

UMM AL-QURA UNIVERSITY
COLLEGE OF COMPUTER AND INFORMATION SYSTEMS
Computer Science Department
Software Engineering



Software Engineering Project Report

Project Title:

Became Closer! Website for Umm AlQura Map

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What is the project/software idea?

The project idea is a map that covers all the buildings, classrooms, and gates inside the UQU campus.

In addition, the map also leads the users efficiently to their destination in the easiest and fastest way.

What type of problem this software will solve?

Our project is going to solve a major problem we all suffered from or without a doubt some of us are still suffering!

By that, we mean new coming students, faculty of teaching or workers always will have a problem with locations and arriving at them on time.

Here is where our project comes and finally solves the problem!

Instead of asking people and feeling lost and stressed out whenever you needed to go to a new place. You can save your time, effort, and most importantly feeling confident only by using the "GOT CLOSER- "صَارَ أَقْرَبَ" map!

How are you going to gather the information about your project?

By searching on the university's website for the most important landmarks of the university and asking the students about the most important landmarks that they cannot reach and based on that we will do our project.

What tools are you going to use to develop your software?

We're developing a web based application and starting by using HTML ,JavaScript ,CSS ,WORLD maps , Adobe illustrator

Glossary



Technical Terms and Acronyms

REQUIREMENT : A CONDITION OR CAPABILITY NEEDED BY A USER TO SOLVE A PROBLEM OR ACHIEVE AN OBJECTIVE.

SPECIFICATION : A DOCUMENT THAT SPECIFIES, IN A COMPLETE, PRECISE, VERIFIABLE MANNER, THE REQUIREMENTS, DESIGN, BEHAVIOR, OR OTHER CHARACTERISTICS OF A SYSTEM OR COMPONENT, AND OFTEN, THE PROCEDURES FOR DETERMINING WHETHER THESE PROVISIONS HAVE BEEN SATISFIED.

GPS : STANDS FOR "GLOBAL POSITIONING SYSTEM." GPS IS A SATELLITE NAVIGATION SYSTEM USED TO DETERMINE THE GROUND POSITION OF AN OBJECT.

GRAPHICS : A GRAPHIC IS AN IMAGE OR VISUAL REPRESENTATION OF AN OBJECT.

INPUT : WHENEVER YOU ENTER DATA INTO YOUR COMPUTER, IT IS REFERRED TO AS INPUT.

OUTPUT : DATA GENERATED BY A COMPUTER IS REFERRED TO AS OUTPUT. A BASIC EXAMPLE OF SOFTWARE OUTPUT IS A CALCULATOR PROGRAM THAT PRODUCES THE RESULT OF A MATHEMATICAL OPERATION.

LOGIN : A SET OF CREDENTIALS USED TO AUTHENTICATE A USER. MOST OFTEN, THESE CONSIST OF A USERNAME AND PASSWORD.

PASSWORD : A STRING OF CHARACTERS USED FOR AUTHENTICATING A USER ON A COMPUTER SYSTEM.

USERNAME : A NAME THAT UNIQUELY IDENTIFIES SOMEONE ON A COMPUTER SYSTEM.

ACCESSIBILITY : IN MODERN OPERATING SYSTEMS INCLUDE STANDARD ACCESSIBILITY OPTIONS THAT CAN MAKE THEM EASIER TO USE WITHOUT THE NEED FOR SPECIALIZED HARDWARE.

BACKUP : A COPY OF ONE OR MORE FILES CREATED AS AN ALTERNATE IN CASE THE ORIGINAL DATA IS LOST OR BECOMES UNUSABLE.

DEFAULT : AN ADJECTIVE THAT DESCRIBES A STANDARD SETTING OR CONFIGURATION.

DATABASE : A COLLECTION OF INTERRELATED DATA, OFTEN WITH CONTROLLED REDUNDANCY, ORGANIZED ACCORDING TO A SCHEMA TO SERVE ONE OR MORE APPLICATIONS.

DESIGN : THE PROCESS OF DEFINING THE ARCHITECTURE, COMPONENTS, INTERFACES, AND OTHER CHARACTERISTICS OF A SYSTEM OR COMPONENT.

IMPLEMENTATION : THE PROCESS OF TRANSLATING A DESIGN INTO HARDWARE COMPONENTS, SOFTWARE COMPONENTS, OR BOTH. SEE: CODING.

INVALID INPUTS : TEST DATA THAT LIE OUTSIDE THE DOMAIN OF THE FUNCTION THE PROGRAM REPRESENTS.

PATH : A SEQUENCE OF INSTRUCTIONS THAT MAY BE PERFORMED IN THE EXECUTION OF A COMPUTER PROGRAM.

PROTOTYPING : USING SOFTWARE TOOLS TO ACCELERATE THE SOFTWARE DEVELOPMENT PROCESS BY FACILITATING THE IDENTIFICATION OF REQUIRED FUNCTIONALITY DURING ANALYSIS AND DESIGN PHASES.

Functional requirements

User requirements:

1. The user should create an account to take advantage of all the website services.

System requirements:

- 1.1 The system allow the user to create and account by clicking on Sign Up button.
- 1.2 The system asks the user to input a valid name , username, email, and password.
- 1.3 The system rejects repeated usernames and emails.
- 1.4. The system rejects passwords of less than eight characters.
- 1.5 The system create the user account if he successfully completes the sign up.
- 1.6 The system allows the user who creates an account to have a page contains his name, username, saved locations , and search history.

Functional requirements

User requirements:

- 2. The user can Log In to his account.

System requirements:

- 2.1 The system allow the user to login to an account by clicking on **Log In button**.
- 2.2 The system asks the user to input a valid username and password.
- 2.3 The system searches the entered data on the database.
- 2.4 If the entered data is found on the database the system completes the login.
- 2.5 If the entered data doesn't exist on the database the system notifies the user by displaying the message "the entered username or password is wrong".
- 2.6 The system allows the user to reset a new password if the user entered the correct email for the entered username.

Functional requirements

User requirements:



3. The user must accept sharing his location first.

System requirements:

- 3.1 The system allow the user to start using the map by clicking on **Accept Sharing Location button**.

User requirements:

4. The user should be able to see his location on the map.

System requirements:

- 4.1 The system allows the user to see his actual location by marking it.

Functional requirements

User requirements:



5. The user should be able to Search about his destination location.

System requirements:

- 5.1 The system allows the user to search about a specific location using the **Search button**.
- 5.2 The system shows the search result to the user after clicking on the **Go button**.
- 5.3 If the searched location **exists** in the database the path to the destination location will automatically appear.
- 5.4 If the searched location **doesn't exist** in the database the message “ the required location doesn't exist in the database” will appear.

Functional requirements

User requirements:

- 6. The user should always take the shortest path to his destination location.

System requirements:

- 6.1 The system stores different paths for every location to cover the biggest possibilities.
- 6.2 The system should compare between the paths and select the shortest path for the user.
- 6.3 The selection of the shortest path depends on the distance between the user actual location and the destination location.

User requirements:

- 7. The user should be able to save locations.

System requirements:

- 7.1 The system allow the user to save any location by clicking on Save Location button that appears above the location.
- 7.2 The system allow the user to add a name to the saved location.

Functional requirements

User requirements:

- 8. The user should be able to track his destination location.

System requirements:

- 8.1 The system can leads the user to the destination by moving the mark from the actual location all the way to the destination location.

User requirements:

- 9. The user should know the amount of time it takes from his location to the destination location.

System requirements:

- 9.1 The system should calculate the amount of time from the actual location to the destination location.
- 9.2 The system should display the time on the screen.
- 9.3 The system should reduce the time the closer the user is to the site.

Non-functional requirements



The most important Non-functional requirement for
got closer software.

1. Efficiency
2. Response time
3. Accessibility
4. Backup
5. Security
6. privacy
7. Robustness
8. Readability
9. Maintainability

Scenarios

Create account

Actors	Users , database.
Descriptions	<ol style="list-style-type: none">1.The system allow the user to create an account by clicking on Sign Up button.2.The system asks the user to input a valid name , username, email, and password.3.The system rejects repeated usernames and emails.4.The system rejects passwords of less than eight characters.5.The system creates the user account if he successfully completes the sign up.6.The system allows the user who creates an account to have a page containing his name, username, saved locations , and search history.
Data	1. name 2.username 3.email 4.password
Pre-condition	None
Output	Create account for the user
Comments	None

Log In

Actors	Users , database.
Descriptions	<ol style="list-style-type: none">1.The system allows the user to log in to an account by clicking on Log In button.2.The system asks the user to input a valid username and password.3.The system searches the entered data on the database.4.If the entered data is found on the database the system completes the login.

Scenarios

Log In

5.If the entered data doesn't exist on the database the system notifies the user by displaying the message "the entered username or password is wrong".

6.The system allows the user to reset a new password if the user entered the correct email for the entered username.

Data Log-in Information 1.username or email
2.password

Pre-condition Users has to have a valid account.

Output user Log In into his account .

Comments None

Scenarios

Accept share location

Actors	Users , database.
Descriptions	The system allow the user to start using the map by clicking on Accept Sharing Location button .
Data	None
Pre-condition	None
Output	accepting users locations
Comments	None

Display location

Actors	Users , database.
Descriptions	The system allows the user to see his actual location by marking it.
Data	The locations of buildings, classrooms, departments of specializations, and gates inside the UQU campus.
Pre-condition	None
Output	Show the actual location
Comments	None

Scenarios

Search location

Actors	Users , database.
Descriptions	<ol style="list-style-type: none">1.The system allows the user to search about a specific location using the Search button.2.The system shows the search result to the user after clicking on the Go button.3.If the searched location exists in the database the path to the destination location will automatically appear.4.If the searched location doesn't exist in the database the message " the required location doesn't exist in the database" will appear.
Data	<ol style="list-style-type: none">1. The locations of buildings, classrooms, departments of specializations, and gates inside the UQU campus.2.The destination location by using the search and go button.
Pre-condition	Click on Share My Location button
Output	<ol style="list-style-type: none">1. A path that shows the actual location and leads the user to the destination location using a moving mark.2. The message " the required location doesn't exist in the database" if the searched location doesn't exist in the database.
Comments	None

Scenarios

Find location

Actors	Users , database.
Descriptions	<ol style="list-style-type: none">1.The system stores different paths for every location to cover the biggest possibilities.2.The system should compare between the paths and select the shortest path for the user.3.The selection of the shortest path depends on the distance between the user actual location and the destination location.
Data	<ol style="list-style-type: none">1.The locations of buildings, classrooms, departments of specializations, and gates inside the UQU campus.2.The actual location by clicking share my location button.3.The destination location by using the search and go button.
Pre-condition	Click on Share My Location button
Output	A path that shows the actual location and leads the user to the destination location by using a moving mark.
Comments	None

Scenarios

Saving location

Actors	Users , database.
Descriptions	<ol style="list-style-type: none">1.The system allow the user to save any location by clicking on Save Location button that appears above the location.2.The system allow the user to add a name to the saved location.
Data	<ol style="list-style-type: none">1.The locations of buildings, classrooms, departments of specializations, and gates inside the UQU campus.2.The actual location by clicking share my location button.3.The destination location by using the search and go button.
Pre-condition Click on Share My Location button	
Output	Saved a location
Comments	None

Scenarios

Tracking location

Actors	Users , database.
Descriptions	The system can leads the user to the destination by moving the mark from the actual location all the way to the destination location.
Data	<ol style="list-style-type: none">1.The locations of buildings, classrooms, departments of specializations, and gates inside the UQU campus.2.The actual location by clicking share my location button.3.The destination location by using the search and go button.
Pre-condition	Click on Share My Location button and Search button to leads the user to the destination location.
Output	Moving mark from the actual location to the destination location.
Comments	None

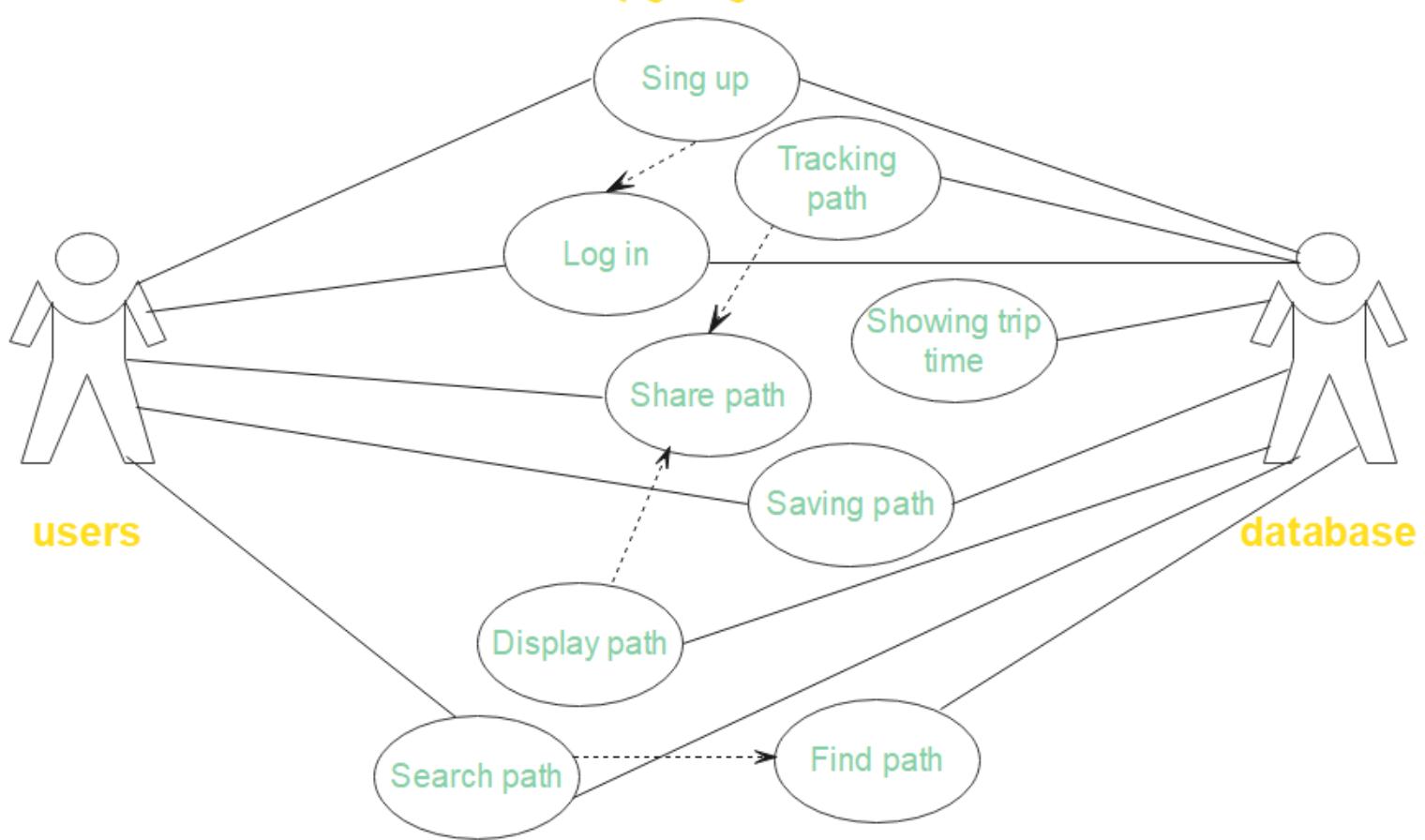
Scenarios

Showing trip time

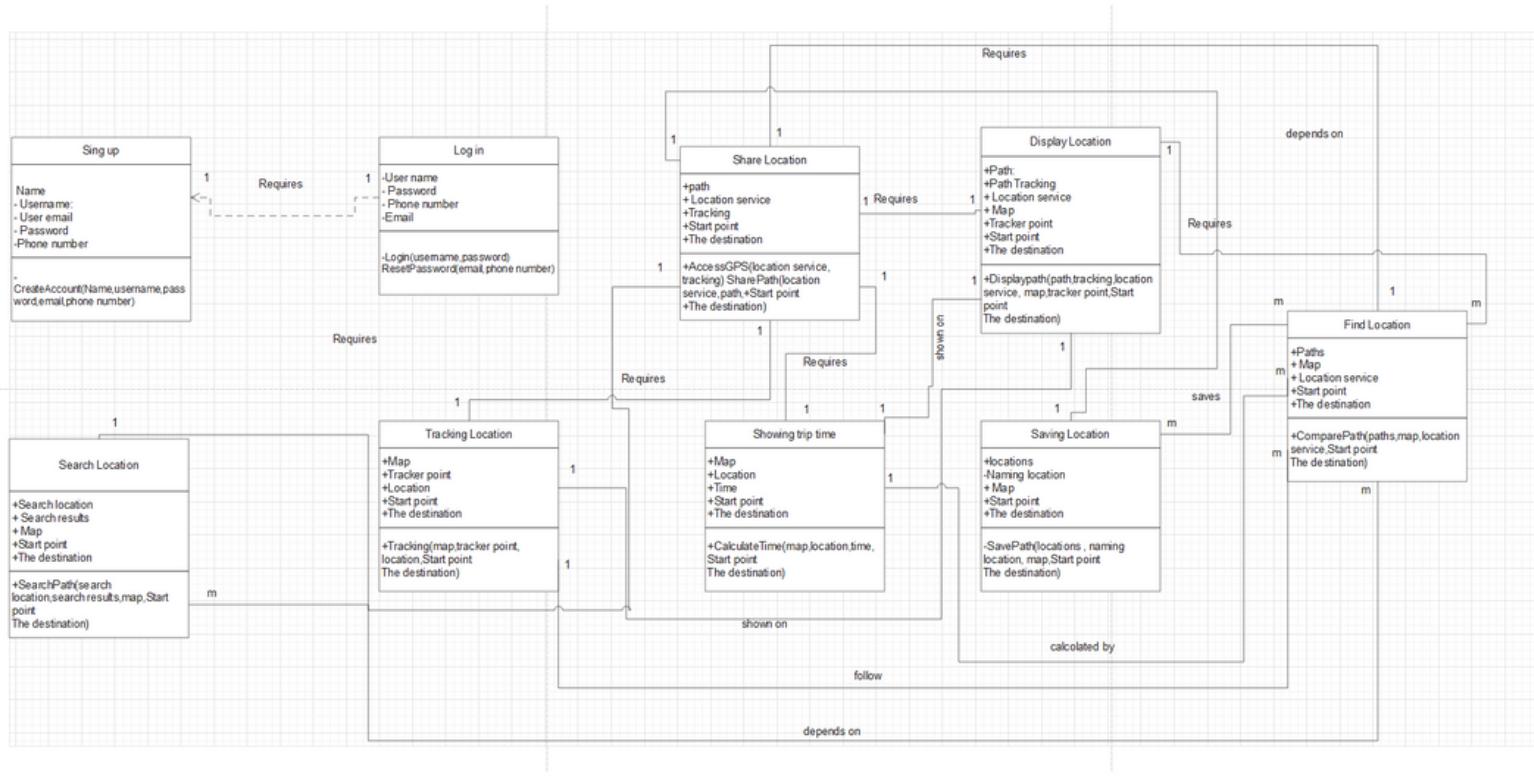
Actors	Users , database.
Descriptions	<ol style="list-style-type: none">1.The system should calculate the amount of time from the actual location to the destination location.2.The system should display the time on the screen.3.The system should reduce the time the closer the user is to the site.
Data	<ol style="list-style-type: none">1.The locations of buildings, classrooms, departments of specializations, and gates inside the UQU campus.2.The actual location by clicking share my location button.3.The destination location by using the search and go button.
Pre-condition Click on Share My Location button and Search button to leads the user to the destination location.	
Output	Display the time on the screen.
Comments	None

User case diagram

صار أقرب

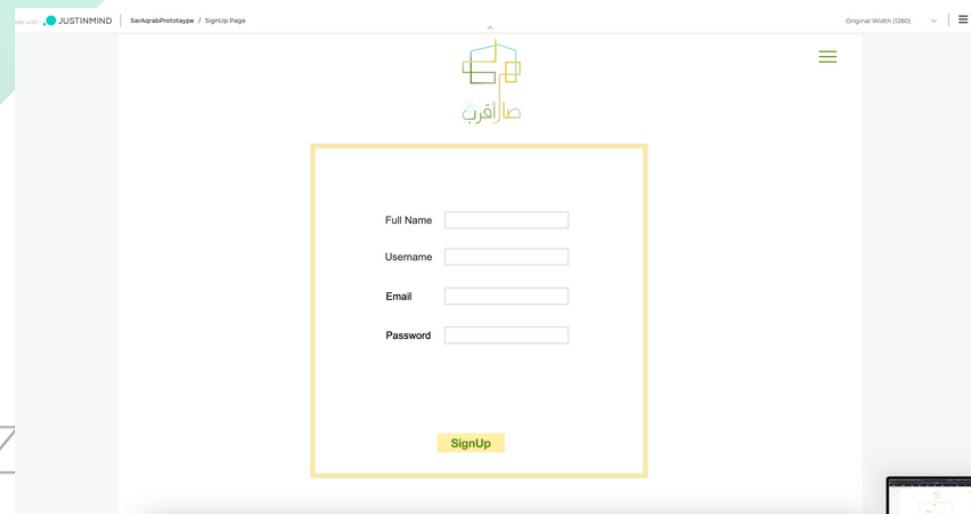
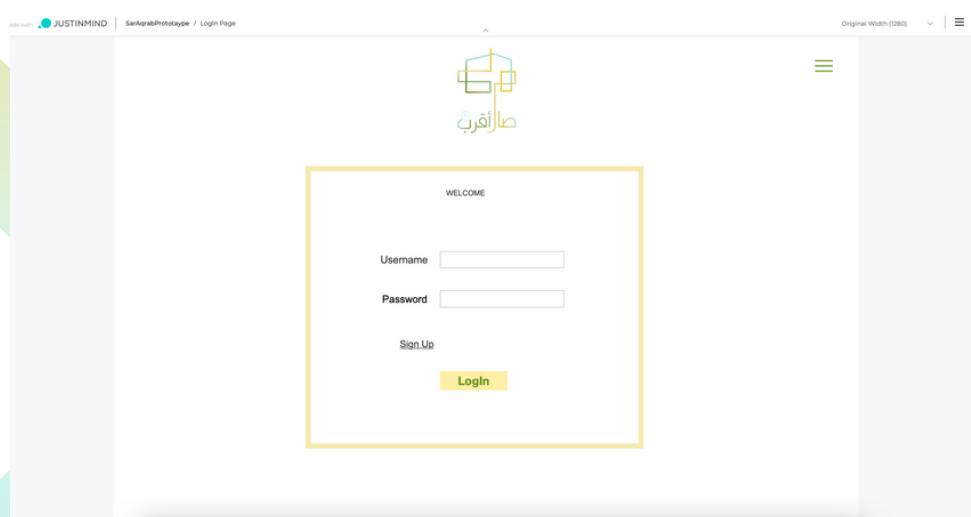
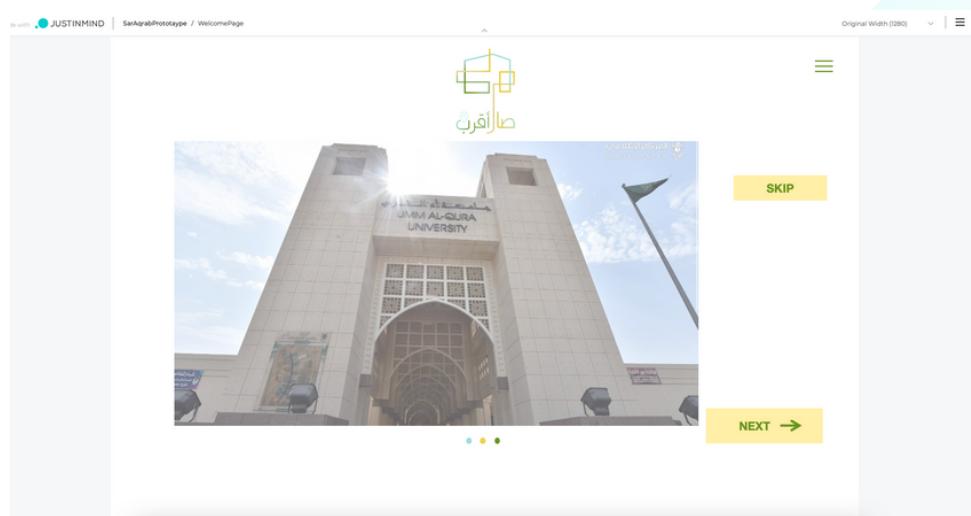


Class diagram

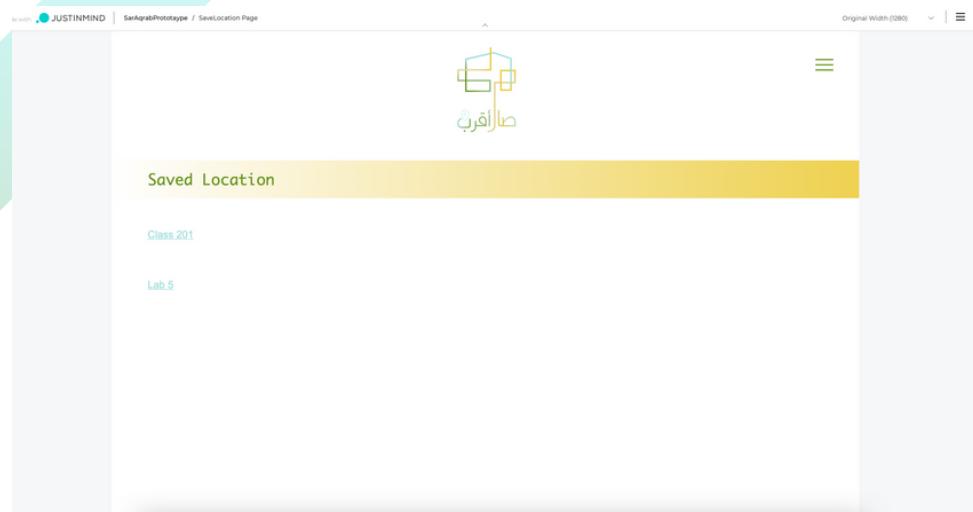
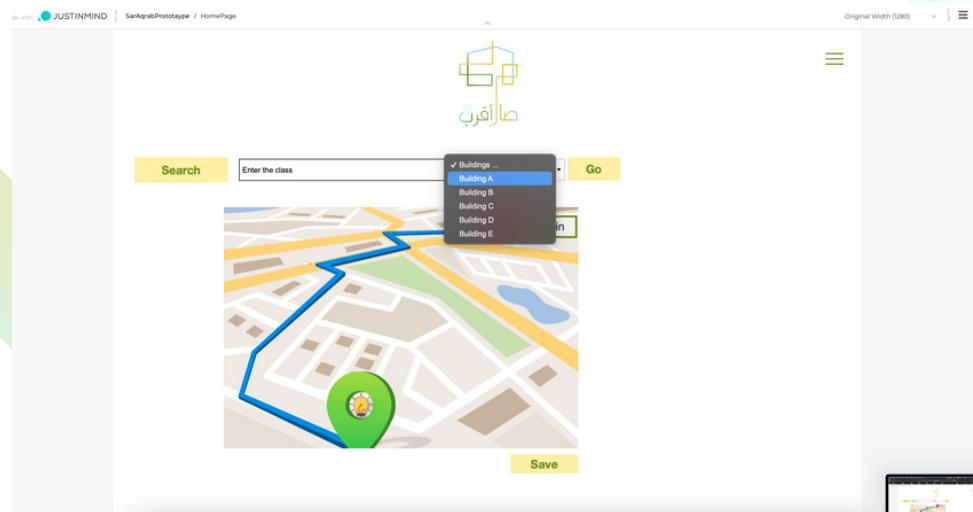
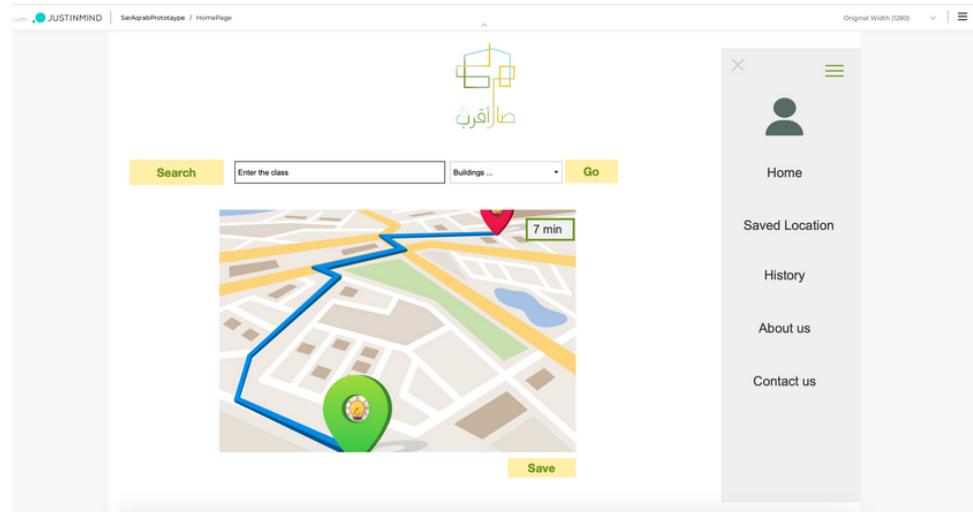


Prototype

We build our software Prototype using Justinmind prototyping tool



Prototype



Prototype

do with JUSTINMIND | SarAqabPrototype / About Page

Original Width (1280) ▾ | ⌂

Our website is a map that covers all the buildings, classrooms, and gates inside the UQU campus. In addition, the map also leads the users efficiently to their destination in the easiest and fastest way. solve a major problem we all suffered from or without a doubt some of us are still suffering!

By that, we mean new coming students, faculty of teaching or workers always will have a problem with locations and arriving at them on time.

Here is where our project comes and finally solves the problem! Instead of asking people and feeling lost and stressed out whenever you needed to go to a new place. You can save your time, effort, and most importantly feeling confident only by using the "GOT CLOSER" map!

do with JUSTINMIND | SarAqabPrototype / History Page

Original Width (1280) ▾ | ⌂

Location 1

Location 2

do with JUSTINMIND | SarAqabPrototype / Contact us Page

Original Width (1280) ▾ | ⌂

Write your message here...

SarAqab, THE Website for Umm AlQura University
map

E-mail: SarAqab.info@gmail.com

Tel: +96 000 000-0000

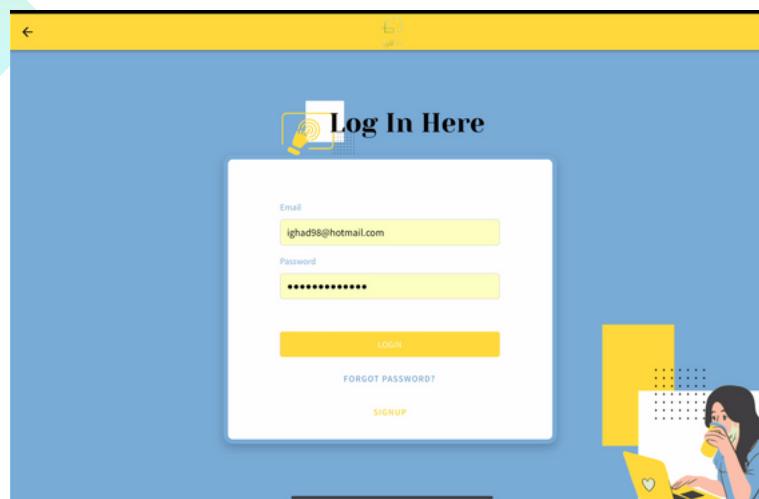
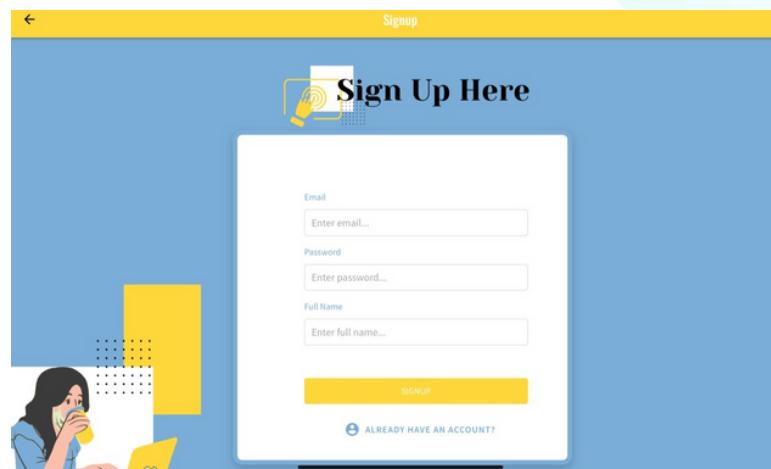
FOLLOW US

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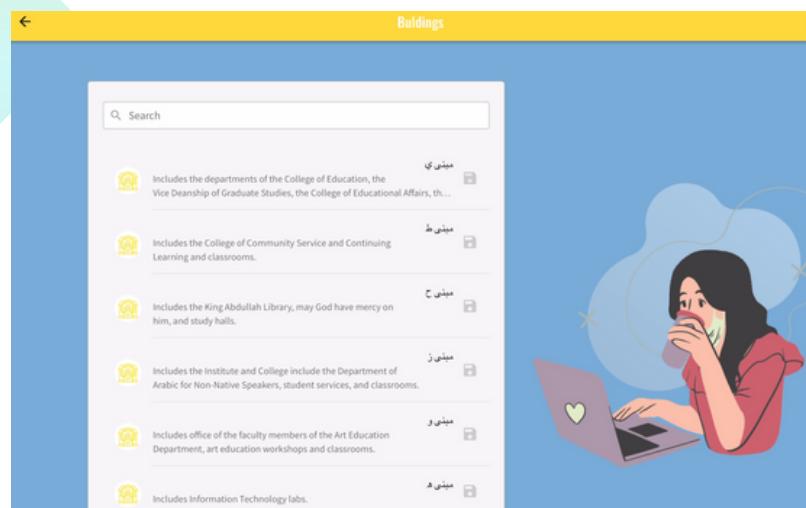
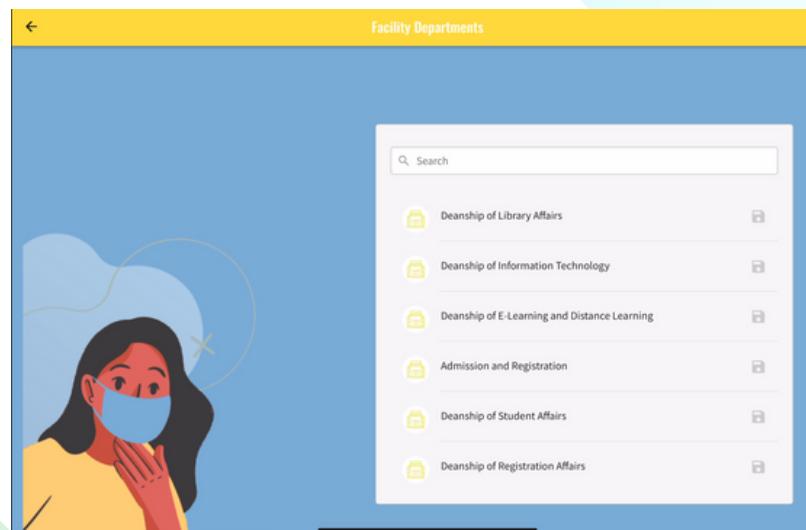
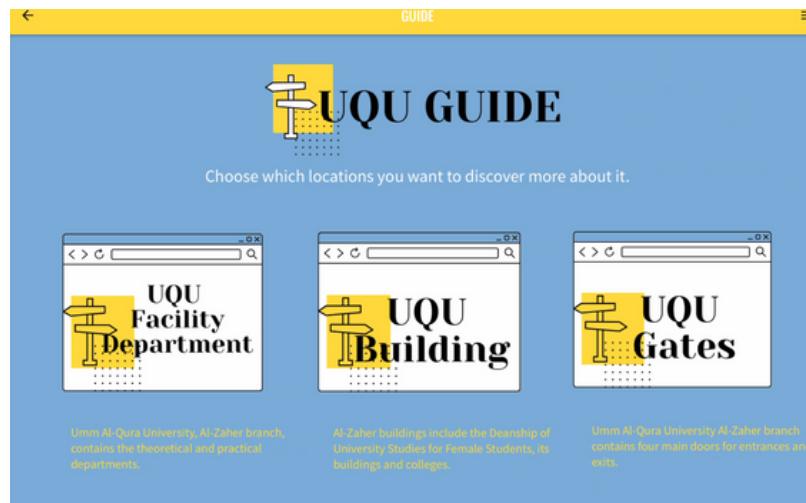
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Implementation

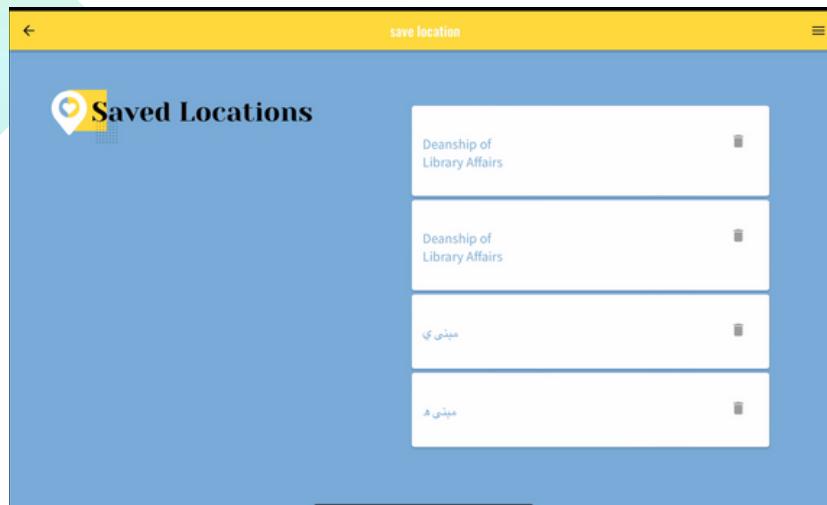
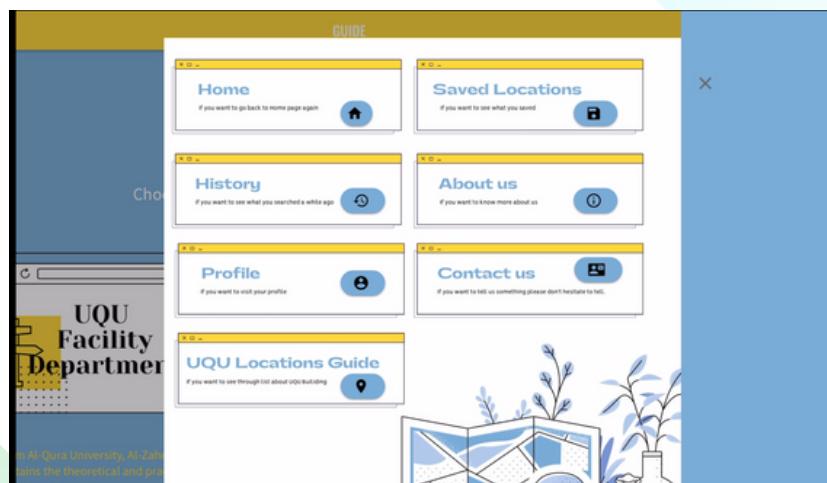
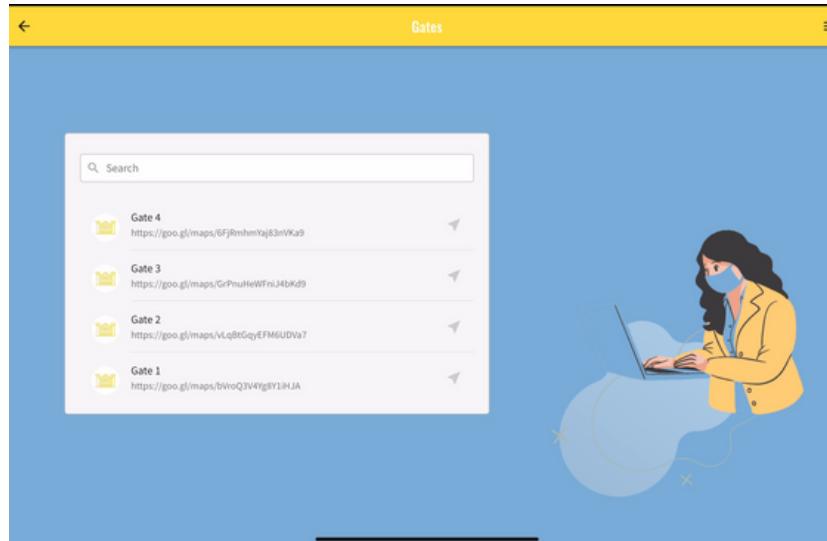
We Implemented our project with no code tool using adalo website.



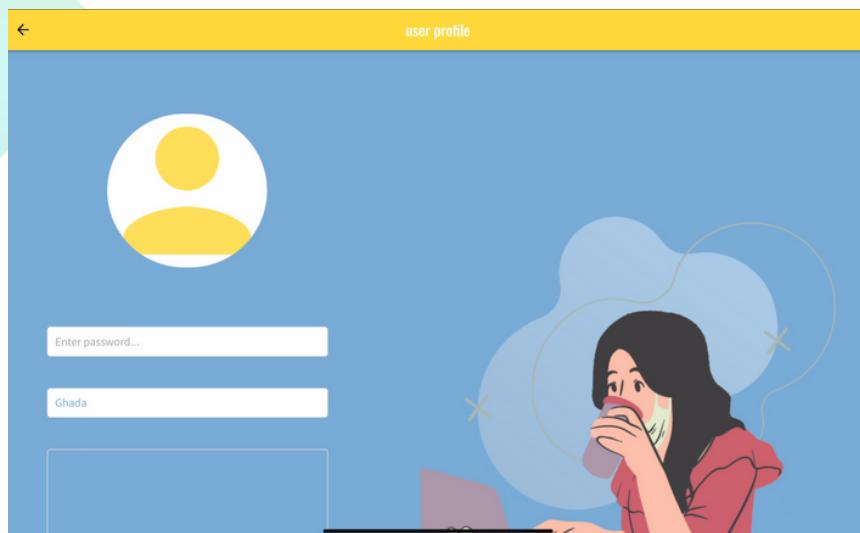
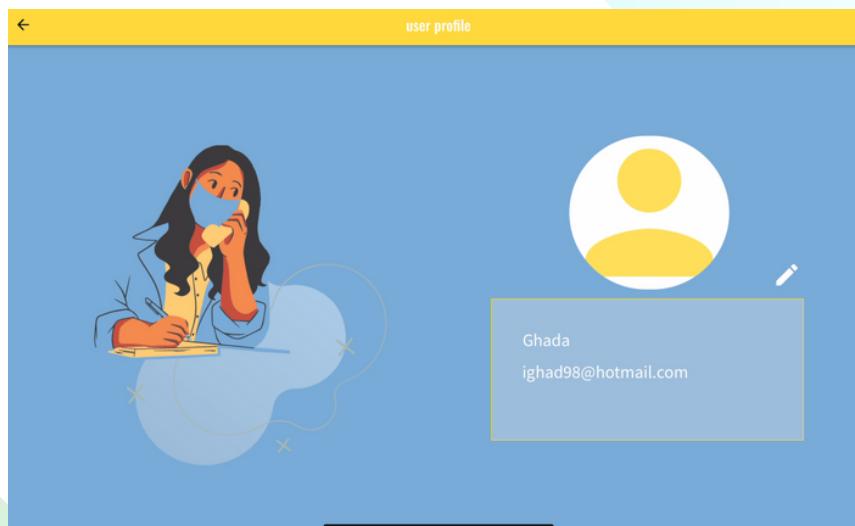
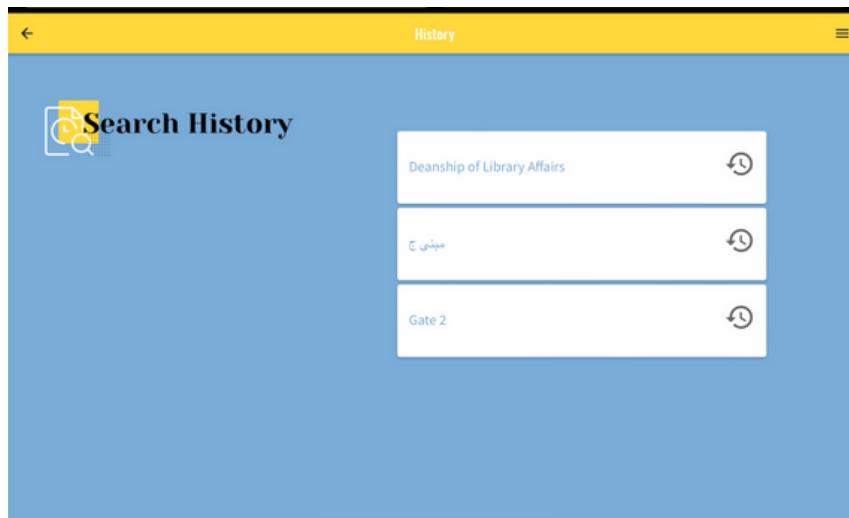
Implementation



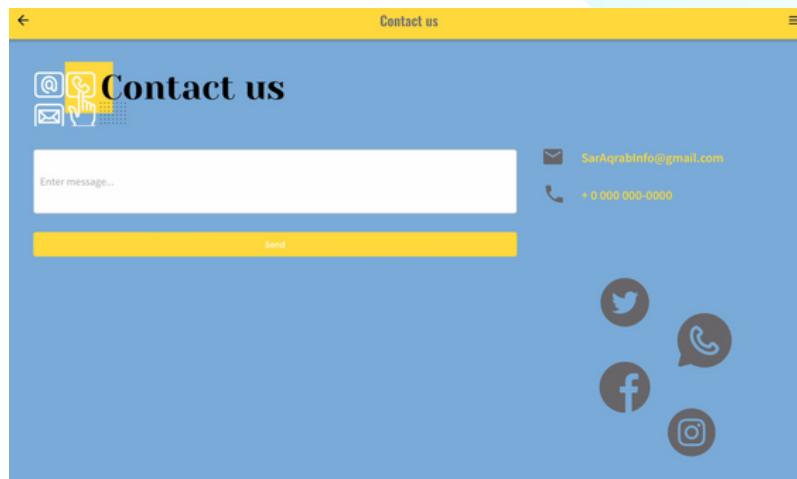
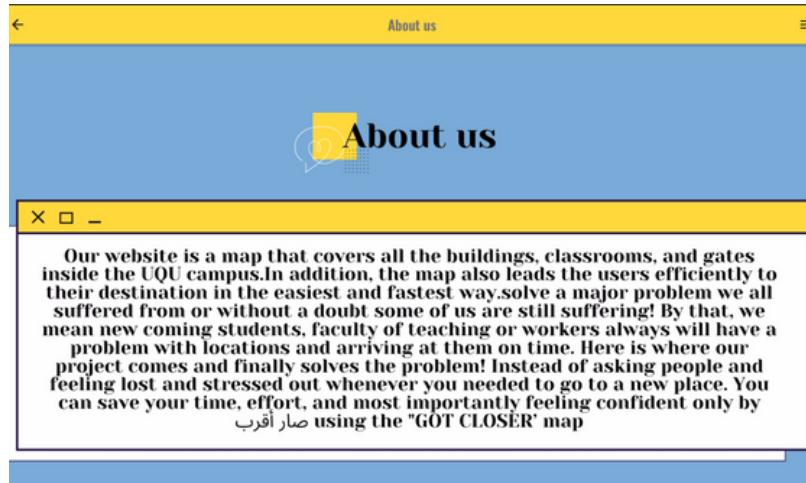
Implementation



Implementation



Implementation



Implementation

difficulties :

We couldn't implement the college map using adalo because we face a problem with the map API.