list of health update END
Add new health update (coachee)	health update succesfull	BEGIN Input health update details Click on ADD Display “health update successfull” END
Edit health update detail	Update sucsessfull	BEGIN Input health update details Click on SAVE Display “Update sucsessfull”

		END
View program list (cochee)	List of program	BEGIN Click manage program Display list of program END
View payment list (coachee)	List of payment	BEGIN Click manage payment Display list of payment END
View forum list	List of forum	BEGIN Click forum Display list of forum END
Add new forum	New forum succesfull	BEGIN Input forum details Click on ADD END
Comment forum	Update sucsessfull	BEGIN Input commet details Click on SAVE END
Delete forum or comment	Delete successfull	BEGIN Click on DELETE END

Table 2.1 *Detail Description*

2.2 DATA DICTIONARY

ERD

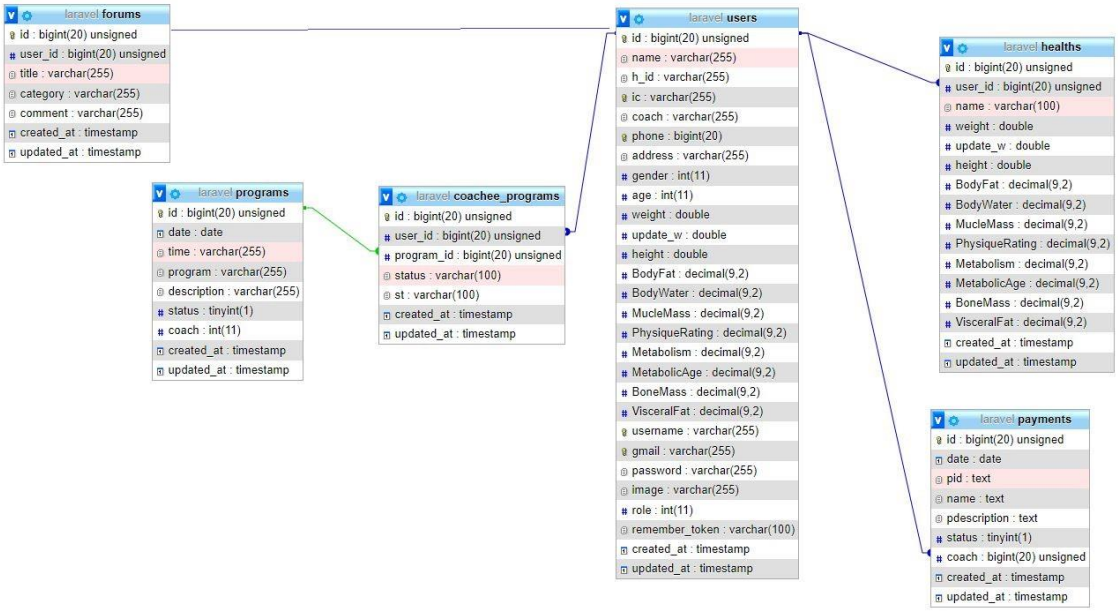

Figure 1.8 *ERD*

DATABASE

Table Users

Name	Type
id **(PK)**	bigint(20)
name	varchar(255)
h_id	varchar(255)
ic **(FK)**	varchar(255)
coach	varchar(255)
phone **(FK)**	bigint(20)
address	varchar(255)
gender	int(11)
age	int(11)
weight	double
update_w	double
height	double
BodyFat	decimal(9,2)
BodyWater	decimal(9,2)
MucleMass	decimal(9,2)
PhysiqueRating	decimal(9,2)
Metabolism	decimal(9,2)
MetabolicAge	decimal(9,2)
BoneMass	decimal(9,2)
VisceralFat	decimal(9,2)
username **(FK)**	varchar(255)
gmail **(FK)**	varchar(255)

password	varchar(255)
image	varchar(255)
role	int(11)
remember_token	varchar(100)
created_at	timestamp
updated_at	timestamp

Table 2.2 *Table Users*

Table Health

Name	**Type**
id **(PK)**	bigint(20)
user_id **(FK)**	bigint(20)
name	varchar(100)
weight	double
update_w	double
height	double
BodyFat	decimal(9,2)
BodyWater	decimal(9,2)
MucleMass	decimal(9,2)
PhysiqueRating	decimal(9,2)
Metabolism	decimal(9,2)
MetabolicAge	decimal(9,2)
BoneMass	decimal(9,2)
VisceralFat	decimal(9,2)
created_at	timestamp
updated_at	timestamp

Table 2.3 *Table Healths*

Table Programs

Name	**Type**
id **(PK)**	bigint(20)
date	date
time	varchar(255)
program	varchar(255)

description	varchar(255)
status	tinyint(1)
coach	int(11)
created_at	timestamp
updated_at	timestamp

Table 2.4 *Table Programs*

Table Coachee Programs

Name	**Type**
id **(PK)**	bigint(20)
user_id	bigint(20)
program_id	bigint(20)
status	varchar(100)
st	varchar(100)
created_at	timestamp
updated_at	timestamp

Table 2.5 *Table Coachee Program*

Table Payments

Name	**Type**
id **(PK)**	bigint(20)
date	date
pid	text
name	text
pdescription	text

status	tinyint(1)
coach	bigint(20)
created_at	timestamp
updated_at	timestamp

Table 2.6 *Table Payments*

Table forums

Name	**Type**
id **(PK)**	bigint(20)
user_id	bigint(20)
title	varchar(255)
category	varchar(255)
comment	varchar(255)
created_at	timestamp
updated_at	timestamp

Table 2.7 *Table Forums*