جامعة الأزهر بغزة

شعار الجامعة

Tahfeez System

نظام التحفيظ

By

Student Name

KHALID MOHAMEED NIJIM

&

ABED ALFATTAH S. ALSHORAFA

Supervised by

Dr.Khalid M. Ismail

10/2022

Abstract

(Within one page)

This Abstract should be written in a paragraph base not as points bases.

This template is in the correct format - just type over it and save it as your document.

The first item in your thesis should be an abstract of a few short paragraphs (within one page) summarising the thesis.
It is suggested that the abstract be structured as follows:

Problem: What you tackled, and why this needed a solution

Objectives and aims: What you set out to achieve, and how this addressed the problem

Methodology: How you went about solving the problem

Results: What you managed to achieve, and how far it meets your objectives.

Conclusions & Recommendations: The most important finding (in one or two sentences)

From the abstract, a reader should be able to ascertain if the project is of interest to her/him.

ملخص الدراسة

(لا يزيد عن صفحة واحدة)

Epigraph Page

(Time New Romans, font size 14, bold B)

(Optional)

Time New Romans, font size 12.

Dedication

(Time New Romans, font size 14, bold B)

(Within one page)

Time New Romans, font size 12.

Acknowledgment

(Time New Romans, font size 14, bold B)

(Within one page)

Time New Romans, font size 12.

Table of Contents

(Automatic Table of Contents)

List of Tables

List of Figures

List of Abbreviations

CUT   Class Under Test

RTS   Regression Test Selection

SUT   System Under Test

TDD   Test Driven Development

*Note: Sort Alphapiticaly

Chapter 1

Introduction

Chapter 1

Introduction

In light of the electronic development and the spread of smart devices everywhere, it has become a duty for all institutions to move from using papers to using computerized systems. One of the most important institutions that must integrate into this intelligent world are the Quran memorization centers. Which will be the focus of our study in this project.

The idea of the project led to a problem facing the memorization centers, which is the great burden on the administration and the governors in preparing and coordinating paperwork and following up on all parties of the center from students, memorizers and parents, as each of them has an important role in the memorization process. Therefore, we found it necessary to develop an integrated system to reduce the burden and increase quality in the centers.

1.1 Problem Statement

The Tahfeez centers face many problems that hinder their educational path in supervising and qualifying the memorizers, following up the students and their achievement, and managing the educational memorization program. And via communication and discussion with the Tahfeez centers consisting of the center's director, administrator, and memorizers as well as our communication with the students' families we reached a number of problems that we listed and explained in detail as follows:

1. The workers in the Tahfeez centers face a problem in communicating with the students' families, as they cannot inform them of their children's achievement, their weaknesses (whether in terms of memorization or pronunciation) or even send warnings such as warnings of repeated absences, which are sent in the form of a printed paper message. By handing it over to the student's family, hand in hand, and requesting intensification of attention to their children, especially at home, as the majority of parents do not follow up their children continuously in memorizing and learning, even their achievement in Tajweed courses and courses in etiquette, and their daily achievement in memorizing the Holy Quran. The Tahfeez centers also face a problem in communicating with parents who do not have smart phones to communicate with them through social networking applications, and here memorizers need to send regular messages (SMS) on the phone to communicate with the students' families.

2. The parents of the students complain about the difficulty in following up their children's daily or weekly achievement in terms of memorizing the Holy Qur'an or training courses, as there is no effective way through which the guardian can follow up his son from home or remotely, and complete what the memorizer started with in terms of education and indoctrination. For his son to memorize and complete his son's education on the etiquette of behavior, good dealings and the etiquette of the mosque.

3. The administrative body consisting of the director of the center, the administrator, and the memorizers faces a problem in conducting statistics on the students of the center, following up on their achievement, recording attendance and absence, as they do all that work and fill out all this data manually and on paper, which increases the burden on them, and this makes this data vulnerable to loss and loss When a record book is lost or worn out and the manually recorded data may be inaccurate.

4. The students' parents find it very difficult to memorize their children at home and fix what they have memorized in the memorization center, as when they play a YouTube video to teach and teach their children what they will memorize, their children move on to watching other distracting videos and waste a lot of time watching them away from completing memorization.

5. The director of the memorization center faces a problem in following up the presence and absence of memorizers, as some memorizers are absent from the center without excuse, and this causes a big problem in distributing the episodes and completing the work, and the center director cannot appoint a replacement memorizer when the memorizer in charge of the field is absent, as well as communicating with the memorizers effectively away from The system followed, i.e. a face-to-face interview or a relatively expensive phone call, as well as memorizers communicating with the director of the center and informing him of the latest developments and workflow in terms of their commitment to the students and the extent of their achievement, or if they encounter any problem related to memorization.

6. Memorizers face a problem in determining the amount of students' achievement according to the plan specified for each student, and knowing the weak point in this plan and whether it is suitable for the student or not by following up and evaluating the student according to what he has accomplished in the plan, and doing all this work in paper form and looking at the registration books and that is It is very difficult to do individually for each student and the results are not accurate.

7. The parents of the students face a problem as the memorizer may sometimes not be qualified to memorize and teach students appropriately, or does not find time to teach the student what he should memorize next time, so parents need to see the data and testimonies of the memorizer and enable them to evaluate it themselves by seeing its impact on their children.

8. The reservation centers face difficulty in collecting and financing the centers with the necessary financial support, incentives and prizes for students, and the centers' supplies such as religious books, stationery, Qurans, and pamphlets dedicated to students' memorization, and preparing a place designated for courses and memorization, as donations are collected manually from worshipers in the mosque after prayers, which is not sufficient for the needs of the centers. In many cases, worshipers are not prepared to donate when they come to pray, or they prefer to donate in a hidden way through electronic payment methods.

9. Each center, represented by its director, administrators, and memorizers, wants to customize its profile, which distinguishes it from other centers. Choose a picture of the center and a profile about it, presenting the center's mission, goals, services, courses, and its ability to take care of students and memorize them effectively.

1.2 Objectives

1.2.1 Main Objective

The project aims to create a system that solves the administrative problems facing workers in Quran memorization centers as well as students' families

1.2.2 Sub Objectives

a. Make the center's workers able to send notifications to parents through the system and it will be free of charge, so that the governor requests that the notification be sent to all students and the system takes over the rest of the task.

b. The system monitors the student's attendance in the circle, so that if the student is absent for 3 days (or the period specified by the center director), the system proposes that a warning be sent by the governor to the student's family, asking him to acknowledge the reading of his son's absence.

c. The memorized system enables sending a request to intensify interest for the student's family containing the reason for sending the request, and receiving a response from the student's

family with interest in the student with the possibility of sending a message with the response.

    d.   The system shows the students' parents the courses the student is enrolled in with a daily evaluation of the student's activity in the course, with the possibility of downloading the course booklet so that the parents can ask the student and find out the extent of his gain from the course.

    e.   The system automatically sends a message to the students' parents about the daily achievement at the end of each day, or displays the achievement on the student's page so that the parents can access and review it.

    f.   The system will provide the ability to send previous notifications in the form of a regular message (SMS) so that the center's workers can communicate with the families of students who do not have smart phones and inform them, for example, of the student's absence or the student's achievement.

1.3 Scope and Limitations

The memorization application targets the management of the memorization center in terms of helping them improve the quality of managing and monitoring the centers.

The project may encounter several problems, including:

1. Unavailability of the Internet for users: as the memorization centers do not have the Internet, as well as some parents do not have the Internet permanently because many of them depend on daily cards.

2. The lack of smart phones: Most of the time, those interested in memorizing the Qur'an are poor, and some memorizers and some parents also do not have smart phones on which the application can be run.

3. Lack of computers in the centers: Many memorization centers suffer from the lack of a computer (laptop) in the center, as it will be difficult for them to access the control panel from a mobile phone.

4. The lack of electricity.

5. Users lack of experience in technology: as the application interface will be new to users, and some may face a problem in performing tasks easily because they do not deal with similar applications.

1.4 Importance of the project

The application serves a large and very important segment of society, as this category of society does not receive the necessary attention, and the provision of a system to serve this category facilitates its great mission to serve and memorize the Noble Qur'an and improve the quality of memorization, and it also increases people's interest in this category and exerts effort and money them to be able to complete the memorization of the Koran

1.5 Methodology

The incremental model is a software development process where requirements are broken down into multiple self-contained units of the software development cycle. In this model, each unit goes through requirements, design, implementation, and testing phases. Each subsequent version of the module adds functionality to the previous version. The process continues until the system is complete[1].
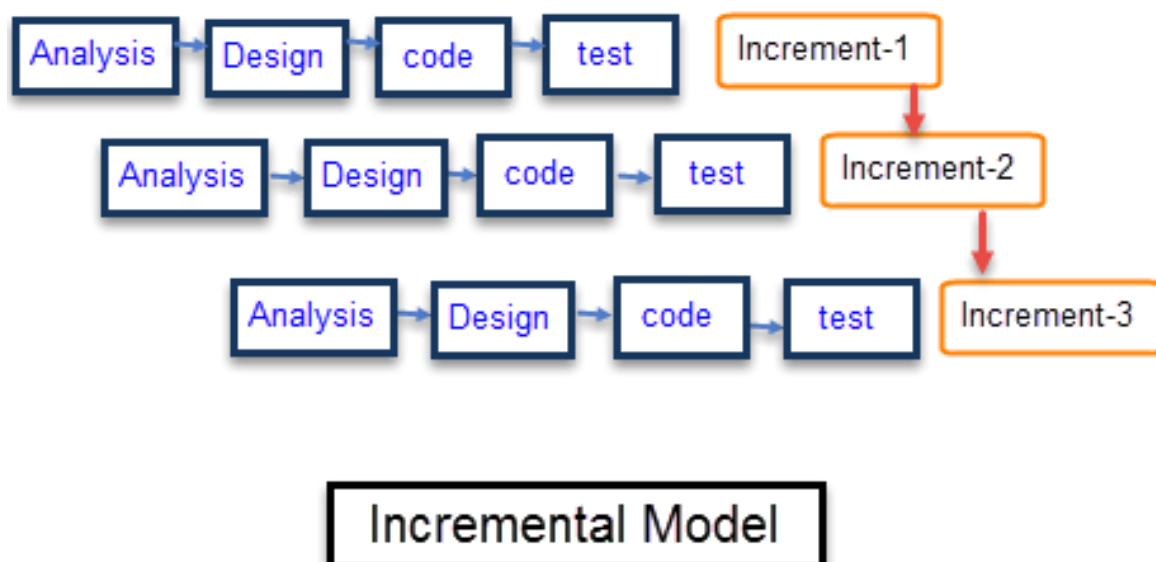
The reason we chose the additive methodology is because the project development schedule is extensive and the requirements are large, because the target group requires a product with important functions to be released quickly and early, and because this methodology enables us to:

- Create priority requirements.
- Errors are easy to spot and easy to test and debug.
- Adaptive risk management is easy because it is managed as it is repeated.

1.6 Tools and equipment

For users:

1. A smart phone running Android and a version higher than Android 7.
2. It is preferable that the memorization center have a computer to be able to use the control panel better and with all the features.
3. Microsoft Excel program to be able to open the reports issued by the system.
4. Internet connected on devices connected to the Internet.

For developers:

1- Flutter SDK (version 3)
2- VS code editor or Android Studio IDE
3- Smart phone with Android OS (or Android VM)
4- Internet connection
5- Laptop (with free space up to 10GB and more than 8GB free on RAM)

1.7 Time Table

ms projectنزل برنامج

Chapter 2
Related Works

In fact, there are some systems similar to the system we are working on, but with a different structure, work style, and some pitfalls that make the use not smooth. This is a list of similar systems, noting the difference from our system:

1- Halaqati System[2]: It is a cloud program for managing the Holy Qur'an episodes via the Internet, as the site provides a simple electronic platform for all centers and circle officials to follow up

students' memorization and reviews, and track the absence and attendance of each student, in addition to the possibility of adding notes to students each This is electronically.

Advantages:

- The system operates on a non-directional loop circuit.
- Sending notes, as it sends notes to parents about each student, informing them of the student's level, extent of commitment, and progress.
- Linking the student with the administration, as the program connects the student with the administration and helps parents follow up on their children's progress.
- It is distinguished by a system for following up students by supervisors and memorizers. It provides detailed reports on memorization, revision, progress, grades, attendance and absence.

Defects:

- The difficulty of using the system interfaces due to their complexity.
- Important advantages in a driven system.
- It operates under the circuit system, and this system is not applicable in the local area.
- The difficulty in applying the structure followed in it to the face rings.
- Some errors that appear while using the system.

2- The Ahl-Alquran system[3]: It is an integrated cloud system that was launched in 2020, through which it is possible to create a digital environment that connects the supervisors, students, students and parents of the circles, by giving them modern tools to improve the Qur'an circles:

Advantages:

- The use of the system does not require any skills and it is easy to use, and continuous updates and developments are being followed on the People of the Qur'an system.
- The system is compatible with all devices, systems, browsers, and touch screens, and is equipped with a system of alerts and instant notifications on phones.
- The system allows its users to manage students and teachers, manage circles and e-reading affairs, follow up on memorization, review, reports, manage news and announcements, and go through all the educational and administrative processes.
- Provides the best possible protection for our users' data and privacy, with daily backups of all entered data.

Defects:

- A closed source system.
- Paid in very high amounts for both the student and the center, as such systems are supposed to be free due to the economic situation of both the center and the students.
- The difficulty of linking the system to the old systems to benefit from its information.
- It cannot be played online as it is offline.

3- The ehlquran system[4]: It is an integrated cloud system that was launched in 2020, through which it is possible to create a digital environment that connects the supervisors, students, students and parents of the circles, by giving them modern tools to improve the Qur'an circles:

Advantages:
- The use of the system does not require any skills and it is easy to use, and continuous updates and developments are being followed on the People of the Qur'an system.
- The system is compatible with all devices, systems, browsers, and touch screens, and is equipped with a system of alerts and instant notifications on phones.
- The system allows its users to manage students and teachers, manage circles and e-reading affairs, follow up on memorization, review, reports, manage news and announcements, and go through all the educational and administrative processes.
- Provides the best possible protection for our users' data and privacy, with daily backups of all entered data.

Defects:
- A closed source system.
- Paid in very high amounts for both the student and the center, as such systems are supposed to be free due to the economic situation of both the center and the students.
- The difficulty of linking the system to the old systems to benefit from its information.
- It cannot be played online as it is offline.

Comparison

System \ features	Tahfeez System	The ehlquran system	Ehlquran	Halaqaty
Student and teacher management	☑	☑	☑	☑
Circuit management	☑	☑	☑	☑
Follow up on memorization and review	☑	☑	☑	☒
Device compatibility	☑	☒	☑	☑
Ease of use	☑	☑	☑	☒
Security and protection	☑	☒	☑	☒
Continuous update	☑	☑	☑	☒
Backup	☑	☒	☑	☒
Free and open source	☑	☑	☒	☒
financial management	☑	☒	☑	☒
Send scheduled notifications	☑	☒	☒	☒
Mushaf provides sound and image from within the system	☑	☒	☒	☒
Conservative evaluation	☑	☒	☒	☒
Send warnings to parents	☑	☑	☒	☒
reports	☑	☑	☑	☑

News and advertising management	☑	☒	☑	☒
Electronic reading	☒	☒	☑	☒
Alerts system	☑	☒	☑	☒
Send SMS messages	☑	☑	☒	☑
Managing extracurricular activities	☑	☒	☒	☒
Fundraising via payment gateway	☑	☒	☒	☒
Conversation (text and audio)	☑	☒	☑	☒
Prepare a plan for each student separately	☑	☑	☒	☒

Chapter 3

Use Case

3.1   Use case diagram
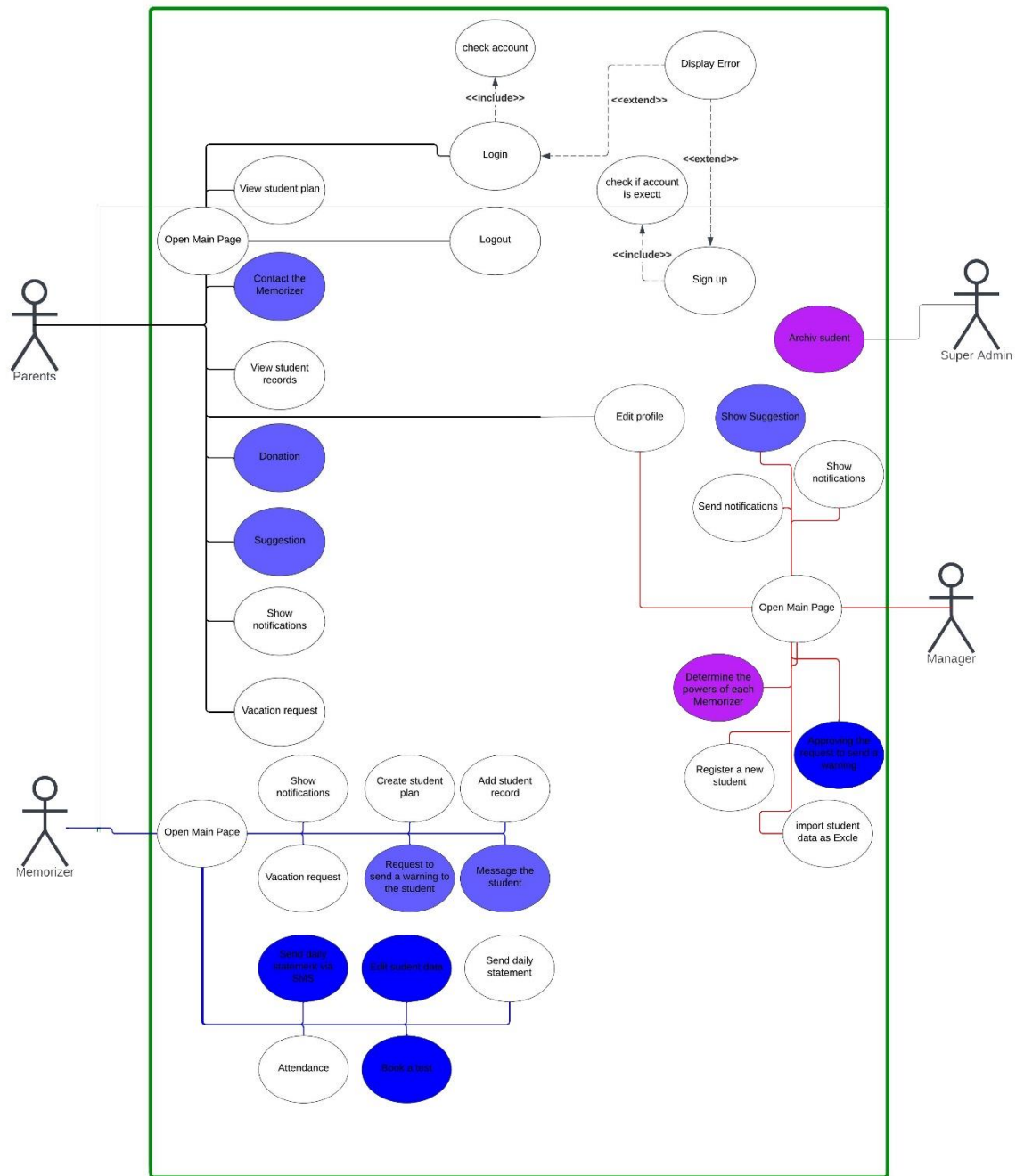
3.2 Actors

No.	Name	Description
1	Memorizer	He is the teacher who teaches the students
2	Manager	He is the person who supervises the center as a whole of students and teachers and manages the center and its resources. He will have full powers in the center.
3	Super Admin	He is the one who will have powers over all points of the system, he can control even the center managers
4	Student	He is the person who takes the lessons and recites the memorandum daily, most of the time the student is young and does not have a smart phone; In this case, the parents will be referred to instead in this report

3.3   Use case details

Use-Case Number	UC-001
Use-Case Name	Edit profile
Priority	Middle
Actor	**Super Admin, Manager, Memorizer, Student**
Description	This use case describes how a user can modify their personal data in their profile within the Tahfeez system.
Precondition	Log in as an authorized user.
Post-condition	If the use case was successful, the actor has now successfully modified their profile. If you do not succeed, no change will be made to the personal profile
Basic course of Action	User Action	System Response
	1- The user logs in to his profile and then presses the Modify Profile button. 3- The user modifies the data he wishes to modify, then presses the Save Modifications button.	2- The system transfers the user to the file modification interface, displaying his data to make modifications to it. 4- The system modifies the user's data in the database and displays the new data in the personal profile.
Alternate course of Action	If the user leaves one of the fields blank, the system displays an error message that there is an empty field that must be filled.	

Use-Case Number	UC-002
Use-Case Name	Send an alarm
Priority	High
Actor	**Super Admin, Manager**
Description	This use case describes how an admin and super manager can Send a warning in the form of a notification that appears on the student's account, alerting the student of an error "repeated absence, non-completion of assignments, or unwanted behavior.
Precondition	The Memorizer sends a request to send an alert.
Post-condition	If the use case is successful, the user has succeeded Send an alarm in the form of a notification that appears on the requester page. Otherwise, an alarm will not be sent

Basic course of Action	User Action	System Response
	2 -The manager clicks on the notification, previews the request, and then approves the request	1 -The system sends a notification to the principal with a request to send an alarm to one of the students. 3- The system sends a notification to the student's page, along with the alarm details
Alternate course of Action	The manager can reject the request and send the reason for rejection to the wallet.	

Use-Case Number	UC-003	
Use-Case Name	Show notifications	
Priority	Middle	
Actor	**Super Admin, Manager, Memorizer, Student**	
Description	This use case describes how a user can view notifications from the system.	
Precondition	Log in as an authorized user in the Tahfeez system.	
Post-condition	If the use case is successful, notifications for that user have been shown by the system.	
Basic course of Action	User Action	System Response
	1- The user clicks on the notification icon from the menu bar.	2- The system displays notifications for this user.
Alternate course of Action	If the system does not display any notifications, this means that the user has no notifications to receive.	

Use-Case Number	**UC-004**	
Use-Case Name	Open Main Page	
Priority	High	
Actor	**Super Admin, Manager, Memorizer, Students**	
Description	This use case describes how a user can open their home page in which the Tahfeez system will display each user's personal information, the home page will be the reference for the rest of the system pages.	
Precondition	Log in as an authorized user.	
Post-condition	If the use case worked, the system showed the home page for each type of user.	
Basic course of Action	User Action	System Response
	1 - The user clicks on the home page icon from the menu bar.	1- The system displays the home page for each type of use after Log in . 2- The system displays the unique home page for each type of user.
Alternate course of Action		

Use-Case Number	UC-005
Use-Case Name	Add a new user
Priority	High
Actor	**Super Admin, Manager**
Description	This use case describes how a super admin and manager can add a new user.
Precondition	Log in as a super admin and manager.
Post-condition	If the use case is successful, the super admin and manager have successfully added a new user.

Basic course of Action	User Action	System Response
	1- The actor selects the list of users from the menu bar, then the new user addition icon. 3- The user fills in the empty fields (ID number, first, second and last name, date of birth, mobile phone, economic status, local area, center, judgment courses, last exam, portfolio, general section and educational stage)and then click the Save Record button.	2- The system displays a new user addition interface with empty fields. 4- The system adds a new user to the databases.
Alternate course of Action		

Use-Case Number	UC-006	
Use-Case Name	Import users' data as Excel	
Priority	Middle	
Actor	**Super Admin, Manager**	
Description	This use case describes how a super admin and manager can import users' data from an excel file.	
Precondition	Log in as a super admin and manager and he has a template for an excel file.	
Post-condition	If the use case is successful, successfully imported the user's data from an excel file.	
Basic course of Action	User Action	System Response
	1- The actor selects the list of users from the menu bar, then the new user addition icon. 3- The user clicks on the Add from Excel button. 5- The user inserts an excel file that contains user data.	2- The system displays a new user addition interface. 4- The system opens an interface to receive the excel file that contains the data of the users. 6- The system will add all users from the excel file to the database.
Alternate course of Action	The system will display an error message if the user exists or the excel file does not follow the specified pattern or is empty.	

Use-Case Number	UC-007	
Use-Case Name	download importing users template file	
Priority	Middle	
Actor	**Super Admin, Manager**	
Description	This use case describes how the super administrator and manager can download a user import template file to be used in use case Import users' data as Excel.	
Precondition	Log in as a super admin and manager.	
Post-condition	If the use case is successful, successfully download importing users template file.	
Basic course of Action	User Action	System Response
	1-The actor selects the list of users from the menu bar, then the new user addition icon. 3- The user clicks on the download template file.	2- The system displays a new user addition interface. 4- The system downloads the template file.
Alternate course of Action		

Use-Case Number	UC-008
Use-Case Name	Login
Priority	High
Actor	Super Admin, Manager, Memorizer, Student
Description	This use case describes how a user can Login to the system to use it's features.
Precondition	
Post-condition	If the use case is successful, the user will be able to use the system as per their permission.

Basic course of Action	User Action	System Response
	1- User opens the system using a link and clicks the Login button.	2- System will display login interface.
	3- User enter Login username and password in a allocated fields.	4- System check data , if true will open Home Page

Alternate course of Action	If user inter wrong data in Login page fields, System will display Error message.	

Use-Case Number	UC-009	
Use-Case Name	Logout	
Priority	High	
Actor	Super Admin, Manager, Memorizer, Student	
Description	This use case describes how a user can Logout from the system.	
Precondition	It is assumed that the user is already logged in	
Post-condition	If the use case is successful, the user will not be able to use the system until Login again.	
Basic course of Action	User Action	System Response
	1- User click Logout button in menu bar.	2- System will display confirmation message.
	3- User click Ok button.	4- The system will log the user out and take them to the login page
Alternate course of Action		

Use-Case Number	UC-010	
Use-Case Name	Open Home Page	
Priority	High	
Actor	Super Admin, Manager, Memorizer, Student	
Description	This use case describes how a user can access to Home Page.	
Precondition	Login	
Post-condition	If the use case is successful, System should transfer user to Home Page depend on his type.	
Basic course of Action	User Action	System Response
	1- User click system logo, or click Home page from menu bar.	2- System will transfer user to Home Page.
Alternate course of Action		

Use-Case Number	UC-011	
Use-Case Name	View Student Records	
Priority	High	
Actor	Super Admin, Manager, Memorizer, Student	
Description	This use case describes how a user can display all records for specific student in system.	
Precondition	Login	
Post-condition	If the use case is successful, System should display student records.	
Basic course of Action	User Action	System Response
	1- User click Students from menu bar 3- user click over student name	2- System will transfer user to Students Page 4- system display student records.
Alternate course of Action	For new student, or student doesn't have records, system will display " No Records Available " message.	

Use-Case Number	UC-012	
Use-Case Name	Vacation request	
Priority	Middle	
Actor	Memorizer, Student	
Description	This use case describes how a user can request a vacation from someone higher in the management hierarchy.	
Precondition	Login	
Post-condition	If the use case is successful, the vacation request will reach the correct user.	
Basic course of Action	User Action	System Response
	1- User click Request Vacation from menu bar 3- user fill fields for reason and date. 4- user click submit	2- System will transfer user to Request Vacation Page 4- system send request to right user.
Alternate course of Action	If user doesn't fill fields, system should display an alert over the empty fields.	

Use-Case Number	UC-013	
Use-Case Name	Create student plan	
Priority	Middle	
Actor	Memorizer	
Description	This use case describes how a Memorizer can create new plan for each student in his group.	
Precondition	Login as Memorizer	
Post-condition	If the use case is successful, Plan should be created for selected student.	
Basic course of Action	User Action	System Response
	1- User click on Student from menu bar. 3- The user hover on the more icon next to the student's name and click create new plan. 5- user Enter period of memorizing, and Surah name and verse number for starting and ending point. 6- user click on submit.	2- System will transfer user to Student Page. 4- system display Create New Student Plan interface. 7- system create plan based on entered data
Alternate course of Action	If Student has finished the entered Surah, system should display error message for Memorizer to change data.	

Use-Case Number	UC-014	
Use-Case Name	View Student Plan	
Priority	Middle	
Actor	Memorizer, Student	
Description	This use case describes how a user can show student plan.	
Precondition	Login, Create Student Plan.	
Post-condition	If the use case is successful, user should be able to show student plan.	
Basic course of Action	User Action	System Response
	1- User click Students Plans. 2- user click over student name.	3- System display student plan.
Alternate course of Action	If student doesn't have plan , system should display " No Plan Available " message.	

Chapter #

Testing and Evaluation

In this chapter, the main results of your work should be presented, together with critical discussion. You may use two different chapters, one for results and another for discussion and recommendation. You need to present all the results (products, experimental findings, theories etc) generated during the project.

Also, you need to describe the degree to which the results support the original objectives laid out for the project. The goals may be partially or fully achieved, or exceeded.

Chapter #

Conclusions (and/or Recommendations)

You can use title Conclusions and Future work. Summarise and analyse what you have achieved.

Also, you could make suggestions for some future works. Explain any limitations in your results and how things might be improved. Discuss how your work might be developed further.

The Reference List

This has the following purposes:

1. To acknowledge the source of material being used.
2. To tell the reader where the confirmation of statements that you have made can be found.
3. To tell the reader where a more extensive or more detailed discussion of the subject (or related subject) can be found.

Appendix 1: Information on Appendices

Appendices may be provided to include further details of results, mathematical derivations, certain illustrative parts of program code (e.g. class interfaces), user documentation, log of project milestones. In particular, if there are technical details of the work done that might be useful to others who wish to build on this work, but that are not sufficiently important to the project as a whole to justify being discussed in the main body of the thesis, then they should be included as appendices.

There is **no expectation** that the examiners should read the appendices as part of the assessment process. Hence, it is important that any material which will be significant to judging the quality of the thesis or of the project as a whole should be in the main body of the thesis, and not in appendices.

[1] https://www.javatpoint.com/software-engineering-incremental-model
[2] https://halaqaty.com
[3] https://ehlquran.com
[4] https://youtu.be/FYOaNA9NFF4