Kingdom of Saudi Arabia
Ministry of Education
Majmmah University
Faculty of Science at Zulfi
Computer science & Info
department

المملكة العربية السعودية
وزارة التعليم
جامعة المجمعة
كلية العلوم بالزلفي
قسم علوم الحاسب والمعلومات

System for Summer Training (ST)

Submitted in partial fulfillment of the requirements for the award of
Bachelor's degree of the Majmaah University
(Semester 1, November 27, 2018)

Student Name:

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Supervised by:

Dr. Afaf Abdulrahman

Dedication

I dedicate this project to anyone stand with me and helped me especially my university Majmaah University, all workers in department of computer science and information, instructors, students who wants to train in the summer.

ملخص:

طالب علوم الحاسب عندما يتدرب في الصيف لا توجد وسيلة تواصل رسمية بين الطالب والمشرف في الجامعة، هذا النظام سوف يساعد الطلاب على التواصل مع المشرف في الجامعة ويسمح لهم بإرسال تقاريرهم الشهرية، كتابة الشكاوي والملاحظات على المؤسسة التدريبية، كتابة يومياتهم حول ما تعلموه كل يوم، وما هي التجارب والخبرات الجديدة التي حصلوا عليها، وتوضيح العلاقة بين قسم علوم الحاسب الآلي وتقنية المعلومات ومؤسسة التدريب التي تدربوا فيها، والتقنيات المستخدمة من قبل المؤسسة التدريبية التي لها علاقة بقسم علوم الحاسب الآلي وتقنية المعلومات وكتابة المزايا والعيوب والتوصيات التي وجودوها في التدريب.

يسمح النظام للجامعة لمتابعة الطلاب المتدربين خلال التدريب الصيفي، واقتراح لأسماء الجهات المسموح التدرب بها والجهات التي تحتاج لمتدربين في قسم علوم الحاسب الآلي ونظم المعلومات، أيضًا يمكن أن يكون النظام مرجع للطالب بعد التخرج كخبرة يتستفيد منها عند البحث عن وظيفة.

الكلمات المفتاحية: النظام ، التدريب الصيفي ، دورة حياة تطوير البرمجيات (SDLC).

Abstract:

Computer science students when they are training in the summer there is no communication means between student and the supervisor in the university.

This system will help the students to communicate with their supervisor in the university, send their monthly reports, write their complaints about the training enterprise, write their diaries about what they have learn for every day, what is the new experiences and experiments they have got, explain the relation between the department of computer science & Information and the training enterprise, the technologies used by the training enterprise related to department of computer science & Info technology, write the advantages, disadvantages and recommendations of the training.

Also, the system allows the university to follow up students during the summer training and share the allowed names of enterprises that needs computer science trainees, the system can also be a reference to the student after graduation as an experience to benefit them when looking for a job.

Keywords: System, Summer training, Software development life cycle (SDLC).

Acknowledgment:

I’m thankful to my family a special feeling of gratitude to my loving parents whose words of encouragement and push for tenacity, my sisters Seham and Razan and my brothers Mohammed, faisal and ziyad they were as a positive energy to me thank you so much for everything.

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Dr. Maria Altaib.

Dr. Nasreen Sultana qaudri.

Dr. Hajer Brahim.

Dr. Shafiqa Ouni.

My friends who stood with me all the time and help me when I need anything about anything, special love for them Amal Ahmed, Najla Saad, Hana Sultan and Aicha Mohammed.

MAJMAAH UNIVERSITY,
COLLEGE OF SCIENCE AL ZULFI,
DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION

(CERTIFICATE BY STUDENT)

This is to certify that the project titled **"System for Summer Training (ST)"** submitted by me (**Reem Abdullah Farraj Al-Jewaer**, **351204058**) under the supervision of **Dr. Afaf Abdulrahman** for award of bachelor's degree of the Majmaah University carried out during the Semester 1, Novamber 27, 2018 embodies my original work.

Signature in full: --------------------------------

Name in block letters: REEM ABDULLAH FARRAJ AL-JEWAER

Student ID: 351204058

Date:

Index:

List of Figures:

List of tables:

1) Introduction

1.1 Overview

In our time, technology has become important and necessary in many matters of life it facilitates many things, publish community awareness, decreases efforts and time, share personal opinions, provides information at any time, develop new ways to save data for a long time not be misrepresented by anyone who has no authority to use and modify it, develops software to protect data from viruses and attacks, supports communication techniques and provides security and privacy for the users.

When data security, reliability, accessibility and confidentially is increased, the use of technology in enterprises is also increased especially in the large enterprises e.g. banks, hospitals, national security and universities.

One of the important uses of technology is communication. It makes the world close to each other, easy access to any kind of information, facilitates getting the information, makes communication means with the scientists, writers, searchers, and readers in a short and fast time and a simple way, news and events that occur in a specific place reach the whole world in a short time, sending information in easier and faster ways.

In this project, we will establish a communication mean between the student who is training in the summer and supervisor in university.

It helps students to communicate with their supervisor and share their opinion about the training enterprise.

1.2 Abstract System Description

It’s a system for the trainees in the summer allow them to share their new dairies, experiences and experiments for each day, share their monthly reports, the advantages and disadvantages of the training and write their compliments and problems to their supervisor.

1.3 Problem definition

Computer science students when they are training in any enterprise, they don’t have an official communication tool between them and their supervisor in university, the main problems:

1. Supervisor can’t know the new computer skills of student.
2. Supervisor can’t know the new experience of student.
3. Supervisor can’t notice the efficiency of the training enterprise during training.
4. Student can’t communicate with their supervisor in official way.
5. Student can’t share their opinion about the training enterprise.
6. There is no official way to write their complaints.
7. There is no drobox to upload their monthly reports and diaries.
8. Difficulty of comparison between students who have trained in different enterprises to know which is the best enterprise that trains students with the good computer skills.
9. Some students don’t know what is the enterprises that are allowed for summer training.

1.4 Proposed Solutions

1. Design modern system the students can reach it easily like mobile application for summer training.
2. Produce a communication means between trainee and supervisor.
3. Provide a drobox allow student to upload their reports and diaries.
4. Provide a mechanism for student who has a problem with his training enterprise to write his problem and supervisor can read it.
5. Access to read the student reports and diaries by supervisor and compare it to know which is best the training enterprises that gives student high computer skills.
6. Share the names of legal enterprises by supervisor to guide student to know which the allowed enterprises and which is not allowed for training.

1.5 Goal

Produce a system for the students to facilitate communication between them and their instructors and to solve the problem that faces students during training.

1.6 Objectives

1. Facilitates communication with supervisor in university by using modern technology as a means of communication.
2. Help the supervisor to know the new trainee skills and the new experiences and the experiments.
3. Identify the competencies and possibilities of training enterprises.
4. Students can upload their monthly reports, their daily events that helps supervisor to assess the students and Identify student problems and solve them.
5. Supervisor can know which is the best enterprise that gives student good skills, new experience, encourage them give them their rights.
6. System will be a reference as a previous experience when the student looks for a job after graduation.
7. Identify the legal enterprise names that are allowed for the computer science trainees.

1.7 Critical Success Factors

1. Good design.
2. Good Programming.
3. Easy implementation.
4. Understandable system.
5. Error free system.
6. Less problems.
7. Efficient use.
8. Ease of use.

1.8 Expected Results

1. Documentation of student achievements during the training period.
2. Activate the role of the university to give the students useful experiences before graduation.
3. Facilitate student assessment.
4. Facilitate student access to the supervisor.
5. Find out how enterprises effect on students in summer training.
6. Know the actual benefits and faults of summer training.
7. Identify the highly qualified enterprises that can train students in professional way and prepare them for the labor market.

8. Know how much student can link concepts of computer science and information with daily life from his reports and his diaries.

1.9 Project Importance

1. Currently, there is no dedicated project to summer training at the university so, there is no competitiveness project to this project.
2. Students in the previous year have a communicating problem with supervisors at the university and they can’t send their reports and problems, this is a project insha allah will help future students in the coming years to having a dedicated system for summer training to document their experiences and their experiments.
3. Deliver student reports, documents and problems electronically there is no paper need.
4. The supervisor can know the problems and solve them as quickly as possible.
5. Students can view their reports and their diaries at any time and this provides accessibility at any time to information.
6. University gets offers from different enterprises to publish their need of trainees in the application.

1.10 Project Scope and constraints

1.10.1 Scope

The project will be applied to Majmaah university, science college.

Beneficiaries: trainee students, supervisors and enterprises.

1.10.2 Tools and Languages

- **Inductive research**

  In this research, the researcher will explain the relation between this project and the related works or previous studies about the effect of communication with supervisor, how can we use technology to solve student problems? and what are the strengths points and weak points by comparing this project with these previous studies and related work.

- **Quantitative research**

  In this research, the researcher will publish an electronic questionnaire to know how much the students need an application to help them during summer training.

- **Applied research**

  In this research the focus on the programming part, we will use:

  1) **PHP**

     "PHP is a script language and interpreter that is freely available and used primarily on Linux Web servers. PHP, originally derived from *Personal Home Page* Tools, now stands for *PHP: Hypertext Preprocessor". (*Margaret Rouse, n.d)

  2) **Firebase**

     "Firebase is a Backend-as-a-Service—BaaS—that started as a startup and grew up into a next-generation app-development platform on Google Cloud Platform." (Espline.ch, Oct 2016)

  3) **JAVA**

     "Machine language consists of very simple instructions that can be executed directly by (online) the CPU of a computer. Almost all programs, though, are written in high-level programming languages such as Java, Pascal, or C++. A program written in a high-level language cannot be run directly on any computer.

     First, it has to be translated into machine language. This translation can be done by a program called a compiler. A compiler takes a high-level-language program and translates it into an executable machine-language program." (David J. Eck ,2014).

1.11 Research Outlines

- Chapter one:

In this chapter, the researcher gives an overview about the project, abstract system description, describe the problem with proposed solution, describe the main goal, specific objectives, critical success factors, expected result, project importance in our life, project scope & constraints and research outlines.

- Chapter two:

In this chapter, the focus on the literature review and related works, the comparison between the previous related work and this project, with commentary to link the literature review and related works and this work and talk about the difficulties that faces the researcher.

- Chapter three:

In this chapter, we take about the feasibility study, project plan and the required time, comparing the software development life cycle (SDLC) and choose the suitable one, general requirements, design data model, implementation, verification, maintenance, the methods of gathering information and Then we collect the results from questionnaire, analyze it and describe the statistical processing methods.

- Chapter four:

In this chapter, focus on functional requirements and non-functional, the design of the system (Description of data flow diagram with the three levels: context diagram, level 1 and level 2, class diagram, object diagram, use case, sequence diagram, activity diagram, state diagram, entity relationship diagram (ERD) and the database tables.

- Chapter five:

In this chapter, we will talk about the implementation, procedures, layouts, reports and report layouts.

- Chapter six:

In this chapter, conclusion and future works, references and appendix.

1.1 Research Vocabulary

Table (1-1) Search vocabulary

Word	Meaning
System	“A set of things working together as parts of a mechanism or an interconnecting network.” (*Definition of system*, n.d)
Training	“Is the process of learning the skills that you need for a particular job or activity.” (*Definition of training*, n.d)
Summer Training (ST)	“The students gain knowledge and enhance their technical skills in various technologies by practical and theoretical sessions under the guidance of experienced trainers.” (Shujat Khan ,2017)
Software development life cycle (SDLC)	“A software development methodology refers to the framework that is used to plan, manage, and control the process of developing an information system.” (Vanshika Rastogi, n.d)
System administrators	“A person who is responsible for the upkeep, configuration, and reliable operation of computer systems; especially multi-user computers, such as servers.” (*Definition of system administrator*, n.d).

2) Literature Review and Related Works

2.1 Introduction

The previous chapter was to describe the summer training project in a specific way but, in this chapter the focus will be in the literature review and related work and compare it with summer training project.

It's important to link this project with the previous related works to explain what the difference is.

Also, there are studies enhance the idea of summer training system Indirectly.

2.2 Literature Review

1. HOW TO IMPROVE EFFECTIVE COMMUNICATION BETWEEN PROFESSORS AND STUDENTS AT CONCORDIA UNIVERSITY, NEBRASKA.

"Human communication involves two parties who try to exchange messages in order to convey information within a particular setting.

It is important to note that messages can be constructed and sent in different forms; messages can also be nonverbally expressed. On the other hand, the receiver of a message would have to interpret it and try to respond accordingly. The interpretation of messages is sometimes appropriately done. However, there are times when messages are misconstrued and lead to inappropriate responses.

Therefore, sending messages, receiving messages, and interpreting messages, all need to be well done in order to achieve effective communication between people.

A specific review of studies on the communication process between professors and students at colleges and universities would reveal that there are common themes. For instance, expectations, empathy, interpersonal competence, communication apprehension, among other things, are issues that come up in communication between professors and students at schools as such, this review takes a thematic approach to discuss some of these issues." (Musa Fofana,2015),

"As professors and students communicate at school, both parties try to meet the expectations of each other, and these expectations help in achieving the very objective of effective communication.

In other words, professors and students try to communicate effectively in order to facilitate the process of teaching and learning, and eventually realize academic excellence. Scott and Tobe(1995) suggested that communicating high expectations is necessary in helping students to succeed. They essentially argued that high expectations are important for everyone.

At school in particular, expectations should be coupled with a supportive climate, individualizing experiences, tailoring assignments to meet individual needs and interests, feedback on work in progress, clear expectations of performance, and celebrating success.

It is especially important to note that, “A supportive environment encourages students to keep pushing, to do better, to succeed, even if early attempts are unsuccessful. Multiple opportunities for success must exist” (Scott & Tobe, 1995, p. 38)

In the same vein, Scott and Tobe(1995) argued that in creating a culture of communicating high expectations to students, there must be a corresponding larger institutional culture that communicates the same to faculty and staff members.

The idea of communicating high expectations at schools for success is premised on the assumption that all students have the ability and can learn, what inhibit them is the expectations that are set for them.” (Musa Fofana, 2015),

2. Five Ways Teachers Can Use Technology to Help Students.

“Schools must use technology that empowers teachers.

Teachers rightly reject education technologies that divert their attention from instruction.

The best education technologies enable teachers to do more with fewer resources.

Communication platforms like Twitter, Facebook, or Tumblr enable dynamic communication with students.

Teacher-empowering technologies include mobile apps that grade written student work and provide lesson plan databases.

School systems need to aggressively track what works for their teachers and put all other unworkable technologies aside.

Teachers should treat the adoption of technology as part of lesson planning. One of the major drivers of bad policy is policy churn, new district leaders want to make their mark adopting new policies and jettisoning the old. This constant changing of priorities makes beneficial reforms difficult to implement.

Teachers can incorporate technology directly into their practice and insulate their students from the deleterious effects of policy churn.” (Darrel M. west & Joshua Bleiberg , 2017)

3. The Effect of Teacher-Family Communication on Student Engagement

“we evaluate the efficacy of teacher communication with parents and students as a means of increasing student engagement.

We estimate the causal effect of teacher communication by conducting a randomized field experiment in which 6th and 9th grade students were assigned to receive a daily phone call home and a text/written message during a mandatory summer school program. We find that frequent teacher-family communication immediately increased student engagement as measured by homework completion rates, on-task behavior, and class participation.

On average, teacher-family communication increased the odds that students completed their homework by 40%, decreased instances in which teachers had to redirect students' attention to the task at hand by 25%, and increased class participation rates by 15%.

Drawing upon surveys and interviews with participating teachers and students, we identify three primary mechanisms through which communication likely affected engagement: stronger teacher-student relationships, expanded parental involvement, and increased student motivation." (Matthew A. Kraft & Shaun M. Dougherty,2012)

4. Faculty use and perception of mobile information and communication technology (m-ICT) for teaching practices

"The purpose of this study was to consider faculty use and perception of mobile information and communication technology (m-ICT) for teaching practices. The researchers examined qualitative responses about specific m-ICT use and efficiency amongst Korean and US faculty (*n* = 59) at three different institutions.

Findings from multi-level textual analyses showed faculty in both countries utilised m-ICTs for content delivery and student support; however, there were some notable differences with regard to instructor-guided content and faculty–student communication.

Results suggest the need for future research linking the technology use and social interaction components to pedagogy to promote effective m-ICT use." (J.Patrick Biddix, Chug Joo Chug and Han Woo Park ,2016)

5. Interaction in communication technologies and virtual learning environment: human factors

"In their efforts to diffuse information technology (IT) into higher education institutions beyond the stand-alone computer lab, campus administrators have typically used two strategies (Finn & Inman, 2004).

The first strategy was to create a networked campus with internet availability from virtually any location. Brown and Petitto (2003, p.25) termed this strategy as "ubiquitous computing".

The second strategy was to require all incoming students to have a personal laptop computer The dominant official rationale behind requiring personal laptops in higher education was that the teaching and learning of technology savvy students can be enhanced and will prepare students for employer expectations of technical proficiency (Elwood, Changchit, & Cutshall, 2006: Tomek & Muldner, 1999) Additional goals of laptop programs at the university level include increased communication between students and faculty, student collaboration through information communication technology (ICT) platforms such as Blackboard and Scholar, active learning, prompt feedback, expectations for high quality work diversity in learning experiences, and support for a variety of learning styles (McVay, Snyder, & Gracti, 2005). Typically, not mentioned is the incentive, described earlier, to offload computer costs on to students and in doing so, lessen the need for creating. updating and replacing the computer labs that characterized the desktop computer in college computing." (Angela T.Ragusa ,2010)

6. Use of electronic communications for official correspondence with students.

"There is an expanding reliance on electronic communication among students, faculty, staff, and administrators at Montana State University. This is motivated by the convenience, speed, cost-effectiveness, and environmental advantages of using electronic communications rather than printed communication. Further, MSU has experienced a wider geographic dispersion of students resulting in a direct need to communicate reliably and consistently via email as well as electronic messaging. Because of this increasing reliance on and acceptance of electronic communication, it is considered an official means for communication within MSU.

Implementation of this policy ensures that students have access to this critical—if not essential—form of communication. This policy will ensure that all students can access and be accessed by email and other electronic means of communications, as the need arises. This is especially relevant as it relates to disseminating critical university-related information.

Policy:

The student email policy provides guidelines regarding the following aspects of electronic communications as an official means of communication with students:

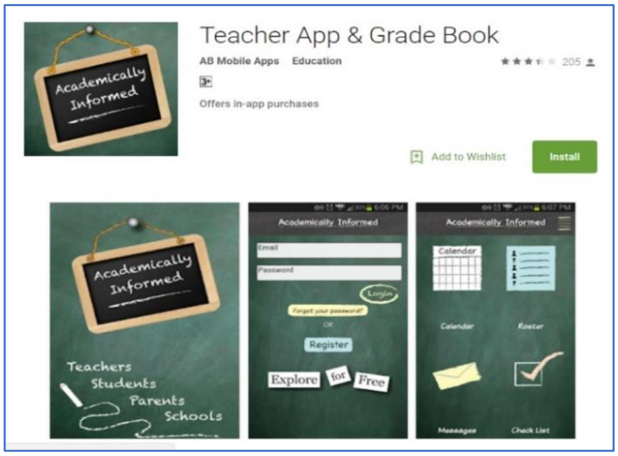
- University use of email.
- Assignment of student email addresses.
- Expectations of email communication between faculty and student, staff and student, and administrators and students." (*Use of electronic communications for official correspondence with students, 2014)*

7. The Teacher App & Grade Book.

“This new, free tool helps enhance collaboration between teachers, parents, students, and schools using parent messaging; an interactive calendar; event notification; and course grade notifications.

Parents can check grades, review attendance records, submit absentee letters, and stay on top of upcoming events with the app's calendar. “(*AB Small Business Marketing*, 2014).

Figure (2-1) The teacher App & grade book


Teacher App & Grade Book

AB Mobile Apps Education

Offers in-app purchases

Retrieved from https://thejournal.com/articles/2013/06/11/7-free-apps-for-keeping-parents-and-teachers-connected.aspx

8. ClassDojo

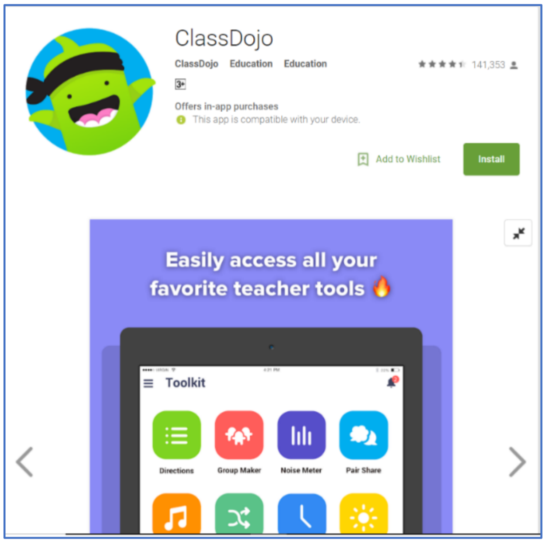
“ClassDojo is a simple to use classroom format that does it all.

Teachers can text students when they are doing well and give them points and other positive reinforcement right away. This can also be transmitted to parents, allowing them to feel more connected to their student throughout the day.

Pictures and text messages can be sent to parents safely.

Also, students can add their work a portfolio that they would like their parents to see.” (Sam and Liam (ClassDojo’s co-founders), 2011).

Figure (2-2) ClassDojo


ClassDojo

ClassDojo Education Education

Offers in-app purchases

This app is compatible with your device.

Easily access all your favorite teacher tools

Retrieved from https://thejournal.com/articles/2013/06/11/7-free-apps-for-keeping-parents-and-teachers-connected.aspx

2.3 Commentary about the related work and literature review

The researcher agrees with (Musa Fofana, 2015) with communication definition and the importance of communication between the students and their supervisor and how that effect on them to do better, to be more successful and facilitate understanding student nature.

(Darrel M. west, Joshua Bleiberg, 2017) they refer to an important point in their paper "The best education technologies enable teachers to do more with fewer resources" that is mean technology can ease student access to their teacher in a simple and fast way.

As (Matthew A. Kraft & Shaun M. Dougherty, 2012) said "We estimate the causal effect of teacher communication by conducting a randomized field experiment in which 6th and 9th grade students were assigned to receive a daily phone call home and a text/written message during a mandatory summer school program. We find that frequent teacher-family communication immediately increased student engagement as measured by homework completion rates, on-task behavior, and class participation"

So when we link this idea with this project, we can figure out that communication help the supervisor to know The extent of the student's improvement during the training summer, to know of the serious enterprises in the education and establishment of the student and to know the phantom enterprises that use the name of training to exploit the students in the summer.

(J.Patrick Biddix, Chug Joo Chug and Han Woo Park) they make an applied research and the result was "Suggest the need for future research linking the technology use and social interaction components to pedagogy to promote effective m-ICT use" that's mean there is lack of technology communication means between students and their teachers, so produce a new communication means it's a good idea to increase the official, efficient and helpful communication.

The researcher agrees with (Angela T.Ragusa, 2010) in this point "The first strategy was to create a networked campus with internet availability from virtually any location. (Brown and Petitto (2003, p.25)) termed this strategy as "ubiquitous computing"

The importance of technology and the meaning of "ubiquitous computing" let them to make a networked campus with internet availability to let students and teachers communicate with each other inside the university building.

But, in this research the communication will be either inside or outside the building.

(MSU, 2014) they publish that they will use official communication means in the university because the expanding reliance on electronic communication among students, faculty, staff, and administrators at Montana State university.

So that means the university needs efficient applications to complete the educational process.

2.4 Compare previous applications with summer training system application:

Table (2-1) Compare previous applications with summer training system application

Application Name	Participants	Target Place	Publish date	Advantages	Disadvantages
The Teacher App & Grade Book	Teachers, parents, students.	Schools	2014	- The teacher user interface will allow them to send important messages to parents, students, and/or other teachers in a matter of seconds. - Teachers will also be able to add attachments, grades, student notes, and student attendance.	- Not Free, The Subscription is charged every 30 days at $1.99. - contains links to partners, advertisers and services that may collect data in connection with sweepstakes, promotions, ecommerce.
ClassDojo	Teachers, parents, students.	Schools	2011	- Teachers can encourage students for any skill or value — whether it's working hard, being kind, helping others or something else. - Parents easily join your class.	- In the future, they may offer new or additional special features which ClassDojo may charge for. - sometimes offers experimental features which haven't been tested. These may be removed without notice.
Training summer	Trainee students, supervisor	University , training enterprises	2018	- Comparing with (The Teacher App & Grade Book & ClassDojo) Free, Not containing advertisements.	- Have a limitation only the training student can use it.

3) System Analysis

3.1 Introduction

One of the important parts of project construction is system analysis and the other parts depend on it.

The project will be studied from the economic, operational and technical side, clarify the timeline of the project in detail, Comparison between the most important models of life cycles and choose an appropriate model for this project, the way of collect information and define the results.

3.2 Feasibility Study

3.2.1 Technical side

The requirements limited to computers and smartphones, the programming languages and database used:

1- PHP

"PHP is a script language and interpreter that is freely available and used primarily on Linux Web servers. PHP, originally derived from *Personal Home Page* Tools, now stands for *PHP: Hypertext Preprocessor" (*Margaret Rouse, n.d)

2- Firebase

"Firebase is a Backend-as-a-Service—BaaS—that started as a startup and grew up into a next-generation app-development platform on Google Cloud Platform." (Espline.ch, Oct 2016)

3- JAVA

"A widely used programming language expressly designed for use in the distributed environment of the internet.

It is the most popular programming language for Android smartphone applications and is among the most favored for edge device and internet of things development." (Margaret Rouse, n.d)

3.2.2 Operational Side

The work environment will consist of the student only and there are no employees or assistants.

Project management and implementation will be by the student only, after the implementation of project it will be accessible to everyone who allowed to use it.

Since most people use the different technology in this time, this means that there is no need for training courses to explain the mechanism of application work.

3.2.3 Economic side

There is no financial burden for the project, because the project is a compilation of the experiences of the student in the specialization of computer, the need is only for a laptop to complete the work.

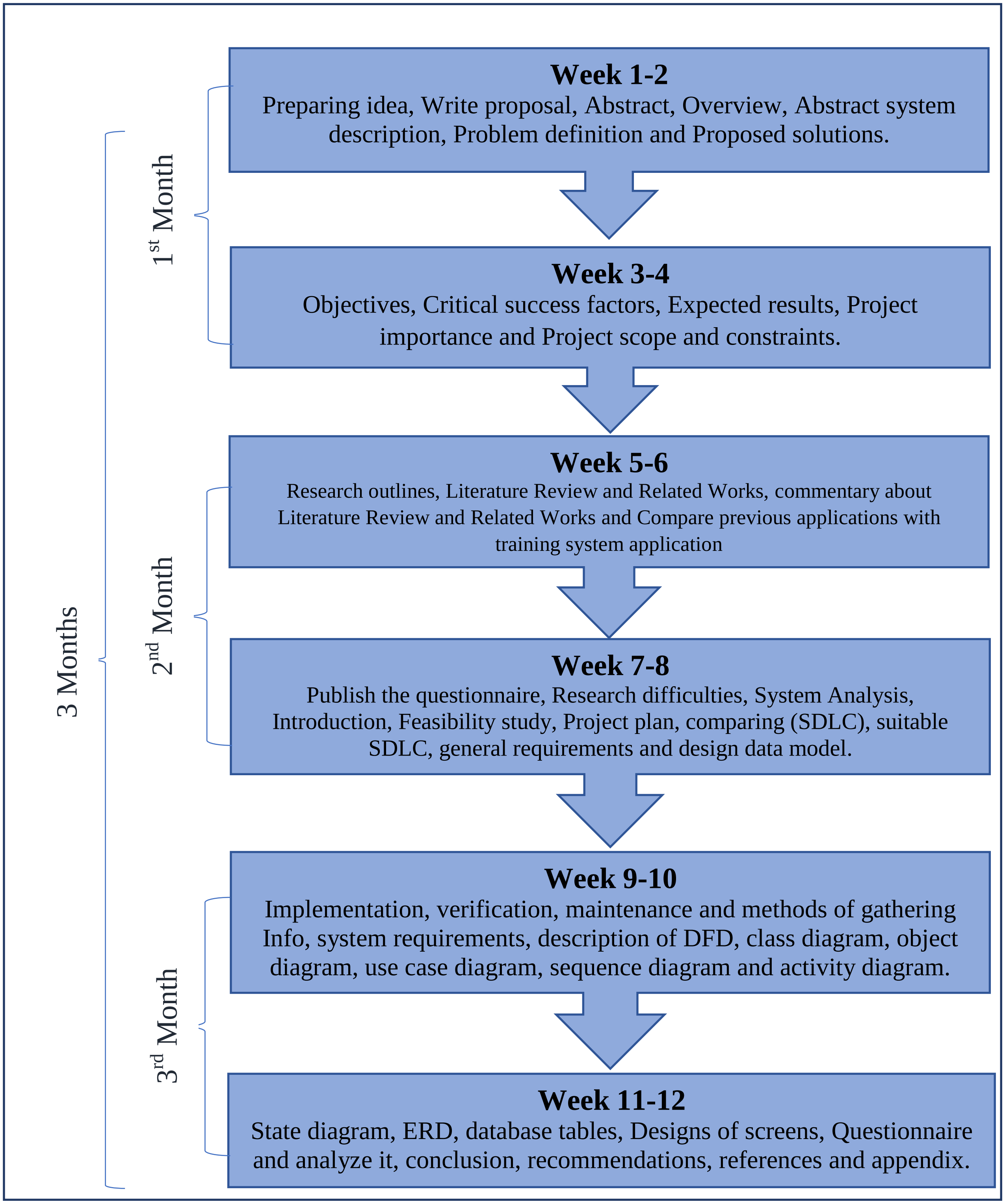
3.3 Research Difficulties

The difficulty was in taking samples of students for the questionnaire, because the summer training is a new concept and has not been applied before at Majmaah University and specifically in the Faculty of Sciences in Zulfi, it has been applied for a year ago.

3.4 Project plan

3.4.1 Time Schedule

Table (3-1) Project plan (Project 1)



Week 1-2
Preparing idea, Write proposal, Abstract, Overview, Abstract system description, Problem definition and Proposed solutions.

Week 3-4
Objectives, Critical success factors, Expected results, Project importance and Project scope and constraints.

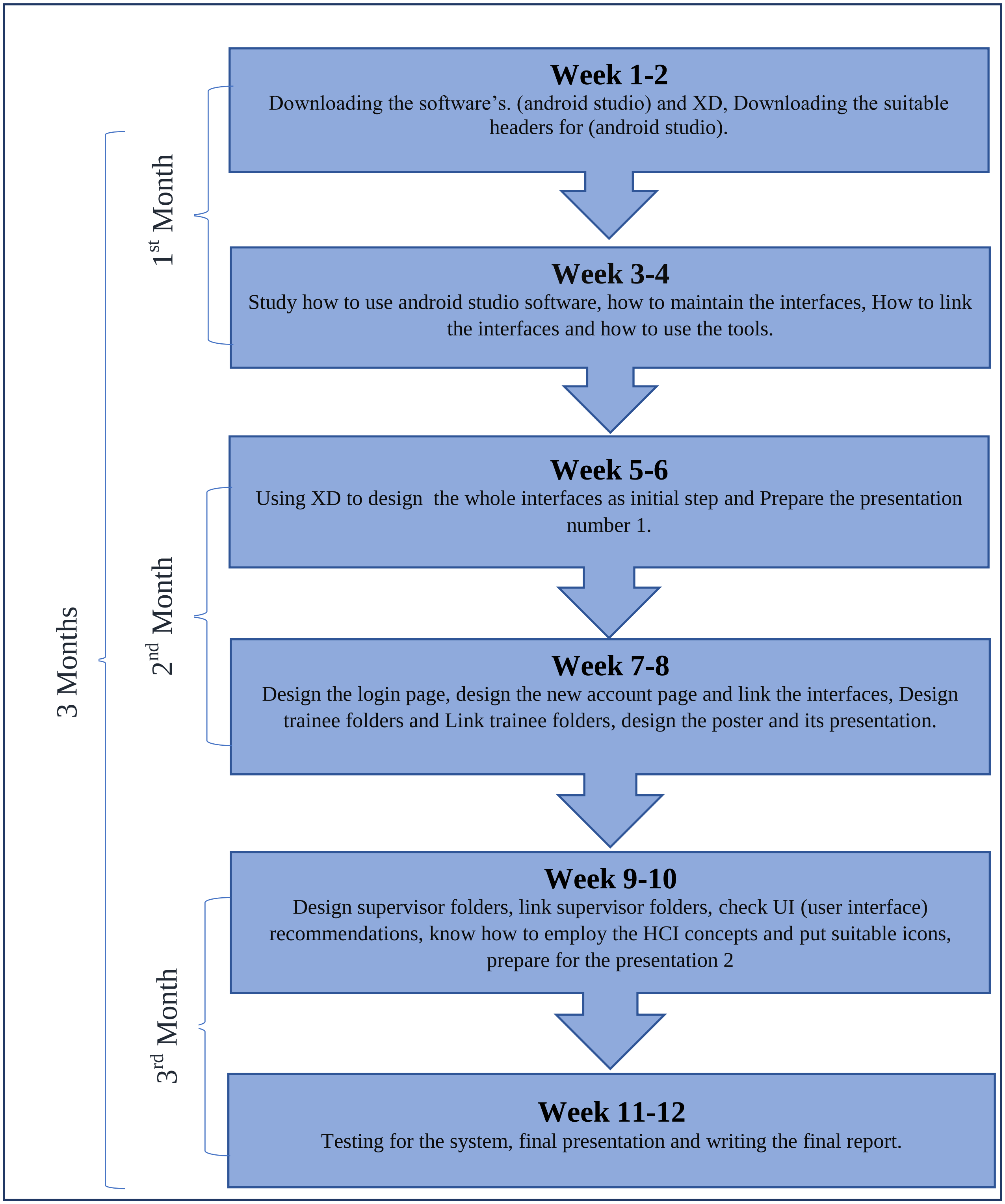
Week 5-6
Research outlines, Literature Review and Related Works, commentary about Literature Review and Related Works and Compare previous applications with training system application

Week 7-8
Publish the questionnaire, Research difficulties, System Analysis, Introduction, Feasibility study, Project plan, comparing (SDLC), suitable SDLC, general requirements and design data model.

Week 9-10
Implementation, verification, maintenance and methods of gathering Info, system requirements, description of DFD, class diagram, object diagram, use case diagram, sequence diagram and activity diagram.

Week 11-12
State diagram, ERD, database tables, Designs of screens, Questionnaire and analyze it, conclusion, recommendations, references and appendix.

Table (3-2) Project Plan (Project 2)



3 Months

1st Month

Week 1-2

Downloading the software's. (android studio) and XD, Downloading the suitable headers for (android studio).

Week 3-4

Study how to use android studio software, how to maintain the interfaces, How to link the interfaces and how to use the tools.

2nd Month

Week 5-6

Using XD to design the whole interfaces as initial step and Prepare the presentation number 1.

Week 7-8

Design the login page, design the new account page and link the interfaces, Design trainee folders and Link trainee folders, design the poster and its presentation.

3rd Month

Week 9-10

Design supervisor folders, link supervisor folders, check UI (user interface) recommendations, know how to employ the HCI concepts and put suitable icons, prepare for the presentation 2

Week 11-12

Testing for the system, final presentation and writing the final report.

3.5 Comparing the software development life cycle SDLC

“The process of building computer software and information systems has been always dictated by different development methodologies.

A software development methodology refers to the framework that is used to plan, manage, and control the process of developing an information system.

These classic software life cycle models usually include some version or subset of the following activities:

- Planning and Visualization
- Requirement Analysis
- Software Modeling and Design
- Coding
- Documentation
- Testing
- Deployment and Maintenance

The various SDLC models are discussed as:

a) Waterfall model:

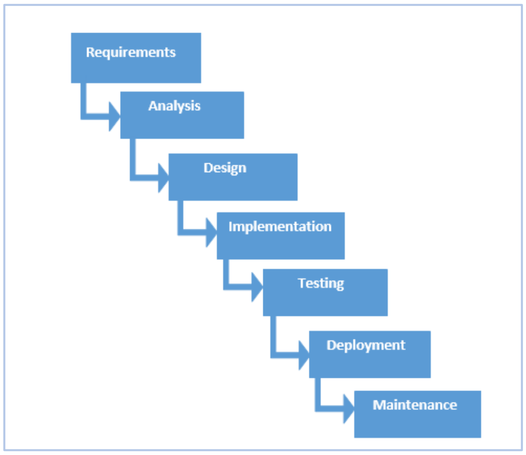
“The waterfall model is the classical model of software engineering.

This model is one of the oldest models and is widely used in government projects and in many major companies. As this model emphasizes planning in early stages, it ensures design flaws before they develop. In addition, it is intensive document and planning makes it work well for projects in which quality control is a major concern. The waterfall life cycle consists of several non-overlapping stages; the model begins with establishing system requirements and software requirements and continues with architectural design, detailed design, coding, testing, and maintenance. The waterfall model serves as a baseline for many other life cycle models.

Basic principle:

- Project is divided into sequential phases, with some overlap and splash back acceptable between phases.
- Emphasis is on planning, time schedules, target dates, budgets and implementation of an entire system at one time.
- Tight control is maintained over the life of the project via extensive written documentation, formal reviews, and approval/signoff by the user and information technology management to occurring at the end of most phases before beginning the next phase.” (Vanshika Rastogi, n.d)

Figure (3-1) Waterfall model



Retrieved from http://testingfreak.com/waterfall-model-software-testing-advantages-disadvantages-waterfall-model/

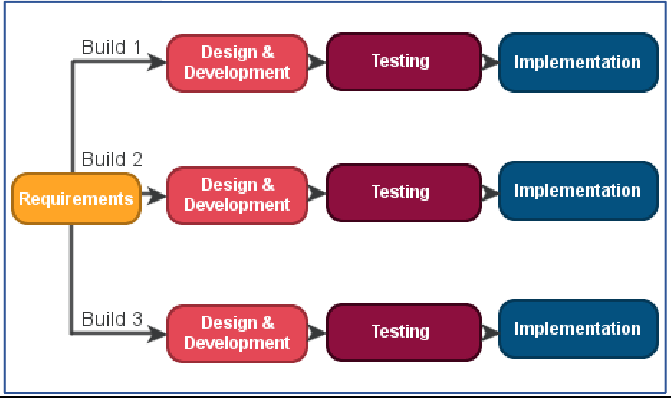
b) Iterative model:

"An iterative life cycle model does not attempt to start with a full specification of requirements. Instead, development begins by specifying and implementing just part of the software, which can then be reviewed in order to identify further requirements. This process is then repeated, producing a new version of the software for each cycle of the model.

Basic Principle:

- The problems with the Waterfall Model created a demand for a new method of developing systems which could provide faster results, require less up-front information and offer greater flexibility.
- Iterative model, the project is divided into small parts. This allows the development team to demonstrate results earlier on in the process and obtain valuable feedback from system users.
- Each iteration is actually a mini-Waterfall process with the feedback from one phase providing vital Information for the design of the next phase." (Vanshika Rastogi, n.d)

Figure (3-2) Iterative model



Retrieved from

http://www.professionalqa.com/iterative-model

c) **Spiral model:**

"This model was not the first model to discuss iterative development, but it was the first model to explain why the iteration matters. As originally envisioned, the iterations were typically 6months to 2years long.

Each phase starts with a design goal and ends with the client (who may be internal) reviewing the progress thus far. Analysis and engineering efforts are applied at each phase of the project, with an eye toward the end goal of the project. The process begins at the center position.

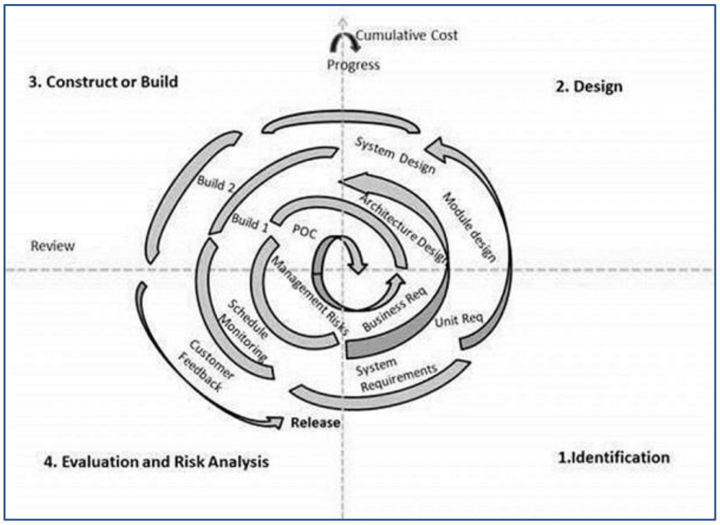
From there it moves clock wise in traversals. Each traversal of the spiral usually results in a deliverable.

It is not clearly defined what this deliverable is. This changes from traversal to traversal.

For example, the first traversals may result in a requirement specification. The second will result in a prototype, and the next one will result in another prototype or sample of a product, until the last traversal leads to a product which is suitable to be sold.

Consequently, the related activities and their documentation will also mature towards the outer traversals. E.g. a formal design and testing session would be placed into the last traversal." (Vanshika Rastogi, n.d)

Figure (3-3) Spiral model



Retrieved from https://www.tutorialspoint.com/sdlc/sdlc_spiral_model.htm

d) **V-shaped Model:**

"Just like the waterfall model, the V-Shaped life cycle is a sequential path of execution of processes.

Each phase must be completed before the next phase begins. Testing is emphasized in this model more so than the waterfall model though.

The testing procedures are developed early in the life cycle before any coding is done, during each of the phases preceding implementation.

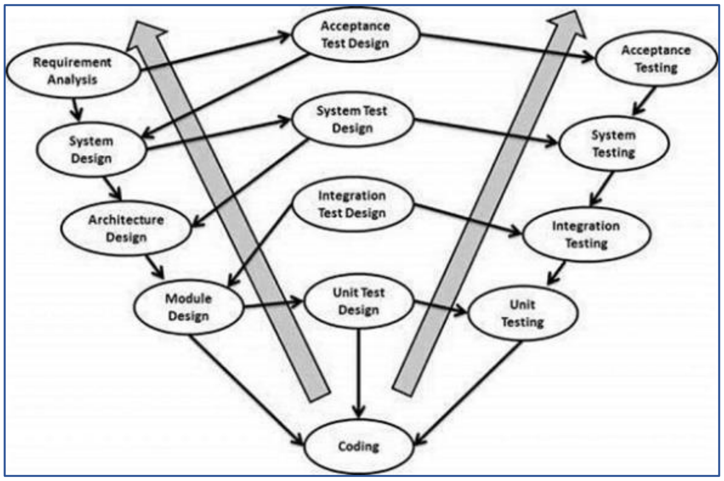
Requirements begin the life cycle model just like the waterfall model. Before development is started, a system test plan is created. The test plan focuses on meeting the functionality specified in the requirements gathering.

The high- level design phase focuses on system architecture and design. An integration test plan is created in this phase as well in order to test the pieces of the software systems ability to work together. The low- level design phase is where the actual software components are designed, and unit tests are created in this phase as well.

The implementation phase is, again, where all coding takes place.

Once coding is complete, the path of execution continues up the right side of the V where the test plans developed earlier are now put to use." (Vanshika Rastogi, n.d)

Figure V-shaped model (3-4)



Retrieved from https://www.tutorialspoint.com/sdlc/sdlc_v_model.htm

Table (3-3) Comparing the software development life cycle (SDLC)

Model Name	Advantages	Disadvantages	When to use
Waterfall model (Adel Alshamrani1 and Abdullah Bahattab, n.d)	Easy to understand and implement. Widely used and known. Define before design, and design before coding. Being a linear model, it is very simple to implement Works well on mature products and provides structure to inexperienced teams. Minimizes planning overhead. Phases are processed and completed one at a time.	All requirements must be known upfront. Inflexible. Backing up to solve mistakes is difficult, once an application is in the testing stage, it is very difficult to go back and change something that was not well-thought out in the concept stage. It is not a preferred model for complex and object-oriented projects.	When quality is more important than cost or schedule. When requirements are very well known, clear, and fixed. New version of existing product is needed. Porting an existing product to a new platform.
Spiral Model (Adel Alshamrani1 and Abdullah Bahattab, n.d)	High amount of risk analysis. Software is produced early in the software life cycle. Strong approval and documentation control. Additional functionality can be added at a later date. Project monitoring is very easy and effective	Cost involved in this model is usually high. Risk assessment expertise is required. Amount documentation required in intermediate stages makes management of a project very complex. Time spent for evaluating risks for small or low-risk projects may be too large.	For medium to high risk projects. When risk evaluation and costs are important. When significant changes are expected. When users are not exactly sure what their needs.

Iterative model (Adel Alshamrani1 and Abdullah Bahattab, n.d)	Risk is spread across smaller increments instead of concentrating in one large development. Customers get important functionality early and have an opportunity to respond to each build. Each release delivers an operational product. Initial product delivery is faster. Reduces the risk of failure and changing the requirements.	Requires good planning and design. Requires early definition of a complete and fully functional system to allow for the definition of increments. The model does not allow for iterations within each increment.	On low to medium-risk projects. A need to get basic functionality to the market early On projects which have lengthy development schedules
V-shaped model (*What is V model,* n.d)	simple and easy to use. Testing activities like planning, test designing happens well before coding. This saves a lot of time. Hence higher chance of success over the waterfall model. Avoids the downward flow of the defects. Works well for small projects where requirements are easily understood.	Very rigid and least flexible. Software is developed during the implementation phase, so no early prototypes of the software are produced. If any changes happen in midway, then the test documents along with requirement documents has to be updated. No prototypes are produced, there is a very high risk involved in meeting customer expectations.	The V-shaped model should be used for small to medium sized projects where requirements are clearly defined and fixed. The V-Shaped model should be chosen when ample technical resources are available with needed technical expertise.

3.6 Suitable model for this project:

The waterfall model is suitable for this project because:

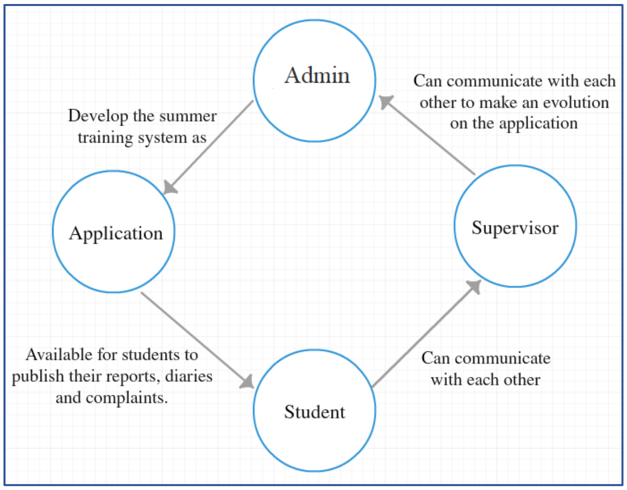
1. The project is small.
2. Less cost.
3. Easy for beginners.
4. Requirements are freezing before the project written.
5. The time to write this project is short, that means each phase completed before the next phase can begin.
6. Management is easy because the requirements are freezing.

3.7 General Requirements

It needs to publish this application between students and supervisors, allow students and supervisor to get access to the application by signing in with their names and some of information to can use the application and interact with each other.

3.8 Design data model

Figure (3-5) Data Model


Admin
Can communicate with each other to make an evolution on the application
Develop the summer training system as
Application
Supervisor
Available for students to publish their reports, diaries and complaints.
Can communicate with each other
Student

3.9 Implementation

It will be implemented as many interfaces

- First one: for trainees
- Last one: for the supervisor

Student interfaces: after signing in, it consists of their trainee information and several folders: monthly reports folder, diaries folder, complaint folder and training enterprise names.

Supervisor interfaces: after signing in, it consists of their personal information and several folders: the trainee Info who will train in the summer and can access their folders to see what they are doing, supervisor can send file consists of the names of enterprises that needs students for summer training, to help students to get official enterprises.

3.10 Verification

The testing starts also check if the application work as we want, with high quality and corresponding to the requirements.

After that the application will deliver to the customer who saw it as first time because in waterfall model the customer not involved during development.

3.11 Maintenance

“The final phase stage of the waterfall model is maintenance. When any new system is put in place it will often need ongoing maintenance. This is to make sure the software is operating at optimum levels of performance.

This can be concerned with bugs in the software, security issues or to address issues that have only come to light when the new system was implemented. Activities in this phase include obtaining maintenance requests from the end users, transforming these requests into changes, designing the changes and finally implementing said changes.

There are four types of maintenance.

A. Corrective, which is concerned with removing errors or bugs from the software.
B. Adaptive, which is used to enhance the system by adding features, capabilities and functions as a result of new technologies.
C. Perfective, which improves the features of the system, usually done as a result of requests by the users of the system.
D. Preventative, which is concerned with the anticipation of problems and correcting them before they happen.

1. This phase can be significantly affected by each previous step in the model, for example, mistakes made during analysis and design can seriously hinder the success of the new system. Maintenance is then seen as a reactive step in which any errors are addressed so the system can operate effectively.” (*Waterfall model, maintenance* ,n.d)

3.12 Methods of gathering information

“What do you do if existing information is not already available? In that case, you need to develop a plan for collecting the necessary data to answer your evaluation questions. When collecting new information, it is important that you select an approach that is manageable and that will provide you with accurate information.

a) Interviews

Collecting information verbally from informants, using a question and answer format. Interviews can be conducted in different ways, such as in person or over the phone. Interviews can be fairly unstructured, allowing you to be flexible in deciding what questions to ask or how to best ask the question, or can be tightly scripted, requiring you to ask questions the same way across respondents.

b) Surveys or questionnaires

Collecting information from respondents without direct contact. Paper versions of a survey may be handed out or mailed. You might also ask people to complete surveys electronically via email or internet.

c) Observation

Recording what actually happens during a situation or event.

d) Focus groups

Conducting group interviews with a small group of participants or other informants at the same time." (Cheryl Holm-Hansen ,2006),

In this research, we used questionnaire.

3.14 Questionnaire Analysis

Divided into (11 parts) and the number of sample students for each part was 25:

Characteristics of the study sample

- According to student level:

This part is divided into 5 levels (4,5,6,7 and 8).

Figure (3-6) Student level analysis

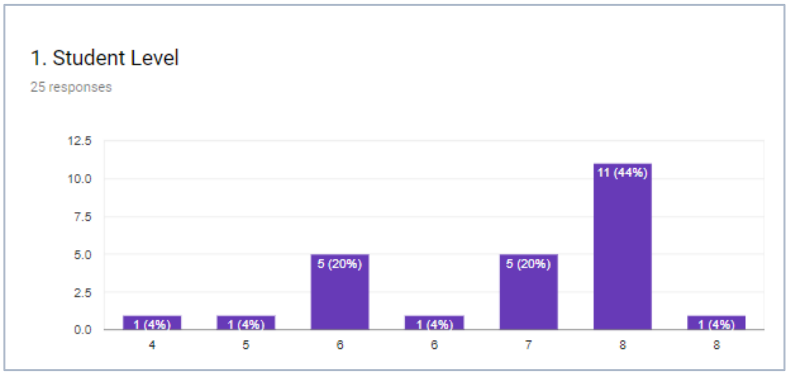


Table (3-4) Student level analysis

Student level	Number of students	Percentage	Average	Median	Std. deviation	Mode
Fourth	1	4%	5	5	4.5276926	1
Fifth	1	4%				
Sixth	6	24%				
Seventh	5	20%				

Eighth	12	48%				
	25	100%				

In the sample of the study, most of the students participating in this questionnaire from the sixth level (6 students), from the seventh level (5 students), from the eighth level (12 students) and the less students participating from the fourth (1 student) and fifth level (1 student).

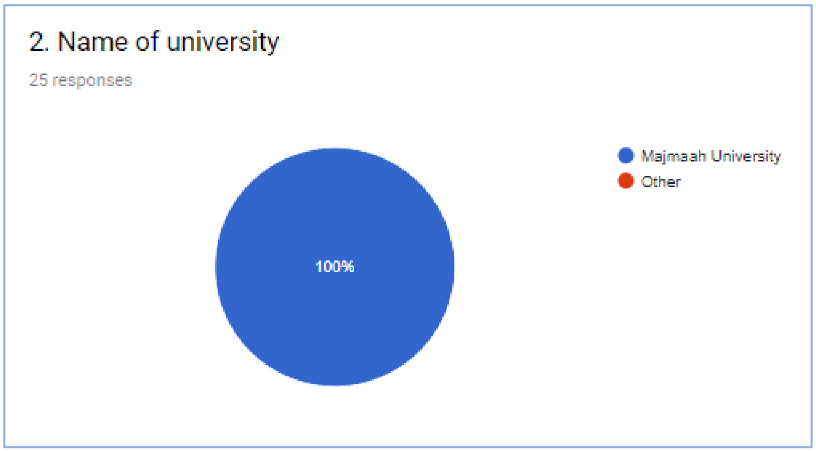
Students start to prepare for the summer training after level 6 according computer science and info department law.

The most of students participating in this questionnaire maybe they finish the course of summer training (level 7,8) or they prepare for summer training (level 6).

So, this helps us to know what are the needs and problems that faces students who trained before and who will train in the future.

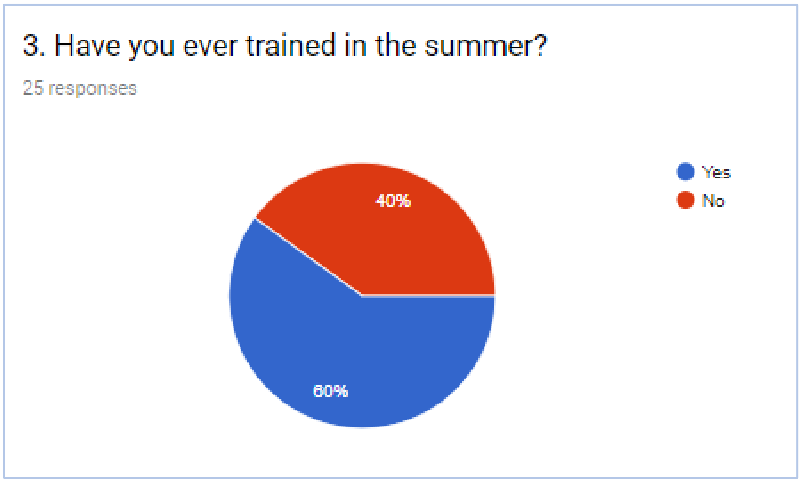
- According to the name of university

Figure (3-7) Name of university



The questionnaire was electronically distributed to students of the University of Majmaah in the Faculty of Science in Zulfi, Department of Computer Science & Information, because the concept of summer training at the Faculty of Science in Zulfi is a new concept and maybe there misunderstanding or problems we can solve them.

- According to their experience about summer training



3. Have you ever trained in the summer?

25 responses

Figure (3-8) Student experience about summer training

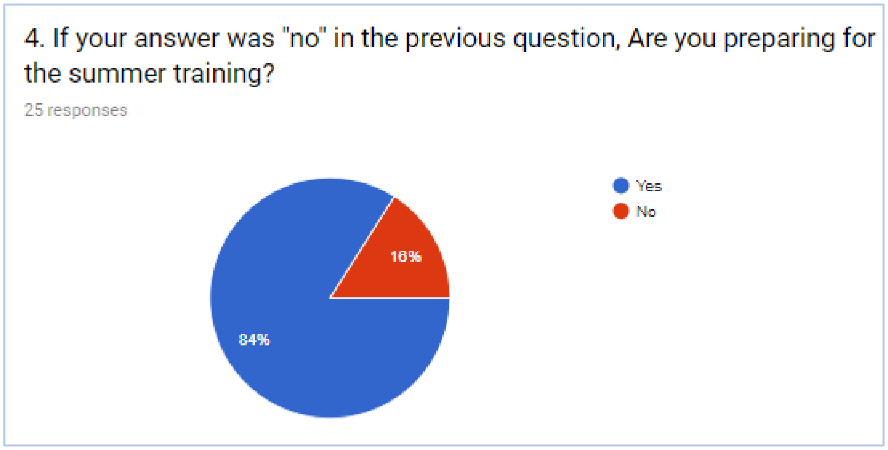
Table (3-5) Student experience about summer training

Student trained before	Student did not train before
60%	40%
15 students	10 students
25 students	

The result is that the number of students who participated in the summer training program are 60% (15 students), while the other students did not participate in the summer training program are 40% (10 students).

- According to the number of the future trainee

Figure (3-9) The number of the future trainee



4. If your answer was "no" in the previous question, Are you preparing for the summer training?

25 responses

Table (3-6) The number of the future trainee

Plaining for summer training	Not Plaining for summer training
84%	16%
21 students	4 students
25 students	

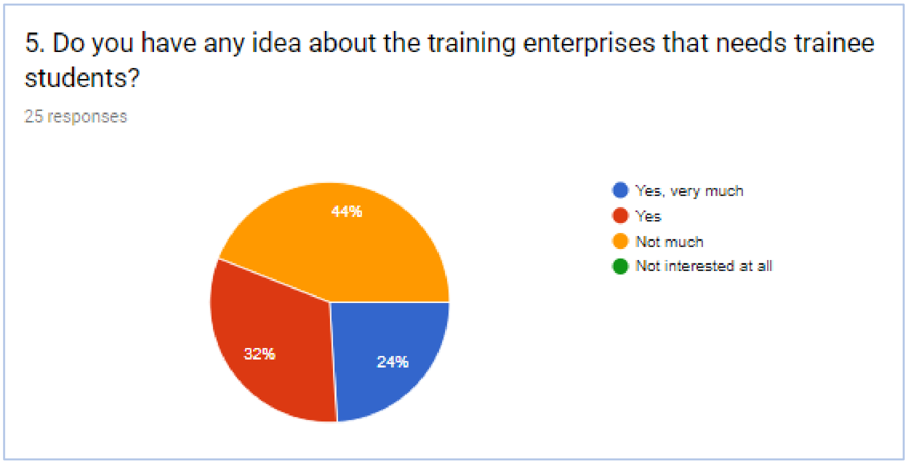
The survey results show that (21 students) are preparing for summer training and only (4 students) not planning for the summer training.

Large number of students who plans for the summer training helps us to know their problem and how effectivity of summer training application.

- **How important summer training (ST) application for study sample**

In this part, the characteristics of the summer training application will be analyzed and linked them to student problems.

- ○ According student idea about training enterprises



5. Do you have any idea about the training enterprises that needs trainee students?

25 responses

Figure (3-10) Student idea about training enterprises

Table (3-7) Student idea about training enterprises

Students have clear idea	Students have an idea	Students have not much idea
24%	32%	44%
6 students	8 students	11 students

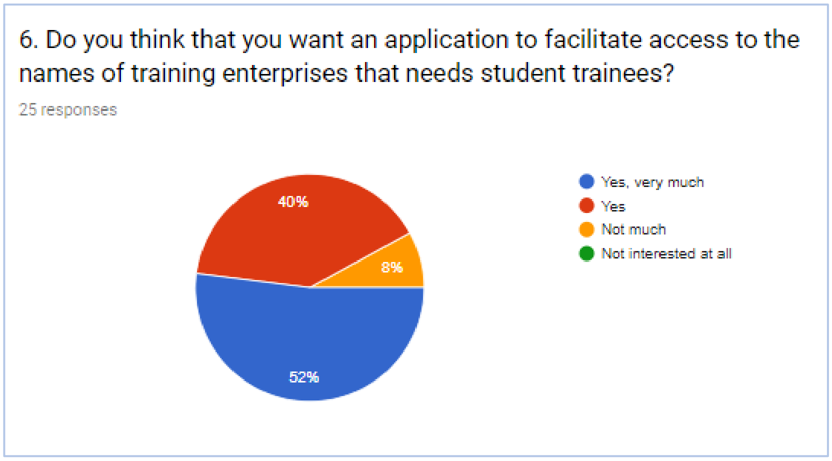
25 students

From the result we notice the number of students who have no idea about official training enterprises (11 students), the students have idea (8 students) and students have a clear idea was (6 students).

so, the students who have a clear idea less than the students who have a general idea or have no idea it all.

we can use (ST) application to publish the names of official enterprises to help student.

- According to the need to know the training enterprises



6. Do you think that you want an application to facilitate access to the names of training enterprises that needs student trainees?

25 responses

Figure (3-11) The need to know the training enterprises

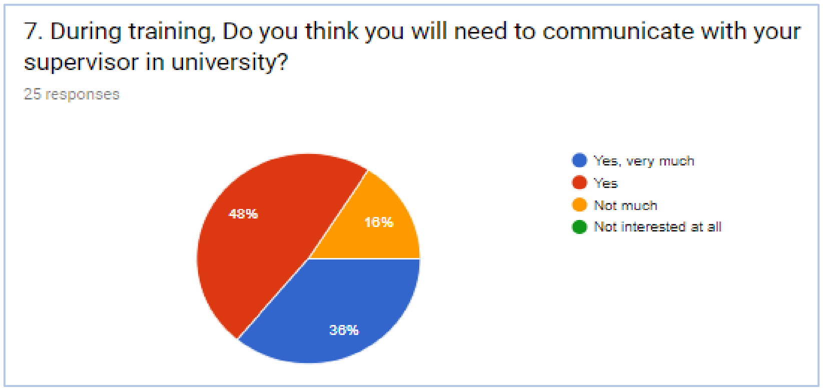
Table (3-8) The need to know the training enterprises

Students completely agree	Students agree	Students not much agree
52%	40%	8%
13 students	10 students	2 students
25 students		

From the previous table, the number of students who completely agree was 52% (13 students) it was larger than the students who agree in general (10 students) and students who not much agree (2 students).

- According to the need for communication means during training

Figure (3-12) the need for communication means during training



7. During training, Do you think you will need to communicate with your supervisor in university?

25 responses

Table (3-9) the need for communication means during training

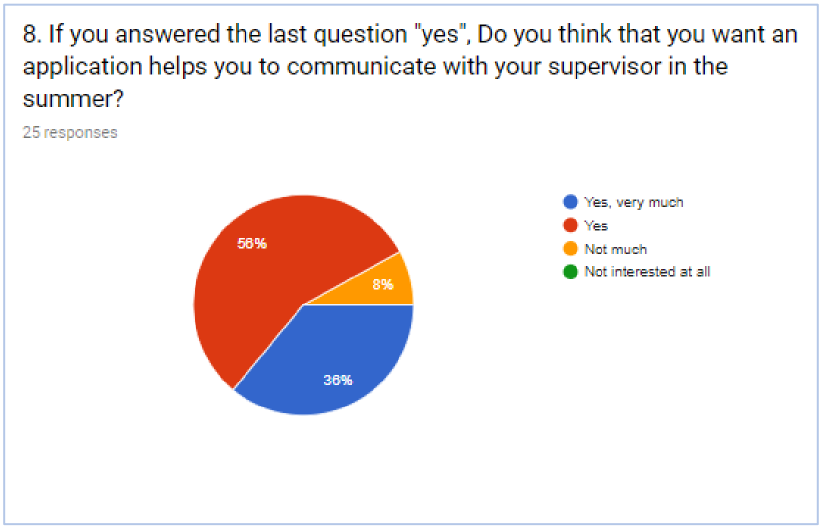
Students completely agree	Students agree	Students not much agree
48%	36 %	18%
12 students	9 students	4 students
25 students		

The results show that most students need a way to communicate with the supervisor during summer training.

The summer training (ST) application will help students to communicate with their supervisor during summer.

- According to the need for an application as communication means

Figure (3-13) the need for an application as communication means



8. If you answered the last question "yes", Do you think that you want an application helps you to communicate with your supervisor in the summer?

25 responses

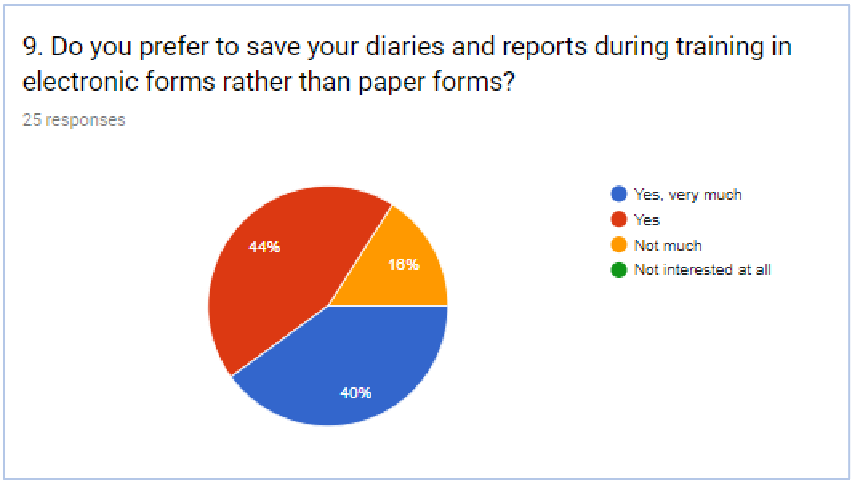
Table (3-10) The need for an application as communication means

Students completely agree	Students agree	Students not much agree
36%	56%	8%
9 students	14 students	2 students
25 students		

Most students agreed to have a summer training (ST) application but there was different percentage, some of them agreed in full and frankly and some of them agreed in general.

So, the acceptance means the students really need for this app.

- According to the need for the electronic delivery during training



9. Do you prefer to save your diaries and reports during training in electronic forms rather than paper forms?

25 responses

Figure (3-14) The need for the electronic delivery during training

Students completely agree	Students agree	Students not much agree
40%	44%	16%
10 students	11 students	4 students
25 Students		

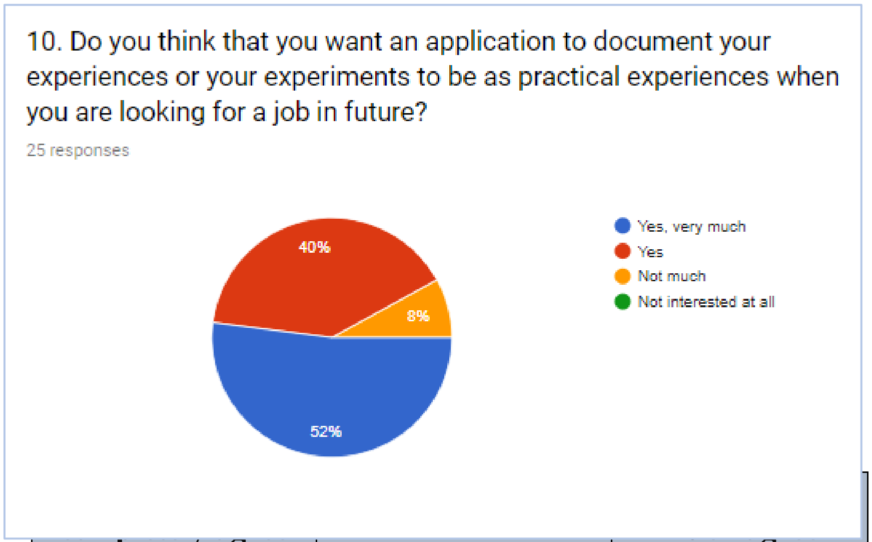
Table (3-11) The need for the electronic delivery during training

Most students prefer to use technology in delivering their reports and diaries more than using paper in delivery.

Where the number of students who fully agreed to use electronic delivery (10 students) and students who agrees in general (11 students) and students who not much agree (4 students).

- According to the need for documentation of the experiences

Figure (3-15) The need for documentation of the experiences



10. Do you think that you want an application to document your experiences or your experiments to be as practical experiences when you are looking for a job in future?

25 responses

52%	40%	8%
13 students	10 students	2 students
25 students		

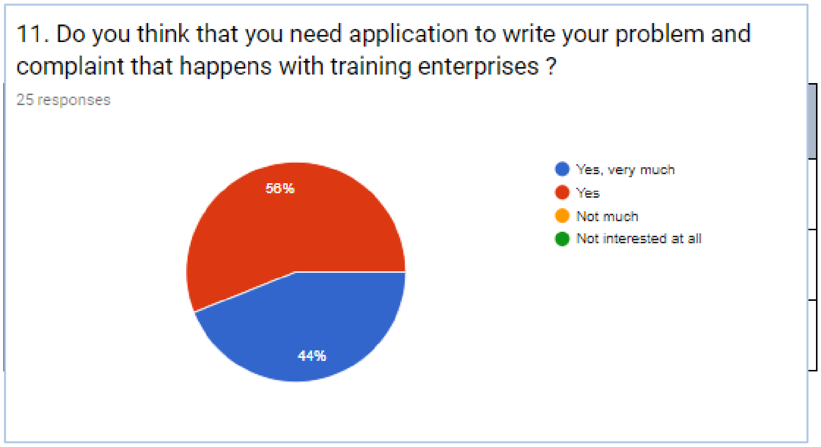
Table (3-12) The need for document the experiences

The percentages shown in the table indicate that the number of students who want ant to document their experiences during the summer training period is a large number.

This means that students need to document their experiences so that they can use them after graduation when looking for a job.

- According to the need for communication means for solving problems

Figure (3-16) The need for communication means for solving problems



11. Do you think that you need application to write your problem and complaint that happens with training enterprises ?

25 responses

Table (3-13) The need for communication means for solving problems

All students here agree on the importance of having an effective means of communication during the training period to write the problems that faces them during the training period.

The approval rates vary, students who completely agree (11 students) and students who in general agree (14 students).

3.13.1 Statistical Processing Methods

- Percentages to describe the sample of the study and determine the responses of the sample members about the study aspects.
- Google drive forms for questionnaire.

The study reached to an end that included the most important results*:*

1. The effective communication between students and their supervisors make an efficient and good environment to help students to be more successful, this corresponds to the study (Musa Fofana, 2015).
2. New technologies in education help supervisors to reach students more easily and faster than traditional ways, this corresponds to the study *(*Darrel M. west, Joshua Bleiberg, 2017).
3. The result of questionnaire refer to the need of new technologies to make education more effective and compatible with the technology era, this corresponds to the study (J.Patrick Biddix, Chug Joo Chug and Han Woo Park).
4. The use of useful technology in every place and time facilitates many aspects of life especially in education.
5. Electronic delivery of files is better than primitive ways of delivery where electronic delivery is faster and less time.
6. The need to document experiences in the summer training to use them as an experiences and experiments after graduation.
7. There is a strong relationship between the student and supervisor enables the supervisor to follow the student and know the experience and new skills during the training period.
8. The supervisor can identify which enterprises are high efficient in student training and in the next year the supervisor excludes the low efficient enterprises.
9. The supervisor can at his home supervises the students and help them solve their problems with the training enterprises and answer their questions.

4) System Design

4.1 Introduction

Application design0 before implementation is a critical stage as good design and good preparation helps to good and practical implementation.

Also, good design helps that program execution be error-free or less possible errors.

In this chapter we will discuss the important aspects of design.

4.2 System Requirements

“Many projects have failed because of inadequate understanding of requirements, need for a systematic approach to specifying requirements, stages in the process:

- Feasibility Study – cost/benefit analysis for business and risk analysis prepared for management decision making –
- Requirements Elicitation and Analysis (requirements capture or discovery) - finding out what is needed from the customers
- Specify Requirements for the customer (contract) and the system developer.
- Validate Requirements - do the specified requirements actually define what the customer wants?

Requirements can be divided into two main categories:” (Ray Welland, 2006)

a) Functional Requirements:

“As the name suggests, define the basic functions of the system and are usually fairly easy to identify and specify.” (Ray Welland, 2006).

- **Functional requirements for trainee students**:

1. Students should log in with their personal information (name, university ID, trainee ID, name of department, phone number, email address, address, password, student level and name of training enterprise).
2. Students can upload their diaries, reports and problems in specific folders to be seen by the supervisor.

- **Functional requirements for supervisors:**

1. Supervisors should log in with their personal information (name, password, university ID, name of department, address, phone number and email address).
2. Supervisors access student folders for assessments
3. Supervisors can publish the names of legal enterprises.

- **Functional requirements for Admin:**

1. Admin should be able to grant permissions to system.
2. Admin should be able to manage system users (delete, edit and insert).
3. Admin should be able to manage trainee folders (delete, edit and insert).
4. Admin should be able to manage publishing enterprises name (delete, edit and insert).

b) Non-Functional Requirements:

“Constraints which restrict the product and the development process, and place external conditions which the product must meet.” (Ray Welland ,2006)

- <u>Security</u>

1. Every user must have its own encrypted password.
2. The password should be not less than 6 numbers.
3. The password should be known only for the user.

- <u>Confidentiality:</u>

To make sure the critical information of users not be used by unauthorized people.

- <u>Reliability:</u>

The ability of system to work according to its specification and requirements with error-free system as possible.

- <u>Integrity:</u>

To make sure the data will not change by unauthorized users, and the system will maintain the trustworthiness, consistency and accuracy information.

- <u>Performance requirements:</u>

The system must be almost high performance that can control the number of users without delay, cancellation or suspension.

4.3 Description of Data Flow Diagram (DFD)

“(Unified Modeling Language) is a standard language for specifying, visualizing, constructing, and documenting the artifacts of software systems.” (*UML tutorials points* , n.d*)*

Traditional visual representation of the information flows within a system.

A neat and clear DFD can depict a good amount of the system requirements graphically.

It can be manual, automated, or combination of both, it shows how information enters and leaves the system, what changes the information and where information is stored. The purpose of a DFD is to show the scope and boundaries of a system as a whole.

It may be used as a communications tool between a systems analyst and any person who plays a part in the system that acts as the starting point for redesigning a system.

It is usually beginning with a context diagram as the level 0 of DFD diagram, a simple representation of the whole system.

To elaborate further from that, we drill down to a level 1 diagram with lower level functions decomposed from the major functions of the system. This could continue to evolve to become a level 2 diagram when further analysis is required.

The data flow diagram is a hierarchy of diagram consist of:

1. Context Diagram (conceptually level zero)
2. The Level-1 DFD.

And possible Level-2 DFD and further levels of functional decomposition depending on the complexity of your system." (V*isual Paradigm*, 2012).

4.3.1 Context Diagram (level 0)

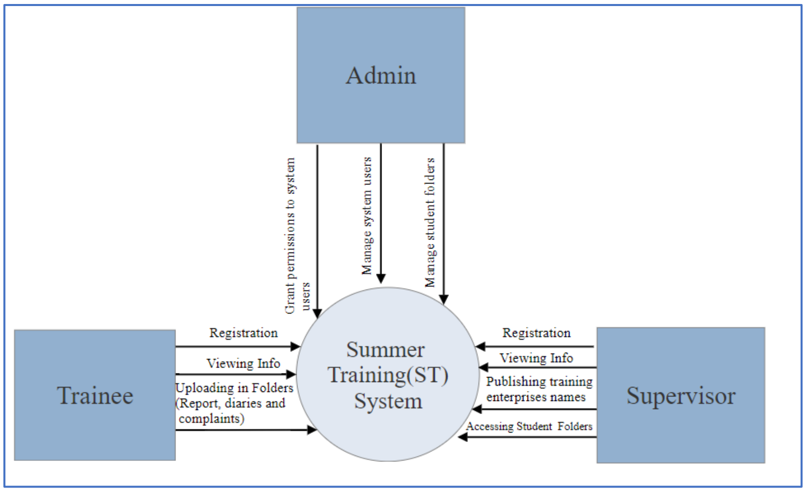
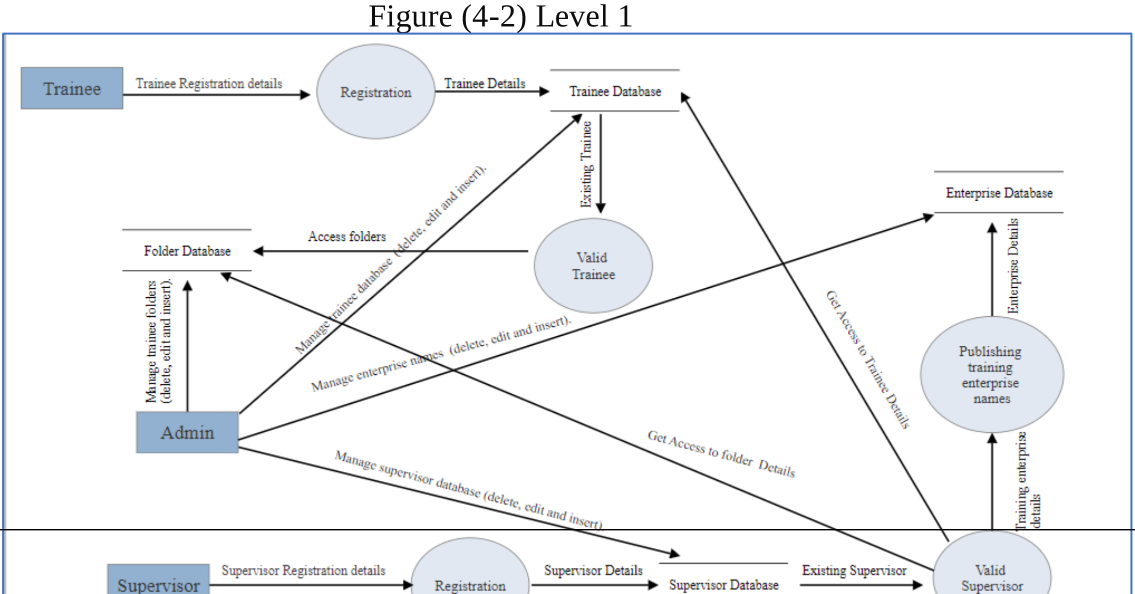

Admin
Grant permissions to system users
Manage system users
Manage student folders
Summer Training(ST) System
Trainee
Registration
Viewing Info
Uploading in Folders (Report, diaries and complaints)
Supervisor
Registration
Viewing Info
Publishing training enterprises names
Accessing Student Folders

Figure (4-1) context diagram

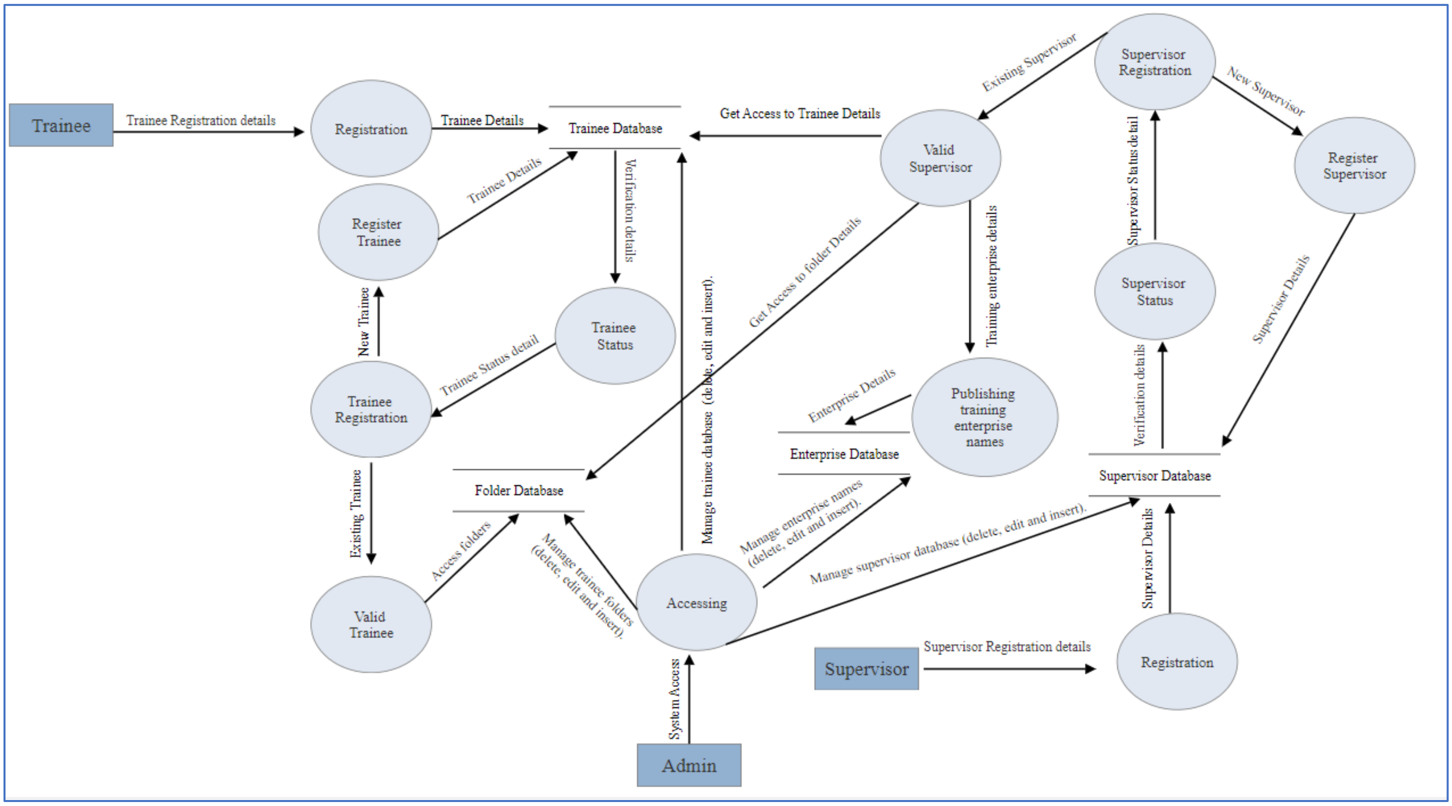
4.3.2 Level 1

Figure (4-2) Level 1


Trainee
Trainee Registration details
Registration
Trainee Details
Trainee Database
Existing Trainee
Valid Trainee
Access folders
Folder Database
Manage trainee folders (delete, edit and insert).
Manage trainee database (delete, edit and insert).
Manage enterprise names (delete, edit and insert).
Admin
Manage supervisor database (delete, edit and insert)
Get Access to folder Details
Get Access to Trainee Details
Enterprise Database
Enterprise Details
Publishing training enterprise names
Training enterprise details
Supervisor
Supervisor Registration details
Registration
Supervisor Details
Supervisor Database
Existing Supervisor
Valid Supervisor

4.3.3 Level 2

Figure (4-٣) level 2



4.4 Class Diagram

"Class diagrams provide a structural view of systems.
Class diagrams capture the static structure of Object-Oriented systems, or how they are structured rather than how they behave." **(**Massimo Felici ,2005)

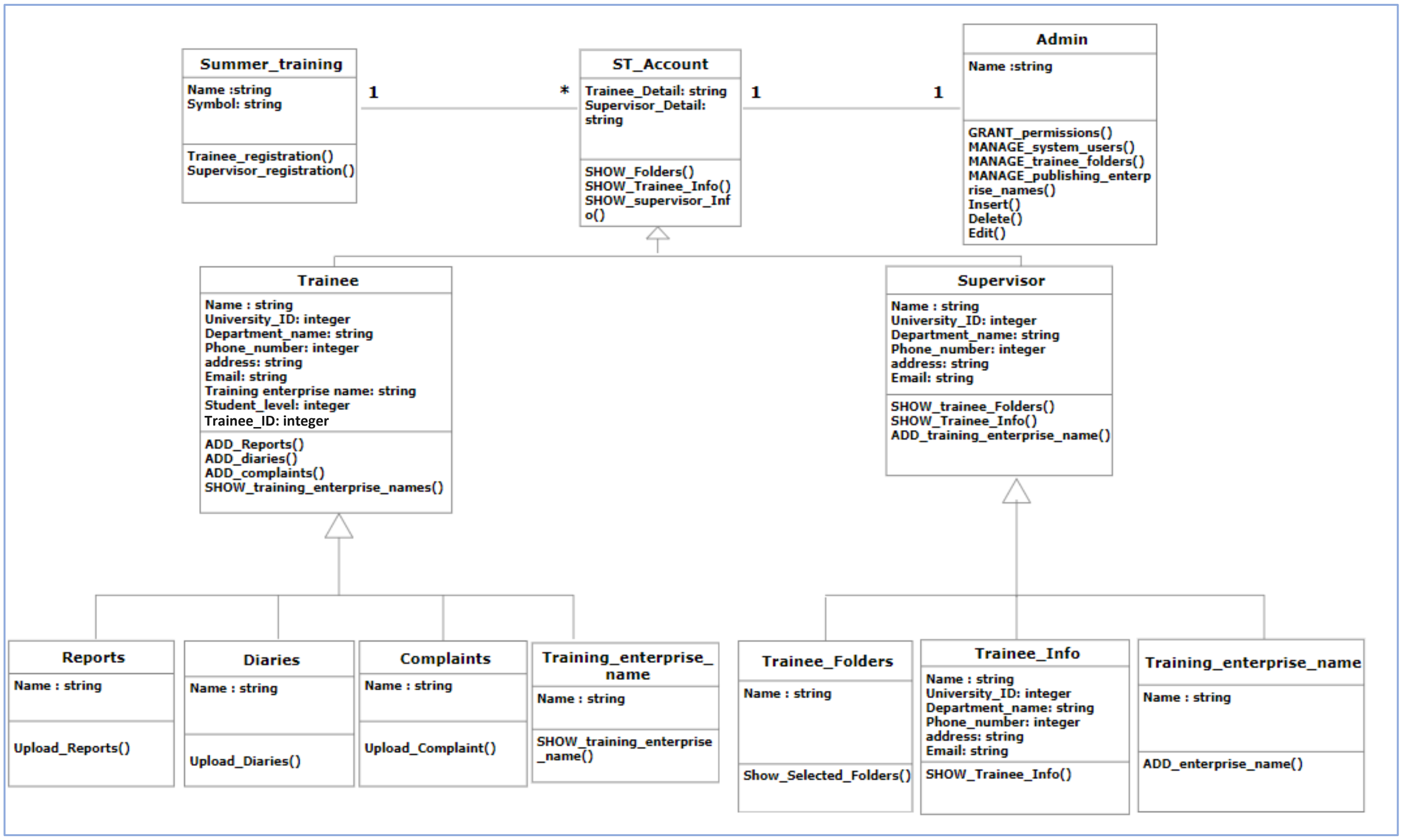


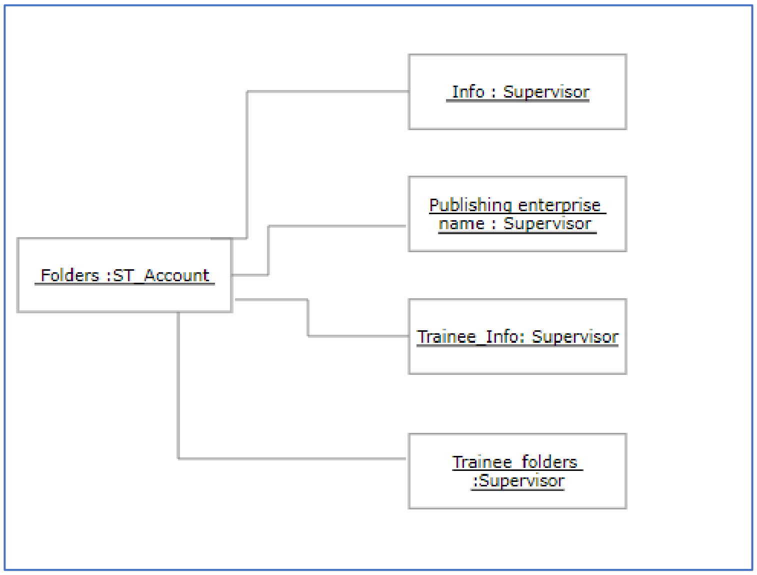
Figure (4-4) Class diagram

4.5 Object diagram

“Instances of class diagrams. Accordingly, class diagrams can initiate numerous object diagrams While the class diagrams are design phase deliverables, we do not deal with classes during the system usage, instead we use objects.” (Ivan Pogarcic, Miro Francic and Vlatka Davidovic, 2014)

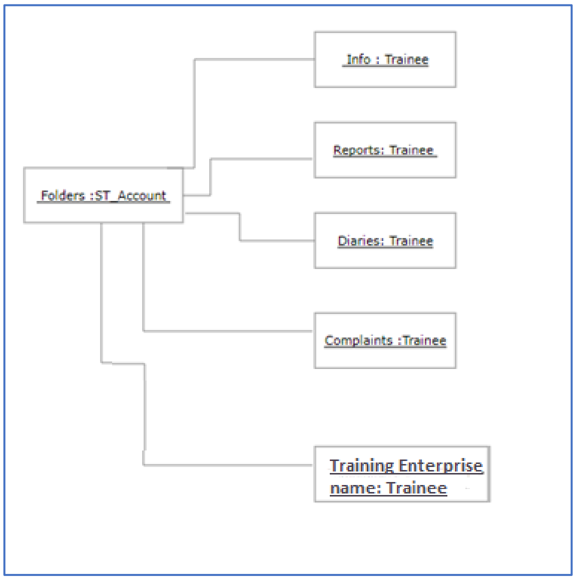
4.5.1 Supervisor object diagram

Figure (4-5) Supervisor object diagram


Info : Supervisor
Publishing enterprise name : Supervisor
Folders :ST_Account
Trainee_Info: Supervisor
Trainee_folders :Supervisor

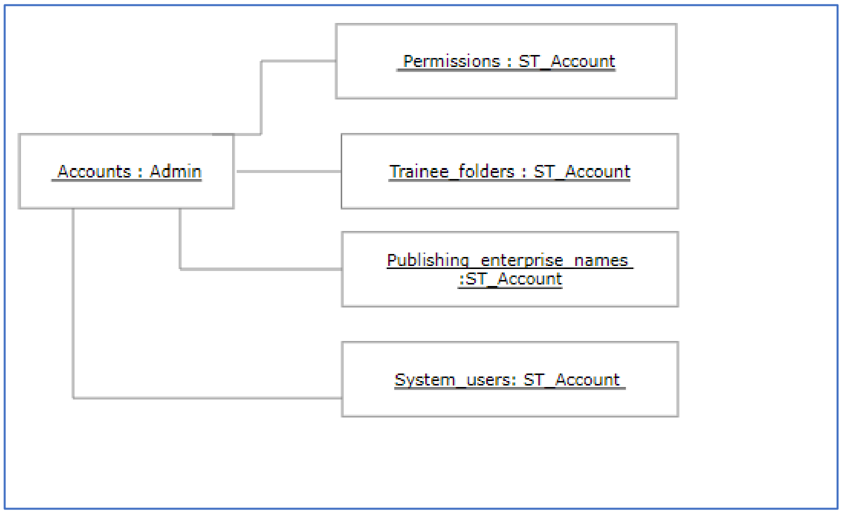
4.5.2 Trainee object diagram

Figure (4-6) Trainee object diagram



4.5.3 Admin object diagram

Figure (4-7) Admin object diagram


Permissions : ST_Account
Accounts : Admin
Trainee_folders : ST_Account
Publishing_enterprise_names :ST_Account
System_users: ST_Account

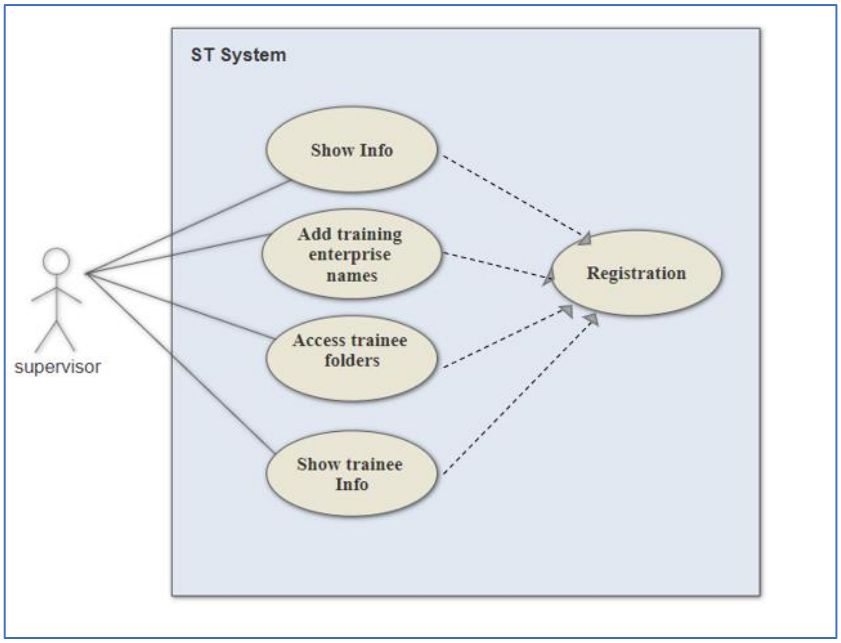
4.6 Use case diagram

"Describes how a type of user (called an actor) uses a system to achieve a goal. There are three key things we need to know to describe a use case:

1. The actor or actors involved. An actor is a type of user (for example, cardholder) that interacts with the system.
2. The system being used.
3. The functional goal that the actor achieves using the system- the reason for using the system. "(Jason Gorman, 2006)

4.6.1 Supervisor use case diagram

Figure (4-8) Supervisor use case diagram



4.6.2 Trainee use case diagram

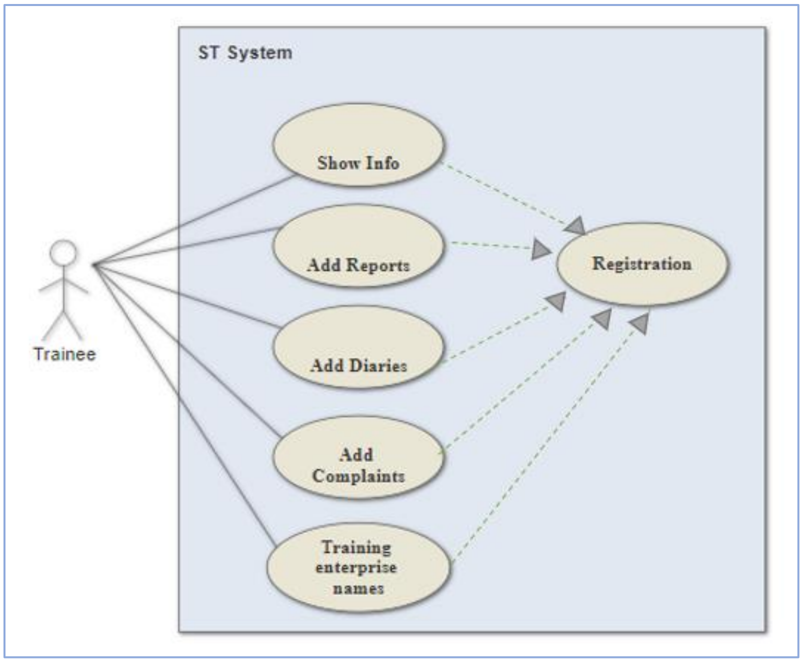
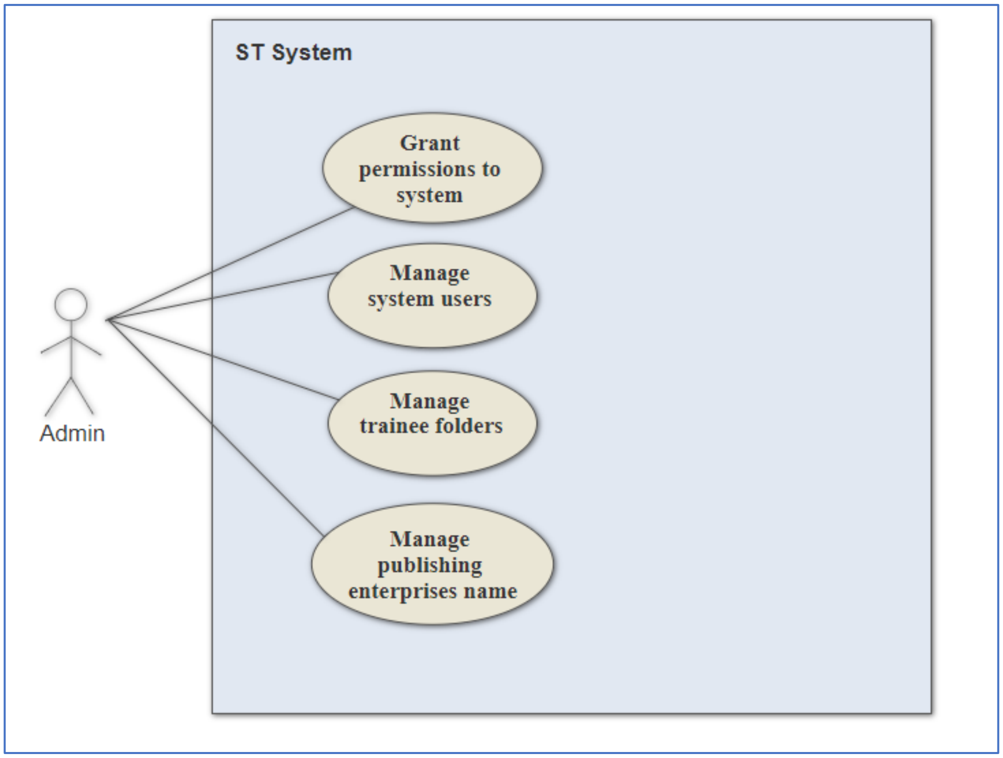


Figure (4-9) Trainee use case diagram

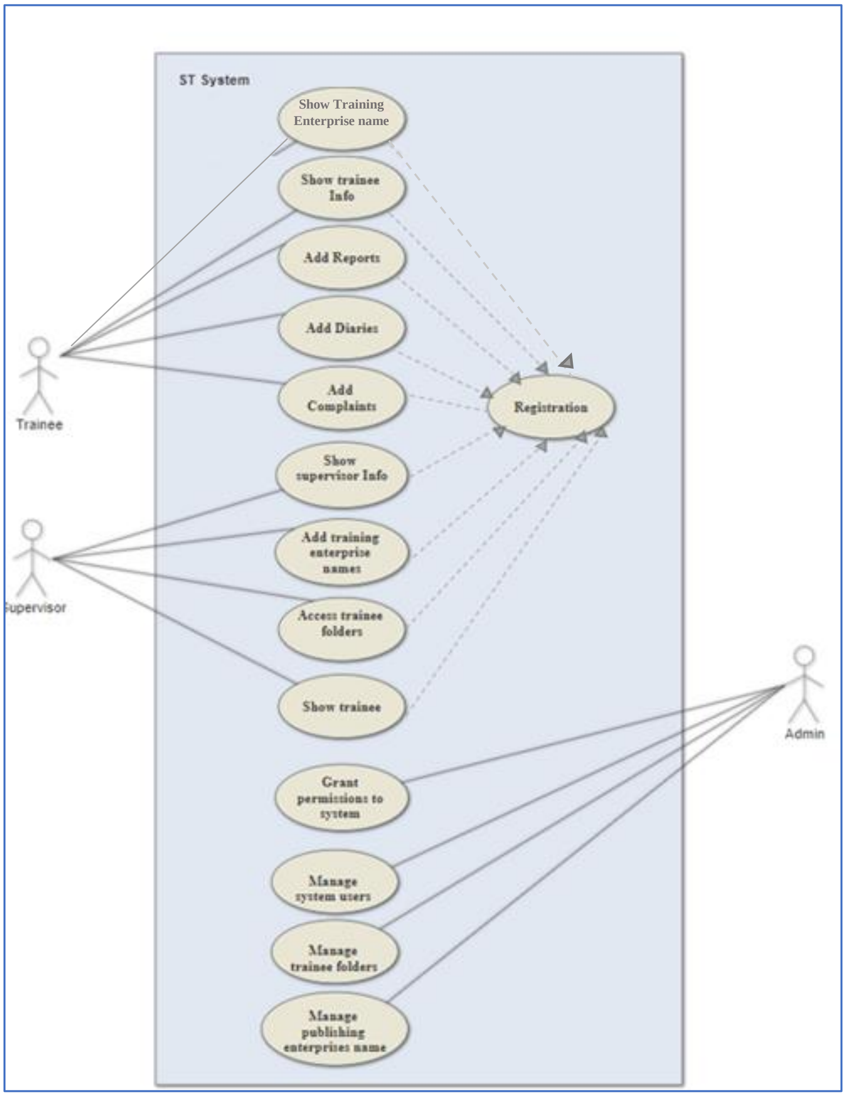
4.6.3 Admin use case diagram

Figure (4-10) Admin use case diagram


ST System
Admin
Grant permissions to system
Manage system users
Manage trainee folders
Manage publishing enterprises name

4.6.3 Whole use case

Figure (4-11) Whole use case diagram

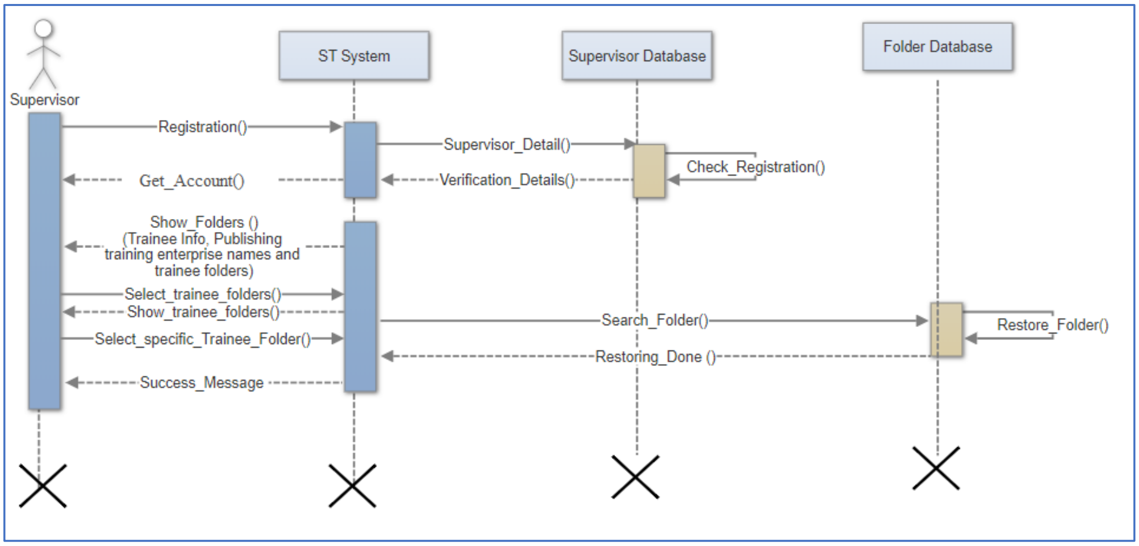


4.7 Sequence diagram

- "Sequence diagram: an "interaction diagram" that models a single scenario executing in a system.
- 2nd most used UML diagram (behind class diagram).
- Shows what messages are sent and when. "(Emina Torlak ,2015)

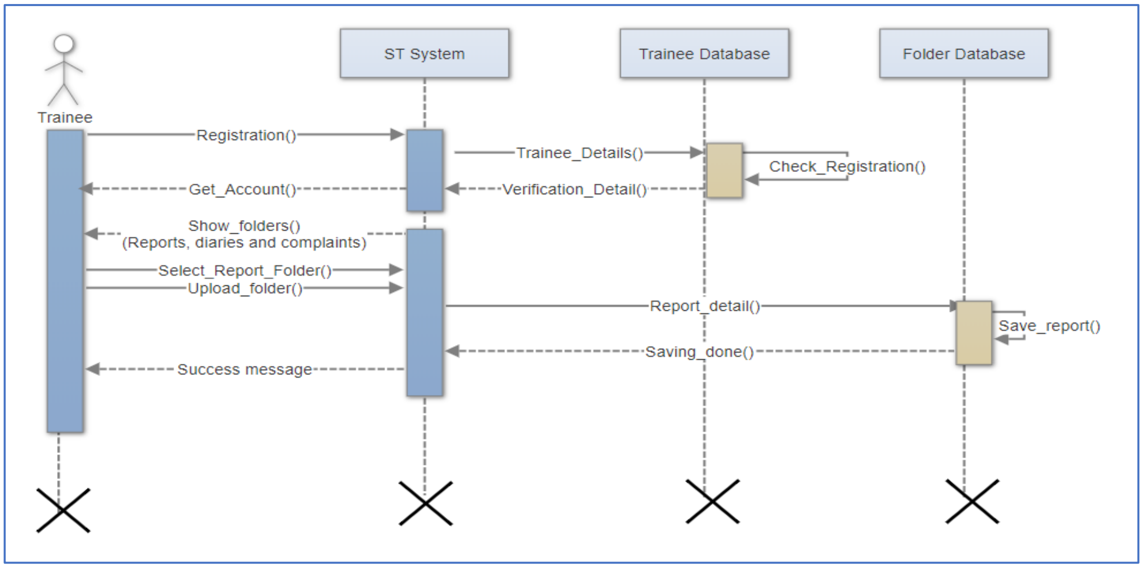
4.7.1 Supervisor sequence diagram

Figure (4-12) Supervisor sequence diagram



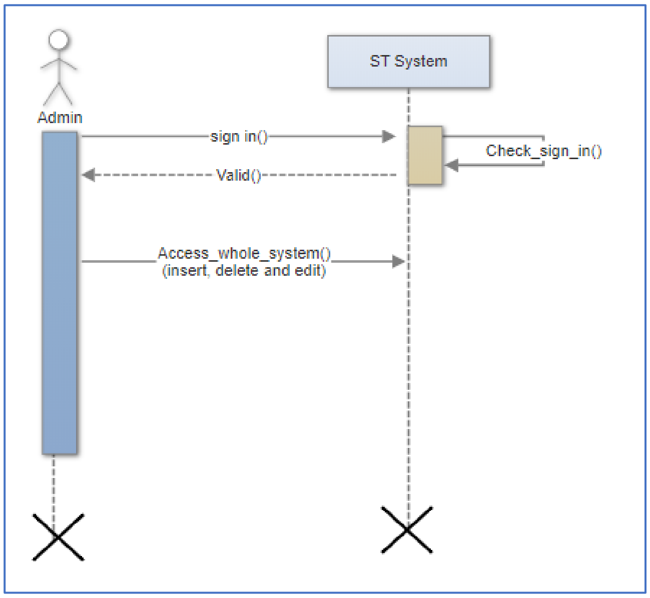
4.7.2 Trainee sequence diagram

Figure (4-13) Trainee sequence diagram



4.7.3 Admin sequence diagram

Figure (4-14) Admin sequence diagram

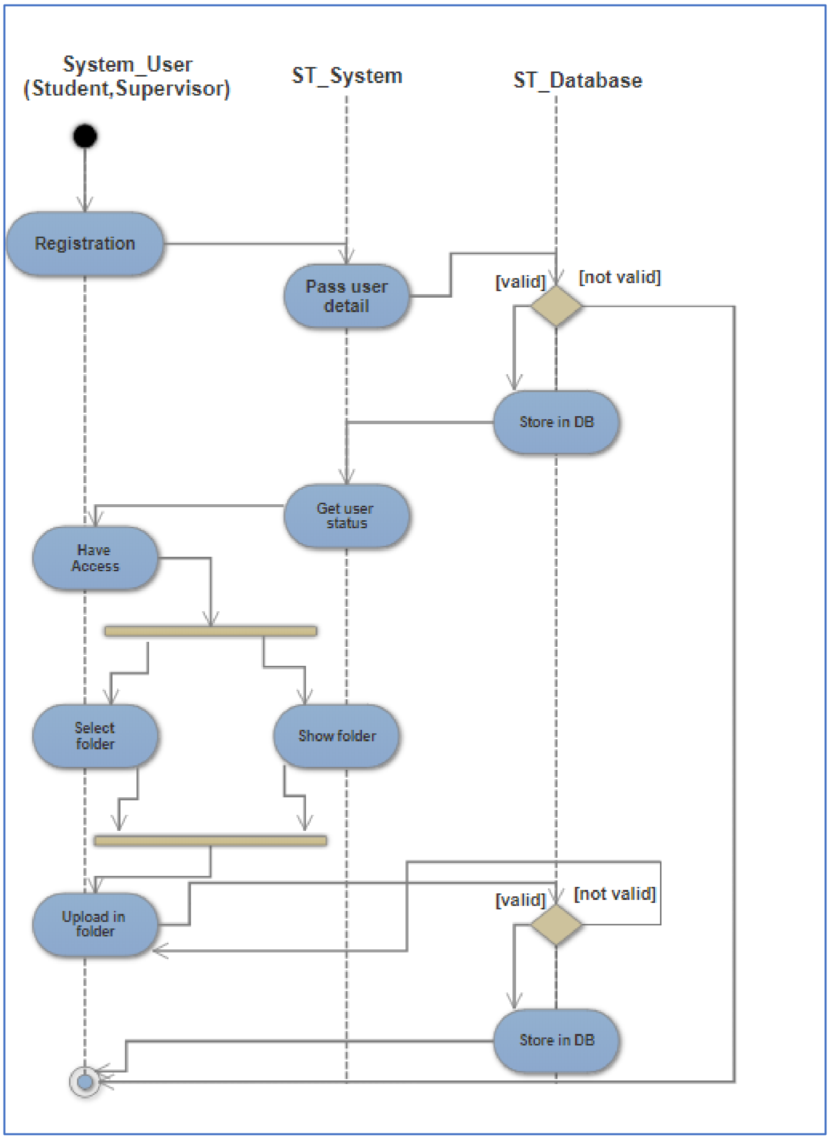


4.8 Activity diagram

"Activity Diagrams consist of activities, states and transitions between activities and states.

- Activity Diagrams describe:
  1. How activities are coordinated to provide a service.
  2. The events needed to achieve some operation.
  3. How the events in a single use case relate to one another.
  4. How a collection of use cases coordinates to create a workflow for an organization." (Massimo Felici, 2010).

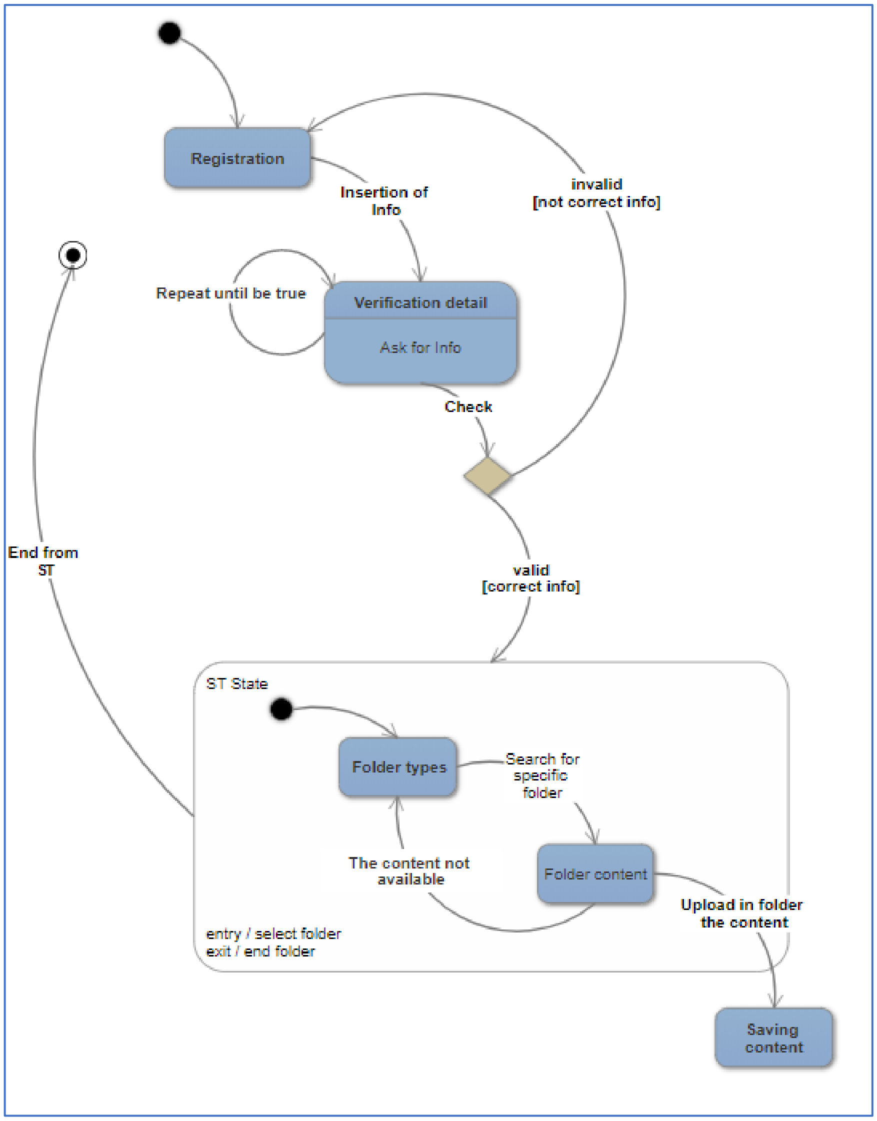
Figure (4-15) Activity diagram



4.9 State diagram

"A behavior which specifies the sequence of states an object visits during its lifetime in response to events, together with its responses to those events." (Fritz Bartlett ,1999)

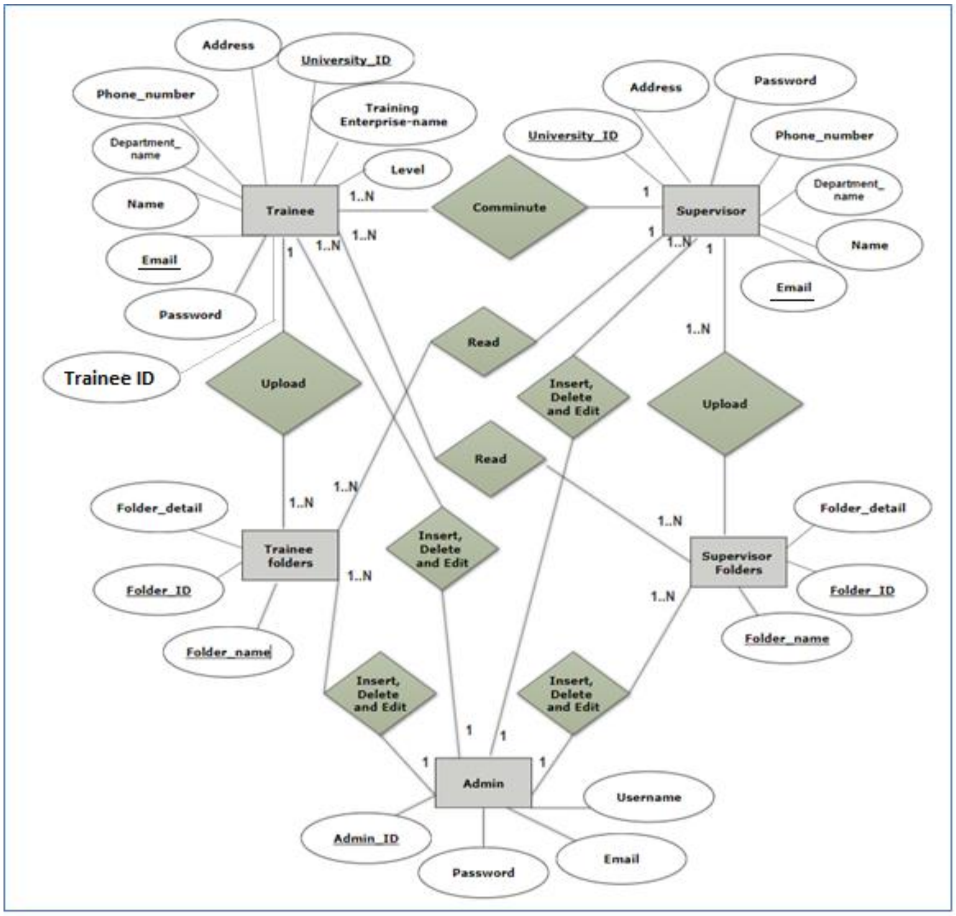
Figure (4-16) State diagram



4.10 ERD for database

Entity-relationship diagram (ERD) is a graphical representation of an information system that shows the relationship between people, objects, places, concepts or events within that system. An ERD is a data modeling technique that can help define business processes and can be used as the foundation for a relational database. (Margaret Rouse, n.d)

Figure (4-17) ERD diagram for database diagram



4.11 Database tables:

4.11.1 Trainee database

While UNI_ID (UNIVERSITY_ID), Trainee_ID (national identity)

Table (4-1) Trainee database

UNI_ID	Trainee_ID	NAME	EMAIL	ADDRESS	PH_NUM	LEVEL	T_E_NAME	PASSWORD	D_NAME
INT(11)	INT(30)	VARCHAR(30)	VARCHAR(30)	VARCHAR(30)	INT(13)	INT(2)	VARCHAR(30)	INT(20)	VARCHAR(30)
			PRIMARY						

4.11.2 Supervisor database

While UNI_ID (UNIVERSITY_ID).

Table (4-2) Supervisor database

UN_ID	NAME	EMAIL	ADDRESS	PH_NUM	PASSWORD	D_NAME
INT(11)	VARCHAR(30)	VARCHAR(30)	VARCHAR(30)	INT(13)	INT(20)	VARCHAR(30)
		PRIMARY				

4.11.3 Database of trainee folders

we have four tables (Reports, diaries, complaints and training enterprise names) each one has:

Table (4-3)
Database folders
of trainee

F_ID	F_NAME	F_DETAIL	UNI_ID
INT(11)	VARCHAR(20)	TEXT()	INT()
PRIMARY			FOREIN KEY

4.11.4 Database of supervisor folders

we have four tables (Reports, diaries, complaints and training enterprise names) each one has:

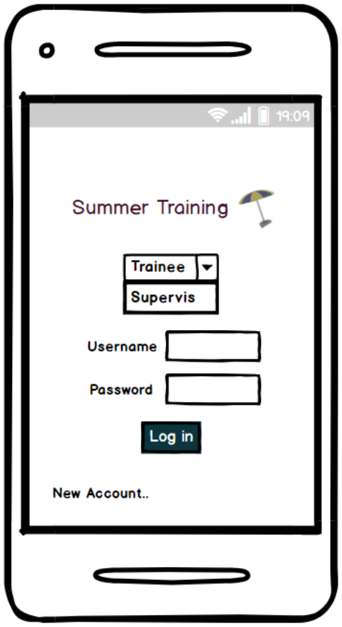
FF_ID	FF_NAME	FF_DETAIL	UN_ID	UNI_ID
INT(11)	VARCHAR(20)	TEXT()	INT(11)	INT(11)
PRIMARY			FOREIN KEY	FOREIN KEY

Table (4-4) Database of supervisor folders

4.12 Design of Screens

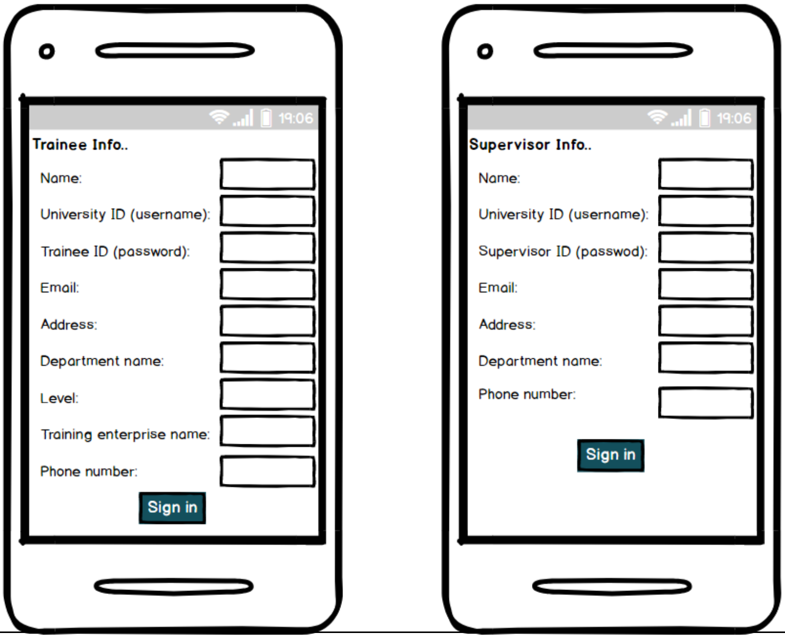
4.12.1 Initial screen (suitable for android devices)

Figure (4-18) initial screen



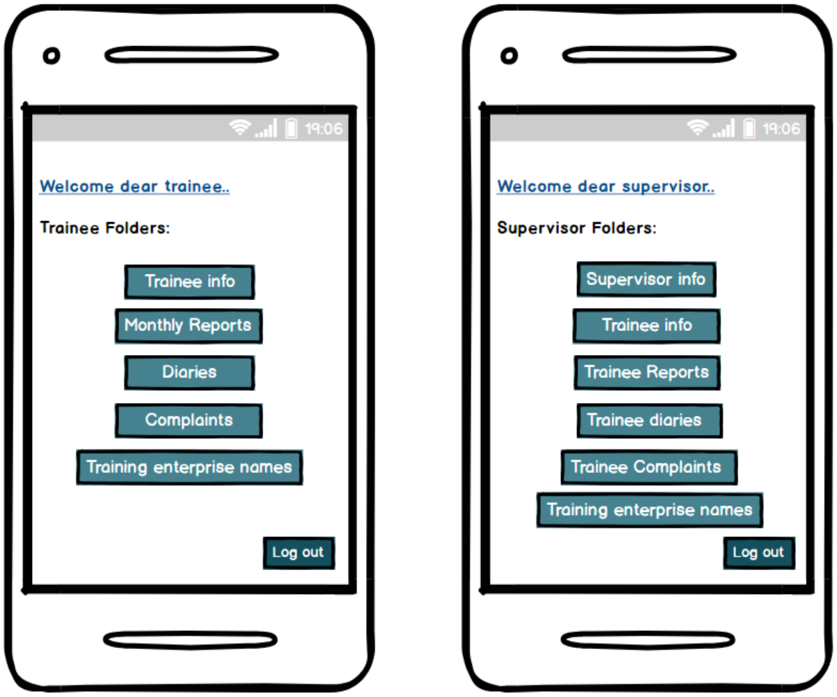
4.12.2 Registration screen for trainee and supervisor

Figure (4-19) Registration screen for trainee and supervisor



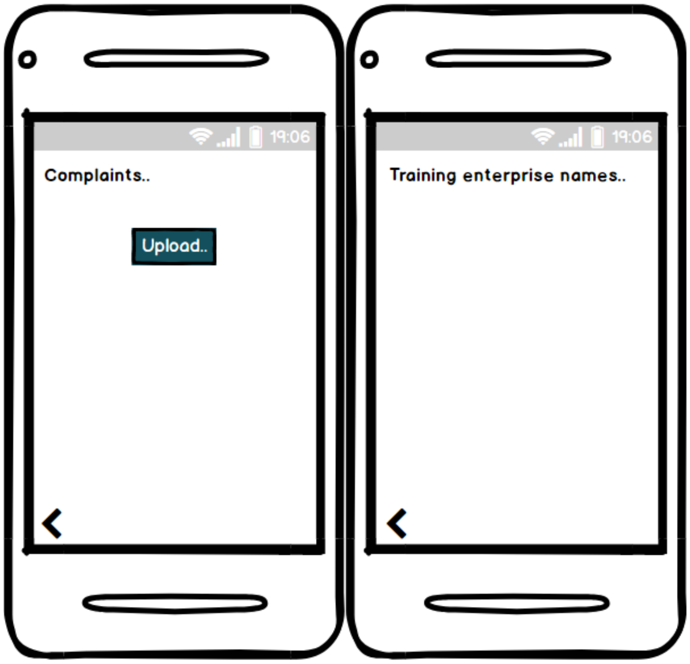
4.12.3 The Screen of trainee folders and supervisor folders after registration

Figure (4-20) The screen of trainee folders and supervisor folders after registration



4.12.4 The screens of trainee folders

Figure (4-21) The screen of trainee folders



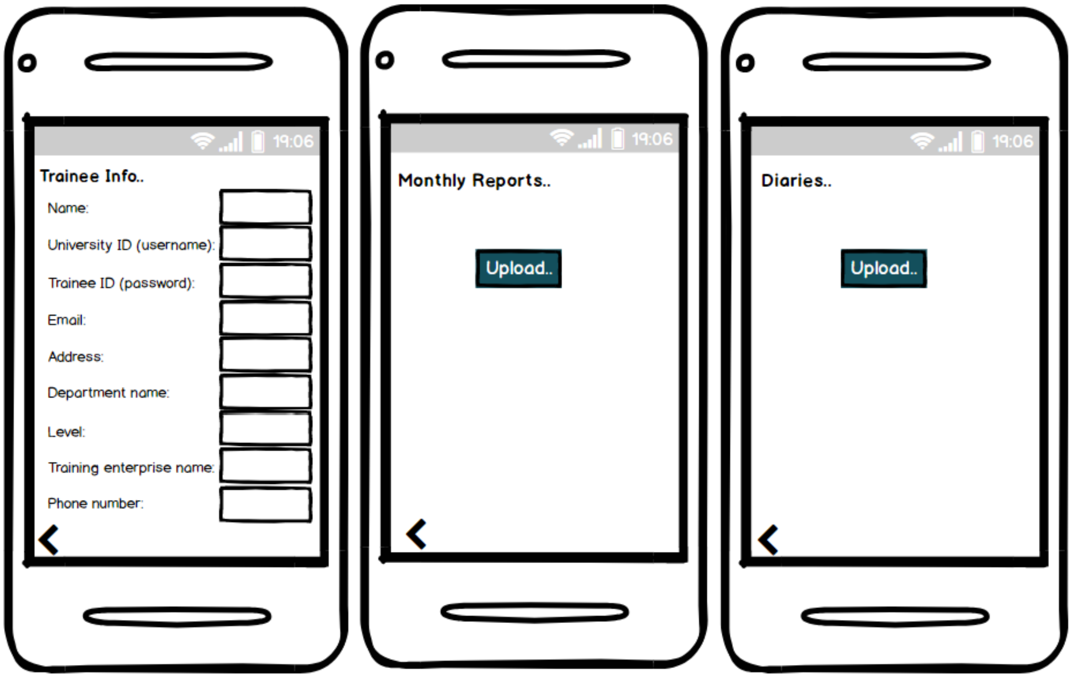


Figure (4-22) The screen of trainee folders

4.12.5 The screen of supervisor folders

Figure (4-23) The screen of supervisor folders

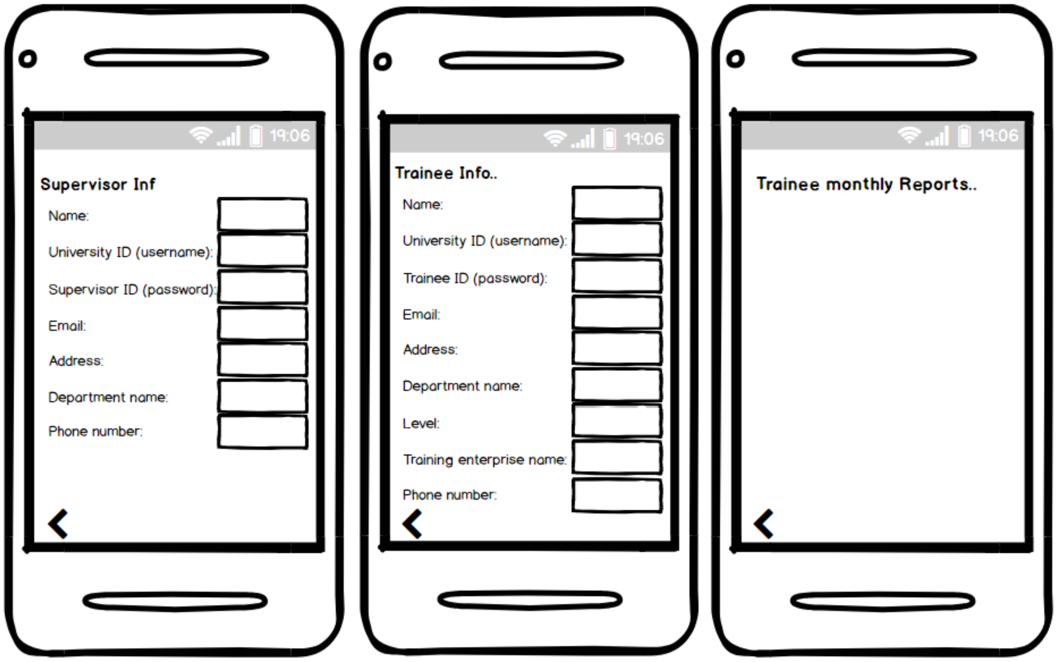
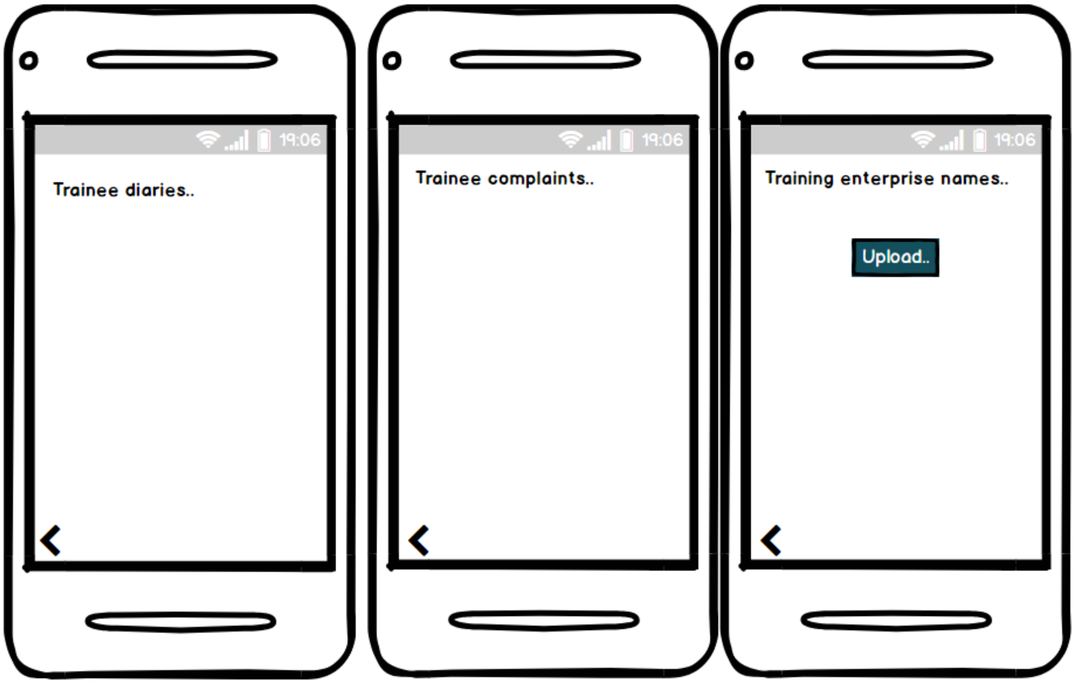


Figure (4-24) The screen of supervisor folders



5) Implementation and testing

5.1 Introduction

One of the exiting parts of project is the implementation in this part we will see the actual system in real life aSign nd the effect of the system on the life.

5.2 Procedures

1. Chat procedures

```
public void getTraineeReports(View view)
{

    chatFlag = 1;
    Intent i = new Intent(getApplicationContext(),SupervisorList.class);
    startActivity(i);

}

public void getTraineeDiaries(View view)
{
    chatFlag = 2;
    Intent i = new Intent(getApplicationContext(),SupervisorList.class);
    startActivity(i);

}

public void getTraineeComplains(View view)
{
    chatFlag=3;
    Intent i = new Intent(getApplicationContext(),SupervisorList.class);
    startActivity(i);

}

public void getTraineeInEnterpriseName(View view)
{

    chatFlag=4;
    Intent i = new Intent(getApplicationContext(),SupervisorList.class);
    startActivity(i);

}
```

2. Trainee data

```
private String name , email , password , universityId , phoneNumber , address , 
departmentName , level , enterpriseName ;


    public String getName() {
        return name;
    }

    public String getEnterpriseName() {
        return enterpriseName;
    }

    public void setEnterpriseName(String enterpriseName) {
        this.enterpriseName = enterpriseName;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public String getPassword() {
        return password;
    }

    public void setPassword(String password) {
        this.password = password;
    }

    public String getUniversityId() {
        return universityId;
    }

    public void setUniversityId(String universityId) {
        this.universityId = universityId;
    }

    public String getPhoneNumber() {
        return phoneNumber;
    }

    public void setPhoneNumber(String phoneNumber) {
        this.phoneNumber = phoneNumber;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public String getDepartmentName() {
        return departmentName;
    }

    public void setDepartmentName(String departmentName) {
        this.departmentName = departmentName;
    }

    public String getLevel() {
        return level;
    }

    public void setLevel(String level) {
        this.level = level;
    }
}
```

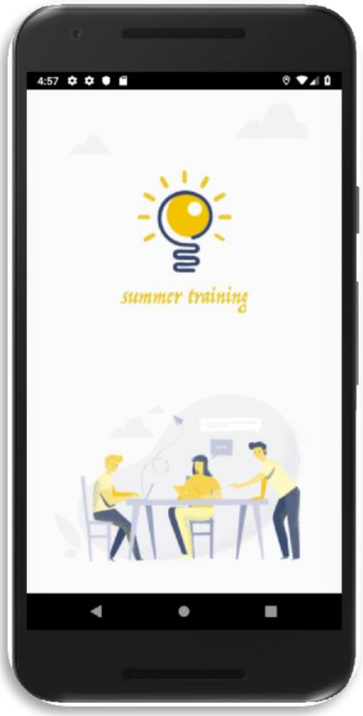
4. Supervisor data

```
public class Supervisor {

    private String name , email , password , universityId , phoneNumber , address ,
departmentName ;

    public   String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public String getPassword() {
        return password;
    }

    public void setPassword(String password) {
        this.password = password;
    }

    public String getUniversityId() {
        return universityId;
    }

    public void setUniversityId(String universityId) {
        this.universityId = universityId;
    }

    public String getPhoneNumber() {
        return phoneNumber;
    }

    public void setPhoneNumber(String phoneNumber) {
        this.phoneNumber = phoneNumber;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public String getDepartmentName() {
        return departmentName;
    }

    public void setDepartmentName(String departmentName) {
        this.departmentName = departmentName;
    }
}
```

5.3 Layouts

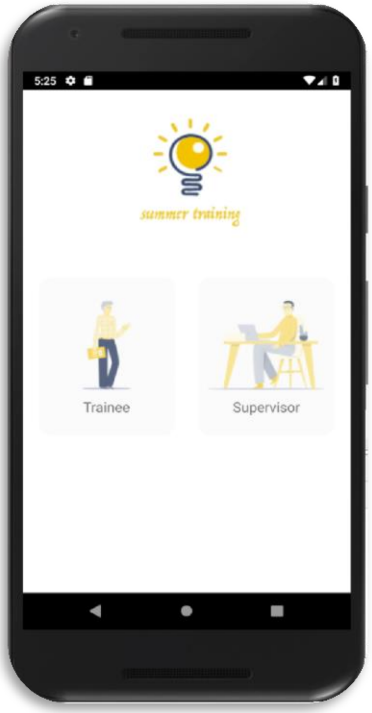
5.3.1 Intial screen

Figure (5-1) Intial screen



5.3.2 You must choose if you are (trainee or supervisor).

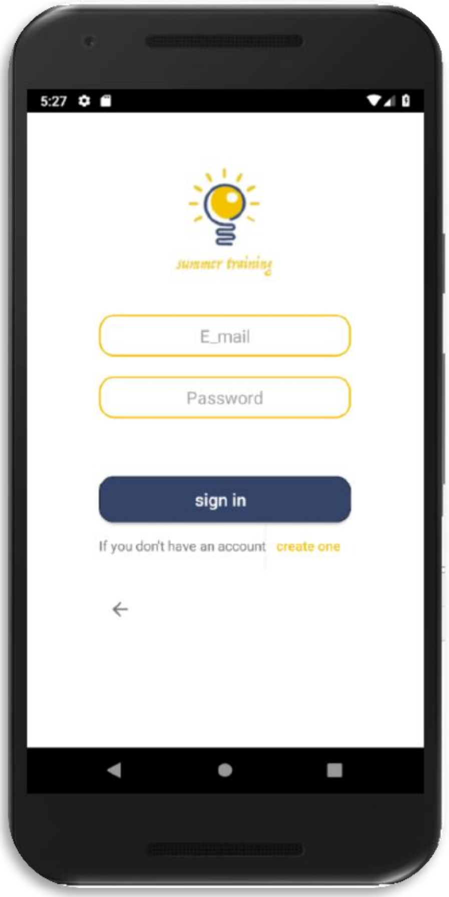
Figure (5-2) Identify who you are in the



5.3.3 Then this page will be shown for both trainee and supervisor.

(If they have already account, they fill their date and click (sign in) if they don’t have an account the have to click on (create one)).

Figure (5-3) Sign in page



5.3.4 If they click on (create one) this page will be shown:

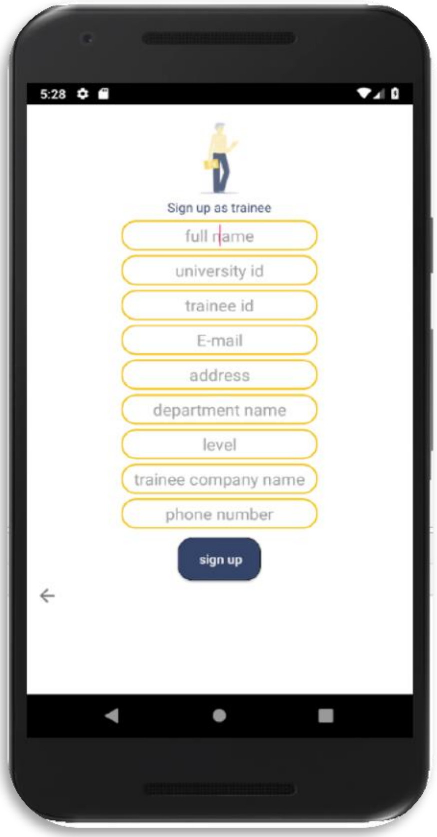


Figure (5-4) Trainee registration

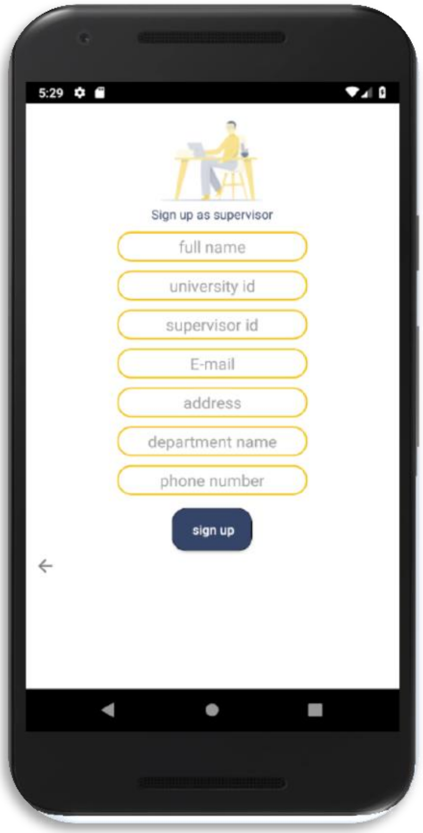


Figure (5-5) Supervisor registration

5.3.5 After registration, the data stored in database and the folders will be shown:

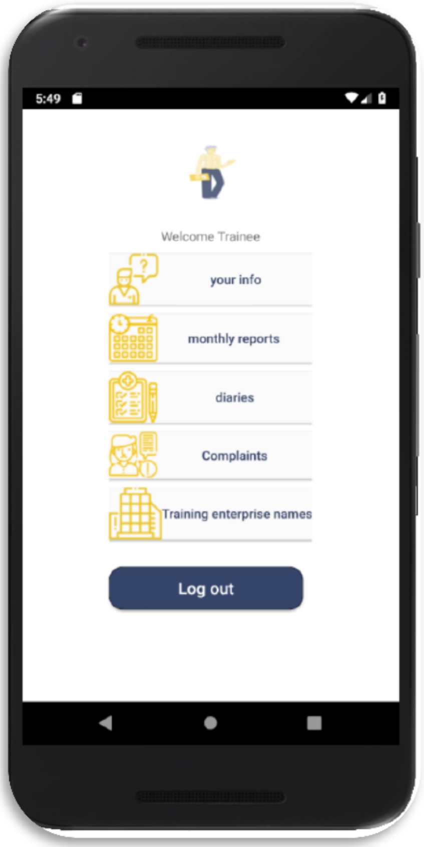


Figure (5-6) Trainee folders

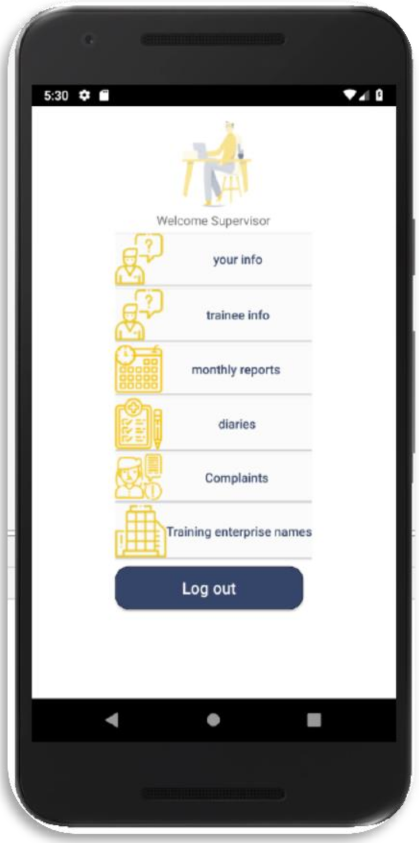
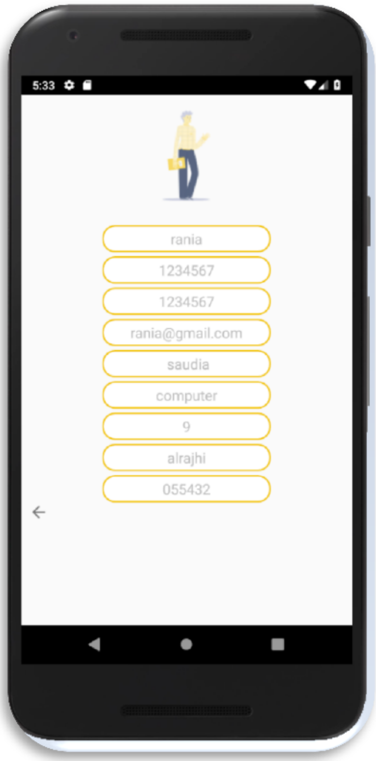


Figure (5-7) Supervisor folder

5.3.6 Trainee can click at trainee info to show his info and can click at any folder he wants and upload his reports, diaries, complaints and can receive the legal enterprise names from his supervisor.

Figure (5-8) Your info folder


5:33

rania

1234567

1234567

rania@gmail.com

saudia

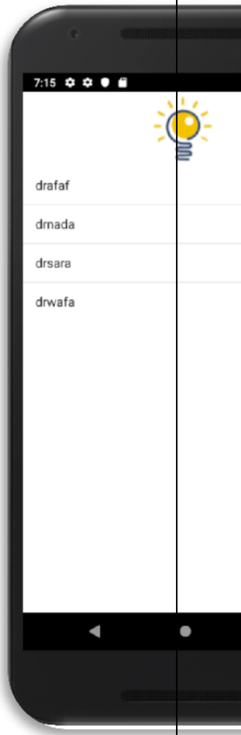
computer

9

alrajhi

055432

Figure (5-9) Select name of supervisor you want


7:15

drafaf

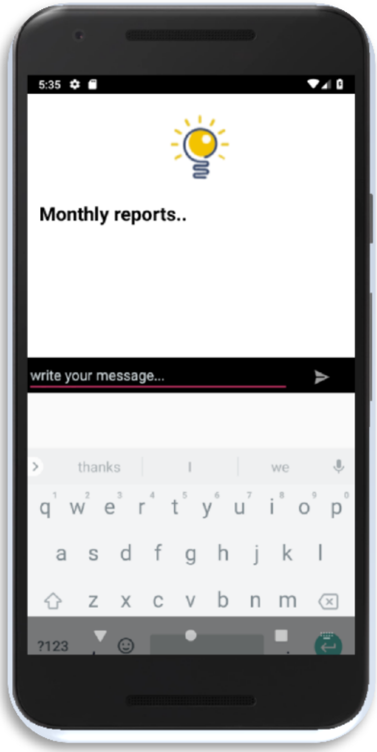
drnada

drsara

drwafa

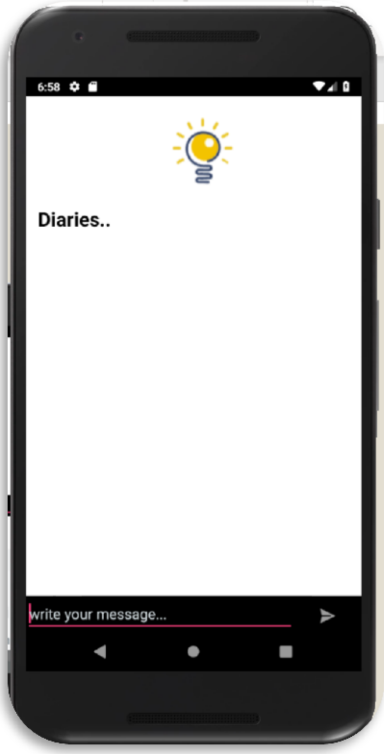
Figure (5-1

Figure (5-10) Monthly report


5:35

Monthly reports..

write your message...


6:58

Diaries..

write your message...

Figure (5-12) Complaint folder

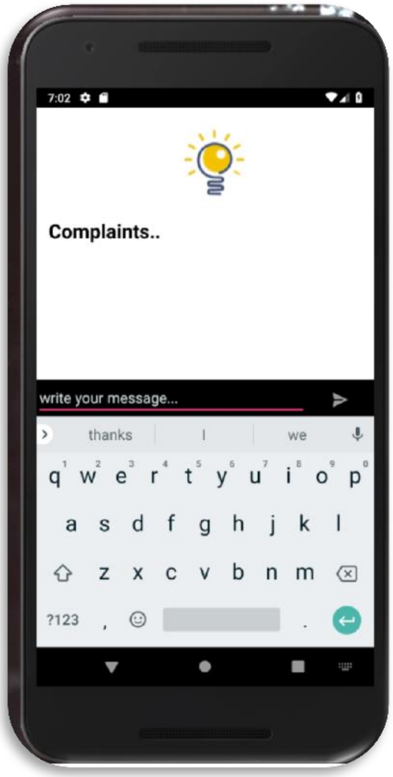
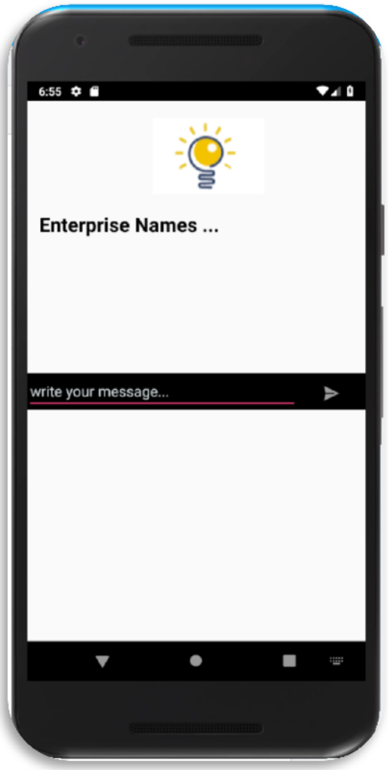
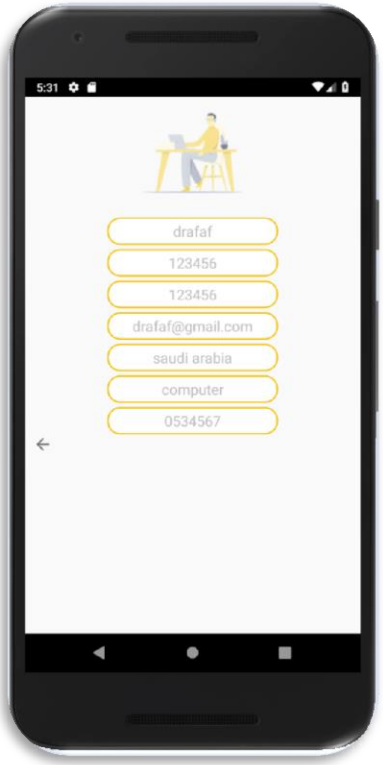


Figure (5-13) Enterprise name folder



5.3.7 Supervisor can click at trainee info to show the info of trainees and can click at any folder he wants and receive trainee reports, diaries, complaints and can upload the legal enterprise names to trainees.

Figure (5-14) Your info Folder



drafaf

123456

123456

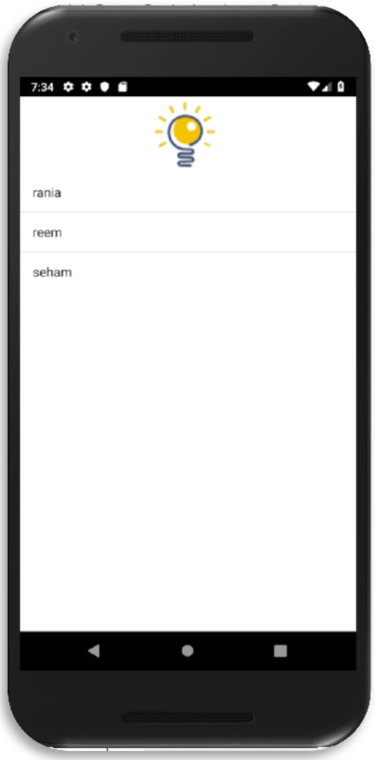
drafaf@gmail.com

saudi arabia

computer

0534567

Figure (5-15) Select name of trainee you want to display his

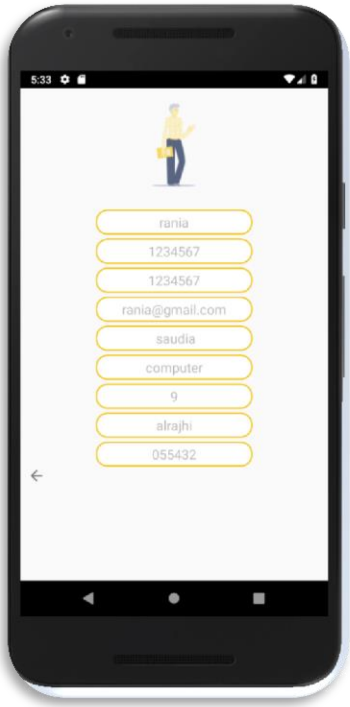


rania

reem

seham

Figure (5-16) Trainee info (rania)



rania

1234567

1234567

rania@gmail.com

saudia

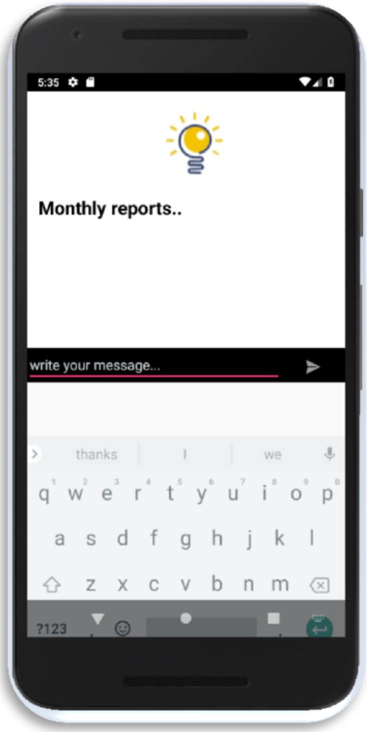
computer

9

alrajhi

055432

Figure (5-17) Monthly report folder



Monthly reports..

write your message...

Figure (5-18) Diary folder

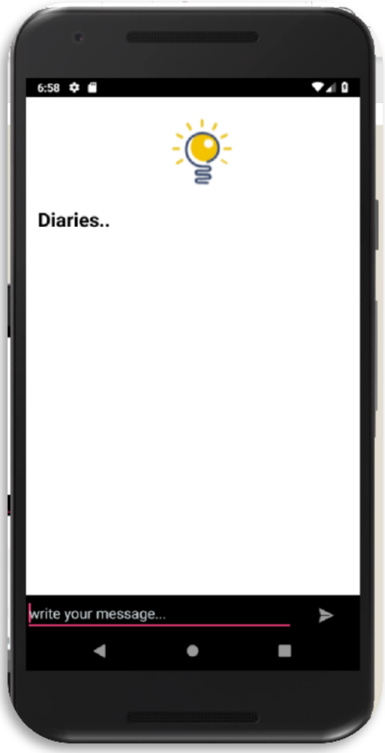


Figure (5-19) Enterprise name folder

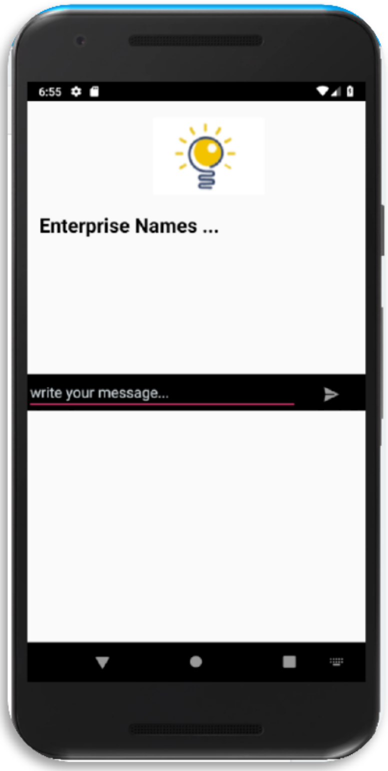
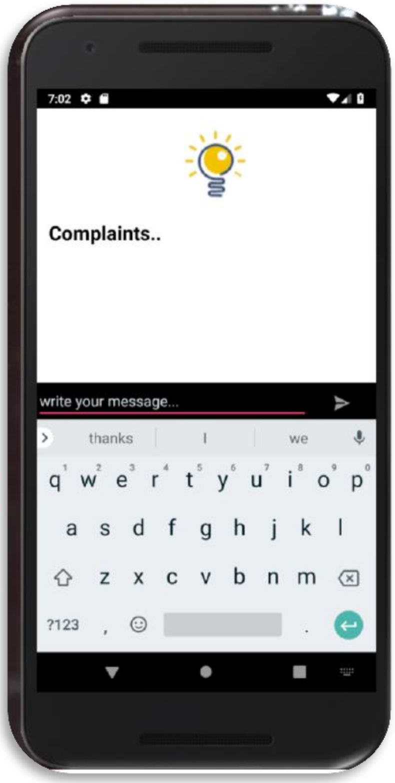
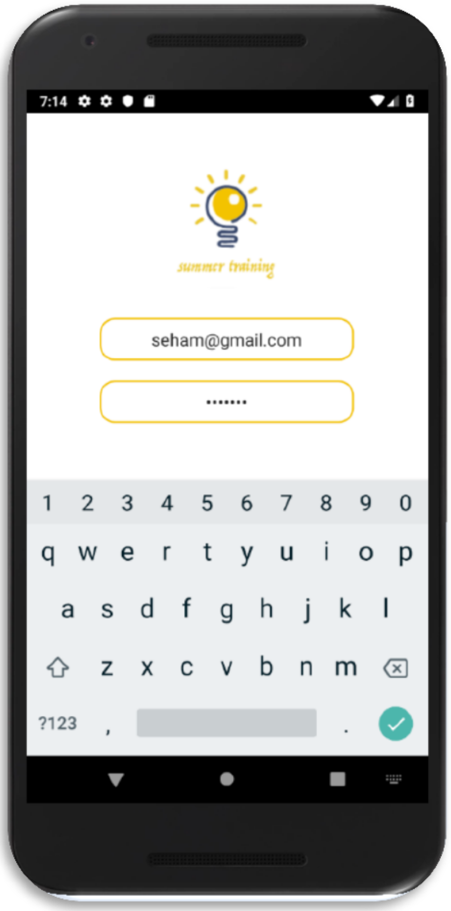


Figure (5-20) Complaint folder



5.4 Report layouts

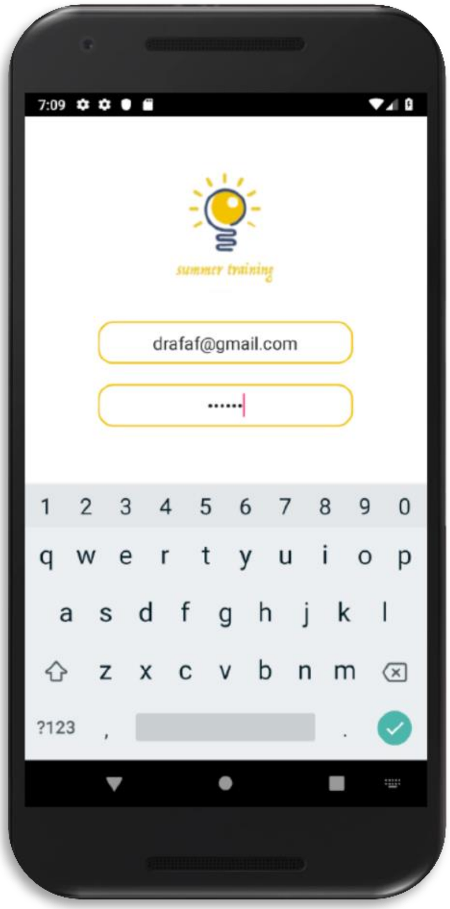
Figure (5-21) sign in as trainee (Seham)



seham@gmail.com

•••••••

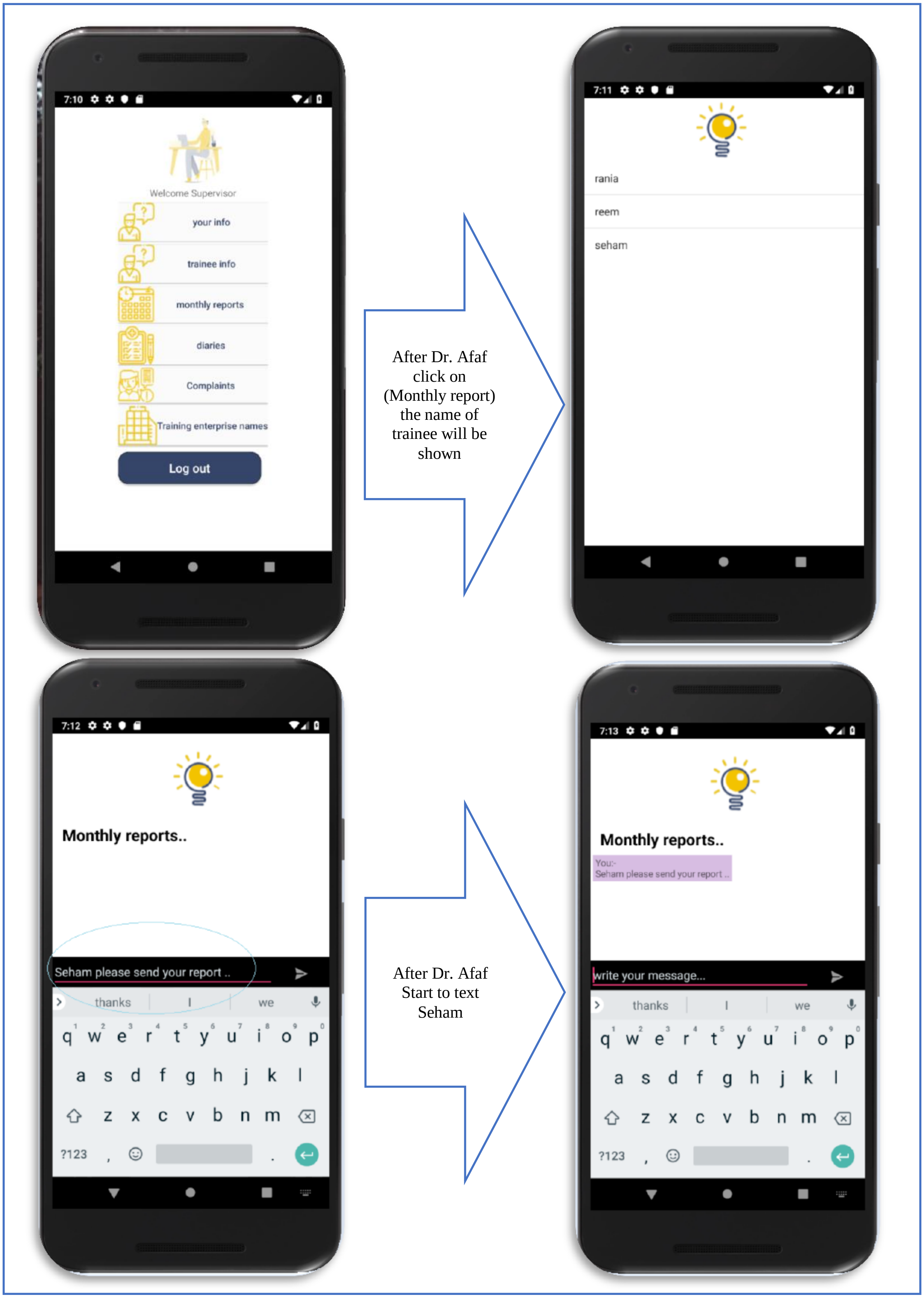
Figure (5-22) sign in as Supervisor (Dr. Afaf)



drafaf@gmail.com

••••••

Figure (5-23) from Dr. Afaf to trainee (Seham)



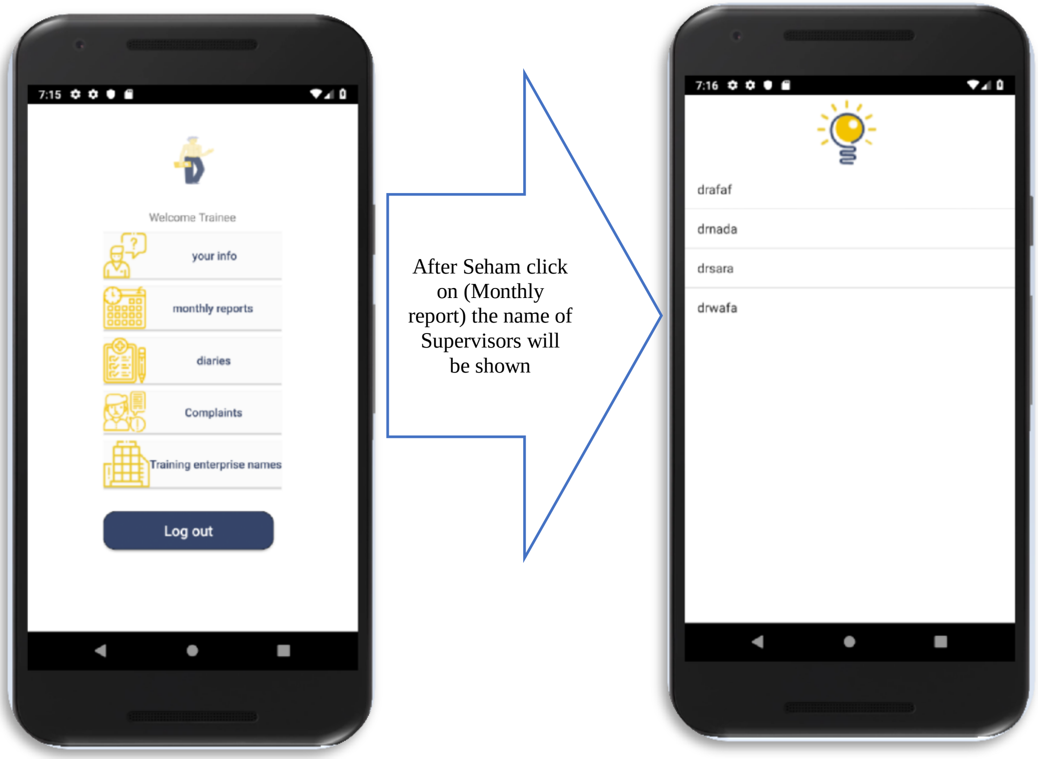
After Dr. Afaf click on (Monthly report) the name of trainee will be shown

After Dr. Afaf Start to text Seham

Seham please send your report ..

You:-
Seham please send your report ..

Figure (5-24) Message from Seham to Supervisor (Dr. Afaf)



7:15

Welcome Trainee

your info

monthly reports

diaries

Complaints

Training enterprise names

Log out

After Seham click on (Monthly report) the name of Supervisors will be shown

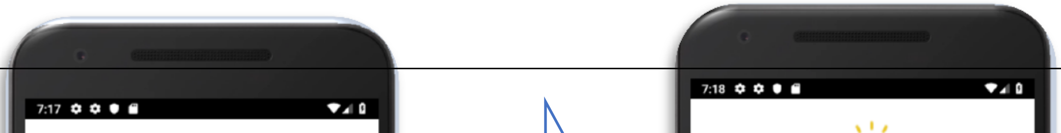
7:16

drafaf

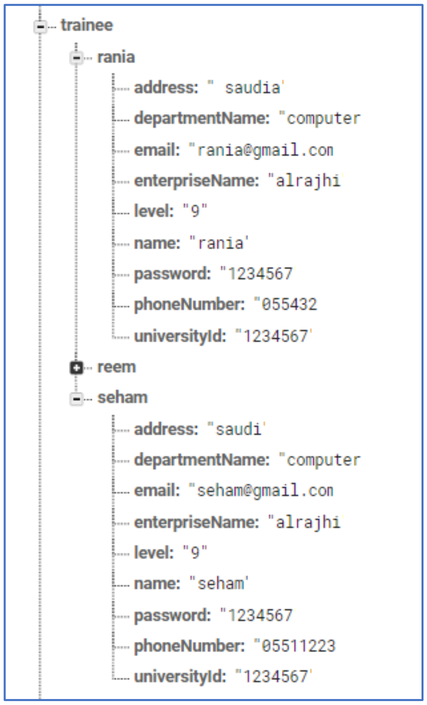
drnada

drsara

drwafa



5.5 Report

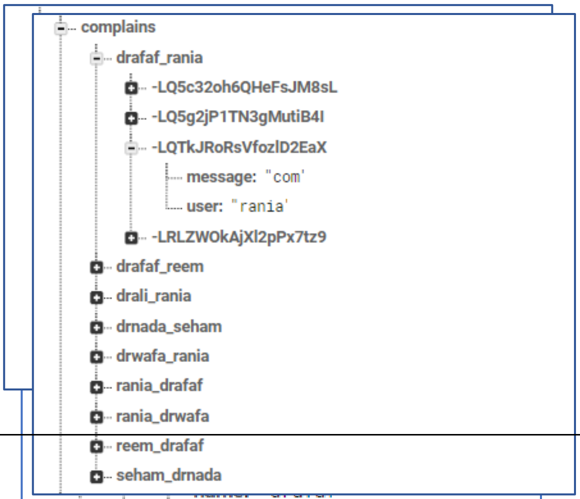


```
trainee
  rania
    address: " saudia'
    departmentName: "computer
    email: "rania@gmail.con
    enterpriseName: "alrajhi
    level: "9"
    name: "rania'
    password: "1234567
    phoneNumber: "055432
    universityId: "1234567'
  reem
  seham
    address: "saudi'
    departmentName: "computer
    email: "seham@gmail.con
    enterpriseName: "alrajhi
    level: "9"
    name: "seham'
    password: "1234567
    phoneNumber: "05511223
    universityId: "1234567'
```

Figure (5-25) Trainee Database

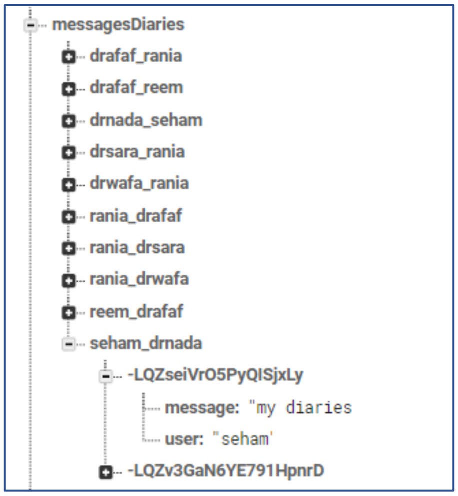
Figure (5-26) Supervisor Database

Figure (5-27) Monthly report database



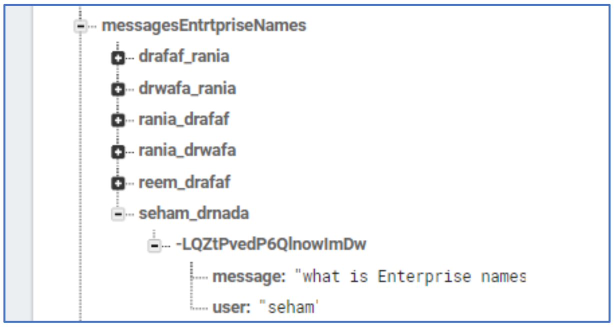
```
complains
  drafaf_rania
    -LQ5c32oh6QHeFsJM8sL
    -LQ5g2jP1TN3gMutiB4I
    -LQTkJRoRsVfozlD2EaX
      message: "com'
      user: "rania'
    -LRLZWOkAjXl2pPx7tz9
  drafaf_reem
  drali_rania
  drnada_seham
  drwafa_rania
  rania_drafaf
  rania_drwafa
  reem_drafaf
  seham_drnada
```

Figure (5-29) Diaries database



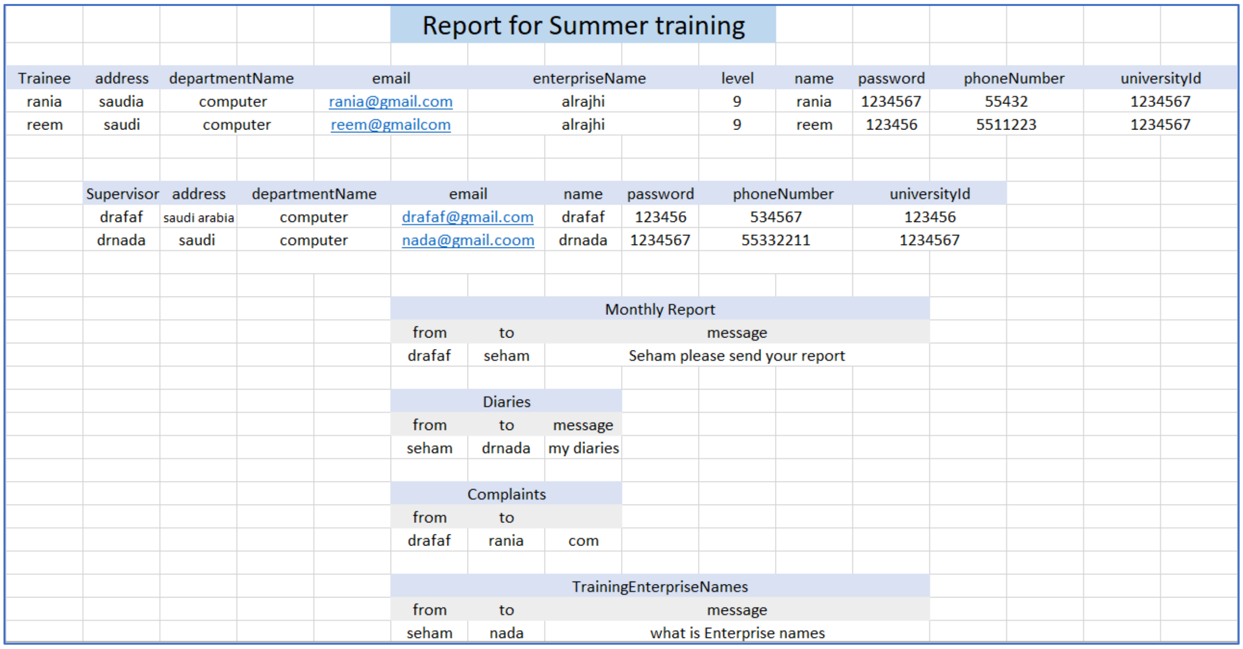
```
messagesDiaries
    drafaf_rania
    drafaf_reem
    drnada_seham
    drsara_rania
    drwafa_rania
    rania_drafaf
    rania_drsara
    rania_drwafa
    reem_drafaf
    seham_drnada
        -LQZseiVrO5PyQISjxLy
            message: "my diaries
            user: "seham'
        -LQZv3GaN6YE791HpnrD
```

Figure (5-30) Training Enterprise name database



```
messagesEntrtpriseNames
    drafaf_rania
    drwafa_rania
    rania_drafaf
    rania_drwafa
    reem_drafaf
    seham_drnada
        -LQZtPvedP6QlnowImDw
            message: "what is Enterprise names
            user: "seham'
```

Figure (5-31) Database report



Report for Summer training

Trainee	address	departmentName	email	enterpriseName	level	name	password	phoneNumber	universityId
rania	saudia	computer	rania@gmail.com	alrajhi	9	rania	1234567	55432	1234567
reem	saudi	computer	reem@gmailcom	alrajhi	9	reem	123456	5511223	1234567

Supervisor	address	departmentName	email	name	password	phoneNumber	universityId
drafaf	saudi arabia	computer	drafaf@gmail.com	drafaf	123456	534567	123456
drnada	saudi	computer	nada@gmail.coom	drnada	1234567	55332211	1234567

Monthly Report

from	to	message
drafaf	seham	Seham please send your report

Diaries

from	to	message
seham	drnada	my diaries

Complaints

from	to	
drafaf	rania	com

TrainingEnterpriseNames

from	to	message
seham	nada	what is Enterprise names

6) Conclusion and future works

6.1 Conclusion

At the end of the theoretical part thank god for enable us to write this project and we wish the project will benefit our society.

In this project, we analyze the problem and we try to find suitable solutions for trainee students and the supervisors to help them in the summer training.

Also, we take about the importance of this project the main goal, our objectives and the expected results.

The related works are included and link them with tour project and we find the differences.

We take about the feasibility study, project plan, compare the SDLC and we choose the suitable one, maintenance, verification, implementation and the way of gathering information.

System design was sensitive case we take about functional and non-functional requirements, the description of DFD, the UML diagram (class, use case, activity…), ERD for database, database tables and the design of screen.

The implementation gives us the analysis of the questionnaire gave us some of results that benefits us to know the impression of society, recommendations, conclusion, references and conclusion.

6.2 Future work:

- Support multiple languages (English- Arabic).
- Support more HCI (Human Interaction design).
- Not only for computer science students, also the other departments that takes summer training course.
- Support IOS devices.

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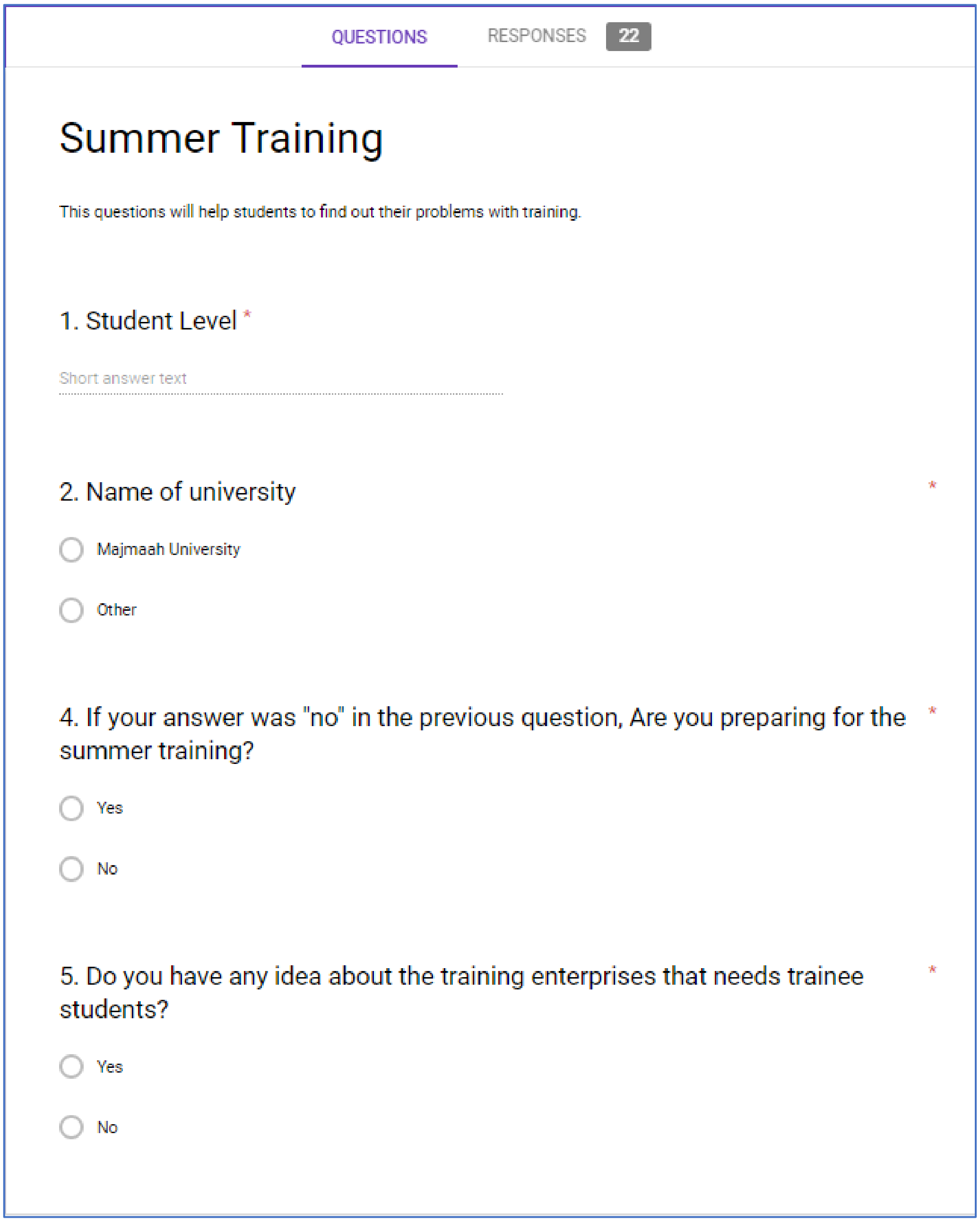
Appendix

- **Questionnaire**

Figure (6-1) Questionnaire



Summer Training

This questions will help students to find out their problems with training.

1. Student Level *

Short answer text

2. Name of university *

○ Majmaah University

○ Other

4. If your answer was "no" in the previous question, Are you preparing for the summer training? *

○ Yes

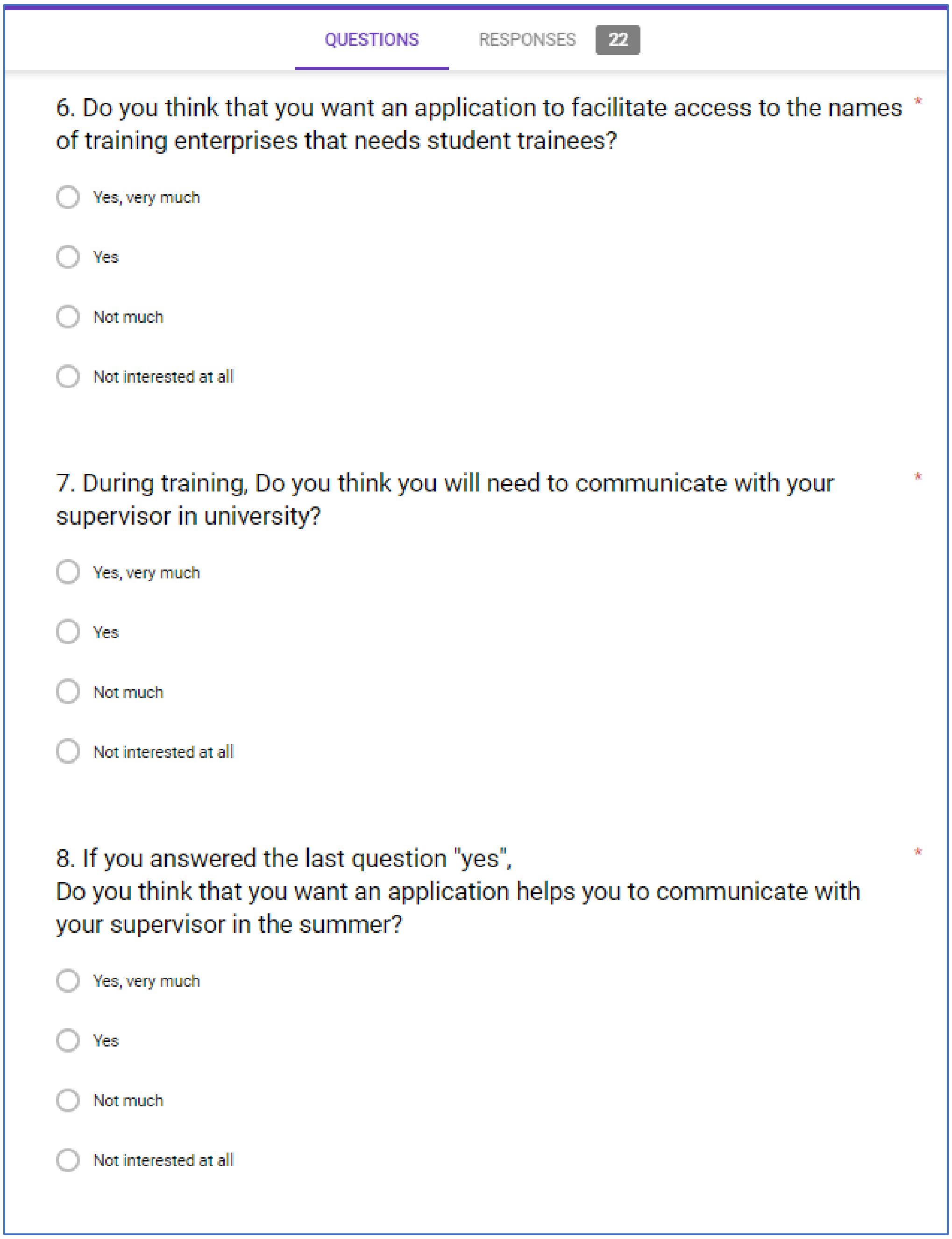
○ No

5. Do you have any idea about the training enterprises that needs trainee students? *

○ Yes

○ No

Figure (6-2) Questionnaire



6. Do you think that you want an application to facilitate access to the names of training enterprises that needs student trainees? *

○ Yes, very much

○ Yes

○ Not much

○ Not interested at all

7. During training, Do you think you will need to communicate with your supervisor in university? *

○ Yes, very much

○ Yes

○ Not much

○ Not interested at all

8. If you answered the last question "yes",
Do you think that you want an application helps you to communicate with your supervisor in the summer? *

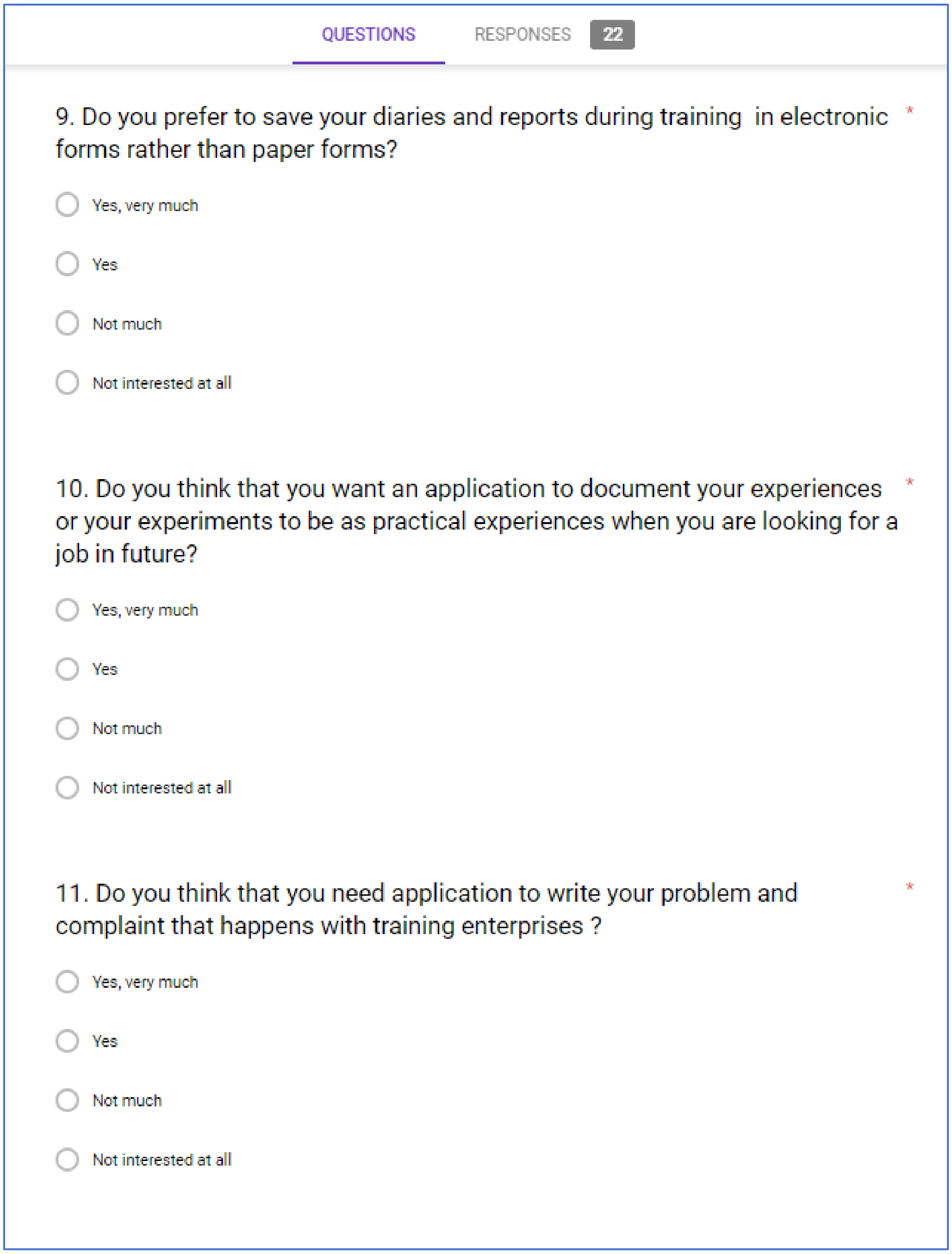
○ Yes, very much

○ Yes

○ Not much

○ Not interested at all

Figure (6-3) Questionnaire



9. Do you prefer to save your diaries and reports during training in electronic forms rather than paper forms? *

○ Yes, very much

○ Yes

○ Not much

○ Not interested at all

10. Do you think that you want an application to document your experiences or your experiments to be as practical experiences when you are looking for a job in future? *

○ Yes, very much

○ Yes

○ Not much

○ Not interested at all

11. Do you think that you need application to write your problem and complaint that happens with training enterprises ? *

○ Yes, very much

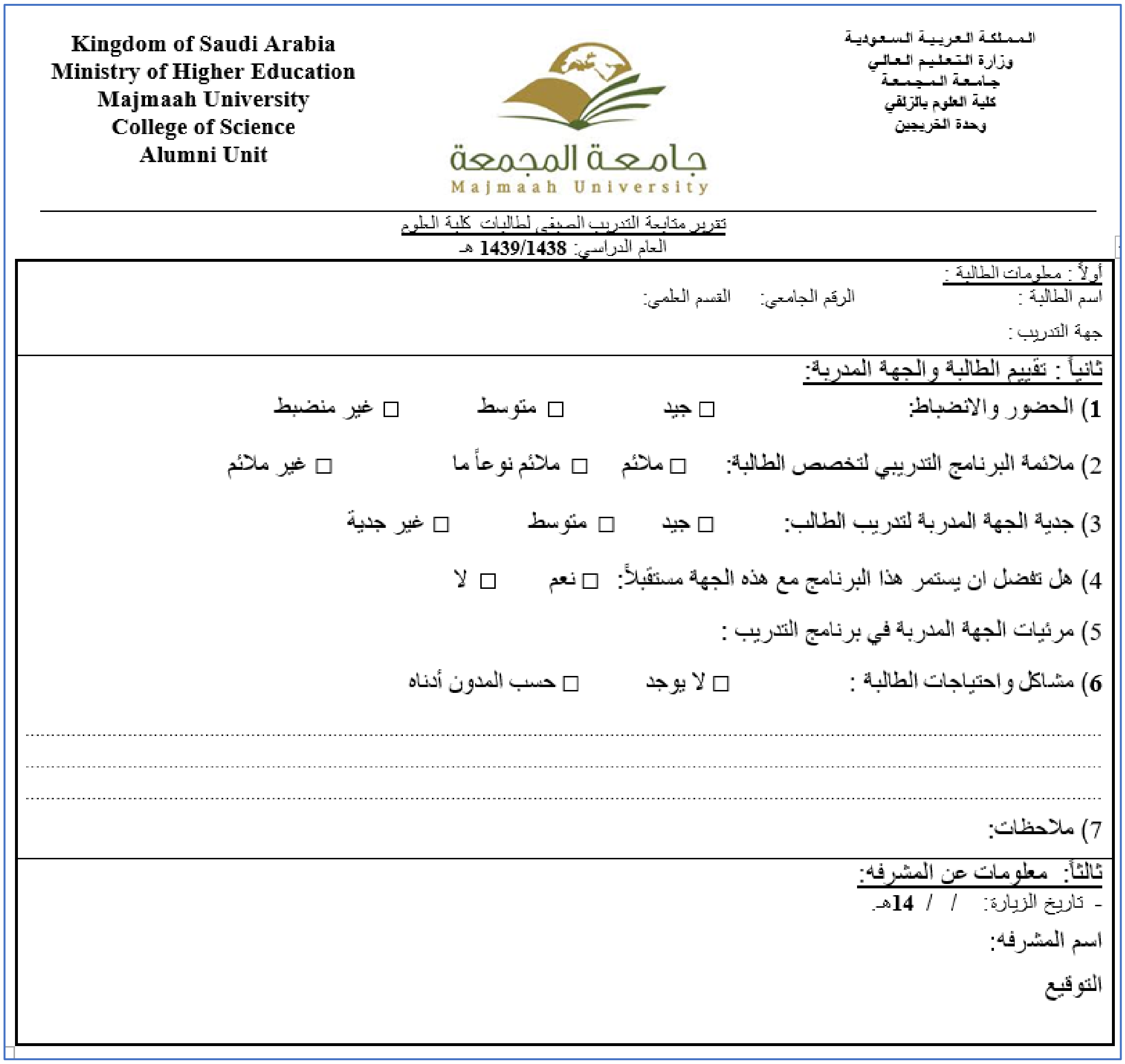
○ Yes

○ Not much

○ Not interested at all

- **Report form**

Figure (6-4) Report form



Kingdom of Saudi Arabia
Ministry of Higher Education
Majmaah University
College of Science
Alumni Unit

جامعة المجمعة
Majmaah University

المملكة العربية السعودية
وزارة التعليم العالي
جامعة المجمعة
كلية العلوم بالزلفي
وحدة الخريجين

تقرير متابعة التدريب الصيفي لطالبات كلية العلوم
العام الدراسي: **1439/1438** هـ

أولاً : معلومات الطالبة :

اسم الطالبة :   الرقم الجامعي: القسم العلمي:

جهة التدريب :

ثانياً : تقييم الطالبة والجهة المدربة:

1) الحضور والانضباط: □ جيد   □ متوسط   □ غير منضبط

2) ملائمة البرنامج التدريبي لتخصص الطالبة: □ ملائم   □ ملائم نوعاً ما   □ غير ملائم

3) جدية الجهة المدربة لتدريب الطالب: □ جيد   □ متوسط   □ غير جدية

4) هل تفضل ان يستمر هذا البرنامج مع هذه الجهة مستقبلاً:   □ نعم   □ لا

5) مرئيات الجهة المدربة في برنامج التدريب :

6) مشاكل واحتياجات الطالبة :   □ لا يوجد   □ حسب المدون أدناه

....

....

....

7) ملاحظات:

ثالثاً: معلومات عن المشرفه:

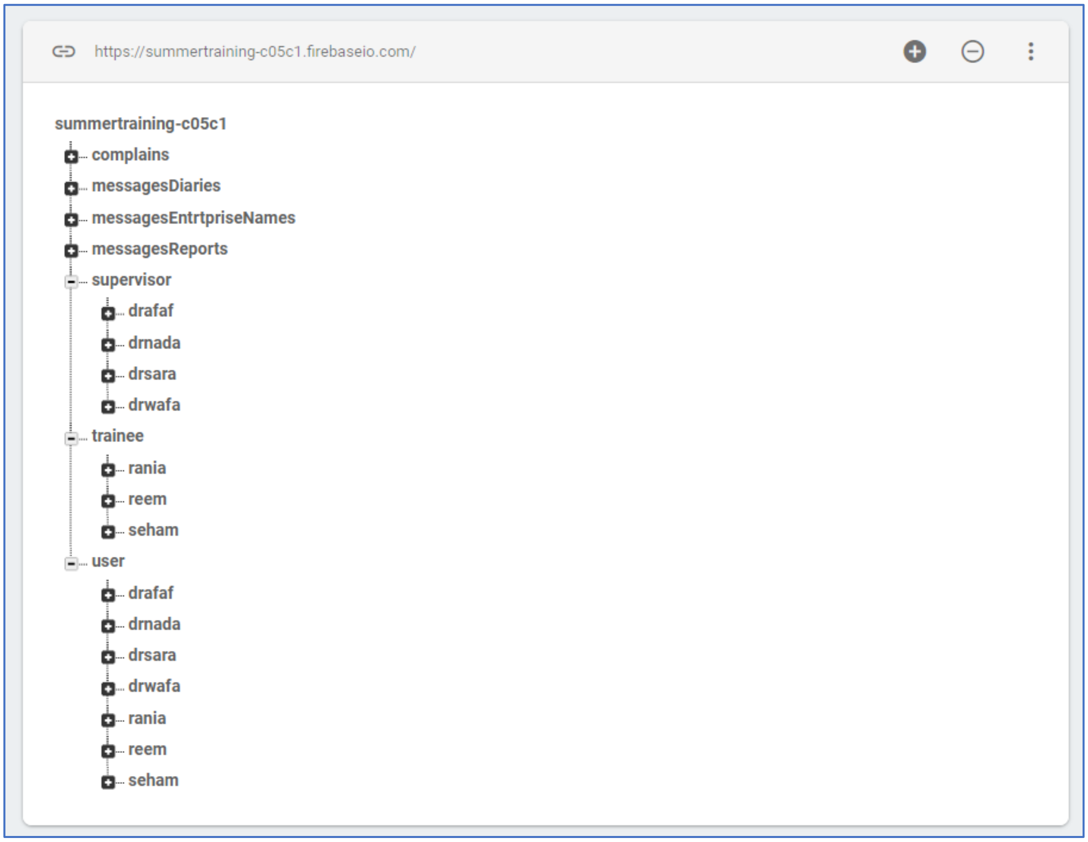
- تاريخ الزيارة: /   / **14**هـ

اسم المشرفه:

التوقيع

- **Database (Firebase)**

Figure (6-5) Database



https://summertraining-c05c1.firebaseio.com/

```
summertraining-c05c1
 + complains
 + messagesDiaries
 + messagesEntrtpriseNames
 + messagesReports
 - supervisor
     + drafaf
     + drnada
     + drsara
     + drwafa
 - trainee
     + rania
     + reem
     + seham
 - user
     + drafaf
     + drnada
     + drsara
     + drwafa
     + rania
     + reem
     + seham
```

Source Code

Supervisor:

```
package com.project.training.summertraining;

public class Supervisor {

    private String name , email , password , universityId , phoneNumber , address , departmentName ;

    public  String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public String getPassword() {
        return password;
    }

    public void setPassword(String password) {
        this.password = password;
    }

    public String getUniversityId() {
        return universityId;
    }

    public void setUniversityId(String universityId) {
        this.universityId = universityId;
    }

    public String getPhoneNumber() {
        return phoneNumber;
    }

    public void setPhoneNumber(String phoneNumber) {
        this.phoneNumber = phoneNumber;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public String getDepartmentName() {
        return departmentName;
    }

    public void setDepartmentName(String departmentName) {
        this.departmentName = departmentName;
    }
```

➢ Supervisor Folder

```
package com.project.training.summertraining;

import android.content.Intent;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.support.v4.graphics.drawable.RoundedBitmapDrawable;
import android.support.v4.graphics.drawable.RoundedBitmapDrawableFactory;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;

public class SupervisorFolders extends AppCompatActivity {


     public  static int chatFlag = 0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_supervisor_folders);

        ImageView admin = (ImageView) findViewById(R.id.supervisorphoto);
        Bitmap bitMap=
BitmapFactory.decodeResource(getResources(),R.drawable.group);
        RoundedBitmapDrawable roundedBitmapDrawable =
RoundedBitmapDrawableFactory.create(getResources(),bitMap);
        roundedBitmapDrawable.setCircular(true);
        admin.setImageDrawable(roundedBitmapDrawable);


    }


    public void getSuperVisorInfo(View view)
    {

        Intent i = new Intent(getApplicationContext(),SupervisorData.class);
        startActivity(i);

    }


    public void getTraineeInfo(View view)
    {

        chatFlag =5 ;

        Intent i = new Intent(getApplicationContext(),TraineeList.class);
        startActivity(i);

    }


    public void getTraineeReports(View view)
    {

        chatFlag = 1;
        Intent i = new Intent(getApplicationContext(),SupervisorList.class);
        startActivity(i);
    }

    public void getTraineeDiaries(View view)
    {
        chatFlag = 2;
        Intent i = new Intent(getApplicationContext(),SupervisorList.class);
        startActivity(i);

    }

    public void getTraineeComplains(View view)
    {
        chatFlag=3;
        Intent i = new Intent(getApplicationContext(),SupervisorList.class);
        startActivity(i);

    }

    public void getTraineeInEnterpriseName(View view)
    {

        chatFlag=4;
        Intent i = new Intent(getApplicationContext(),SupervisorList.class);
        startActivity(i);

    }

    public void logOut(View view)
    {

        Intent i = new Intent(getApplicationContext(),MainActivity.class);
        startActivity(i);

    }


}
```

➢ Trainee

```
package com.project.training.summertraining;

public class Trainee {

    private String name , email , password , universityId , phoneNumber , address ,
departmentName , level , enterpriseName ;


    public String getName() {
        return name;
    }

    public String getEnterpriseName() {
        return enterpriseName;
    }

    public void setEnterpriseName(String enterpriseName) {
        this.enterpriseName = enterpriseName;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getEmail() {
        return email;
    }

    public void setEmail(String email) {
        this.email = email;
    }

    public String getPassword() {
        return password;
    }

    public void setPassword(String password) {
        this.password = password;
    }

    public String getUniversityId() {
        return universityId;
    }

    public void setUniversityId(String universityId) {
        this.universityId = universityId;
    }

    public String getPhoneNumber() {
        return phoneNumber;
    }

    public void setPhoneNumber(String phoneNumber) {
        this.phoneNumber = phoneNumber;
    }

    public String getAddress() {
        return address;
    }

    public void setAddress(String address) {
        this.address = address;
    }

    public String getDepartmentName() {
        return departmentName;
    }

    public void setDepartmentName(String departmentName) {
        this.departmentName = departmentName;
    }

    public String getLevel() {
        return level;
    }

    public void setLevel(String level) {
        this.level = level;
    }
}
```

➢ Trainee Folder

```
package com.project.training.summertraining;

import android.content.Intent;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.support.v4.graphics.drawable.RoundedBitmapDrawable;
import android.support.v4.graphics.drawable.RoundedBitmapDrawableFactory;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;

public class TraineeFolders extends AppCompatActivity {

    static  int chatFlagT ;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_trainee_folders);


        ImageView admin = (ImageView) findViewById(R.id.traineephoto);
        Bitmap bitMap=
BitmapFactory.decodeResource(getResources(),R.drawable.training);
        RoundedBitmapDrawable roundedBitmapDrawable =
RoundedBitmapDrawableFactory.create(getResources(),bitMap);
        roundedBitmapDrawable.setCircular(true);
        admin.setImageDrawable(roundedBitmapDrawable);

    }


    public void getTraineeData (View view)
    {

        Intent i= new Intent(getApplicationContext() , TraineeData.class);
        startActivity(i);

    }

    public void getEnterpriseNames(View view)

    {
              chatFlagT=4;

        Intent i= new Intent(getApplicationContext() , SupervisorList.class);
        startActivity(i);
    }

   public void uploadReports (View view)
   {
       chatFlagT=1;
       Intent i = new Intent(getApplicationContext(),SupervisorList.class);
       startActivity(i);
   }

    public void uploadTraineeDiaries(View view)
    {
        chatFlagT=2;
        Intent i = new Intent(getApplicationContext(),SupervisorList.class);
        startActivity(i);
    }

    public void uploadTraineeComplains(View view)
    {

        chatFlagT=3;
            startActivity(new Intent(getApplicationContext(),SupervisorList.class
));
    }

    public void logOut(View view)
    {
        Intent i = new Intent(getApplicationContext(),MainActivity.class);
        startActivity(i);
    }
}
```