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UMM AL-QURA UNIVERSITY

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لَا تَحْكُم بِمَا لَمْ يَعْلَمْ

لَا يَعْلَم بِمَا لَمْ تَرَ

Software Engineering Project Report

Project Name:
Tadbeer

The easiest and fastest way to
solve UQU classrooms issues!

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Introduction

In the classrooms of any university, there are some technology devices that need to maintain. Therefore technical support has been. The problem is when academic staff faces an issue in the classroom and needs to call technical support, it may take a long time. Sometimes, he doesn't know who the technical support is responsible for a specific room. Also, it's difficult for technical support to keep all rooms' problems to fix them later. Moreover, some issues require the academic staff to change the classroom such as air-conditioning. It isn't easy to find a new one, which causes the teaching process to be delayed.

The problem here is sequential and it isn't completely solved and the available solutions are a waste of time. For example, when technical support doesn't know the issue, the classroom won't be available for months. And when an academic staff needs to find a room he should call other doctors or the dean of the College, in the worst case the lecture would be canceled and so on.

1

Introduction

For these mentioned reasons, our software come. It will reduce the taken time to inform the issue and make it instantly. And not only this, it will find an empty classroom when academic staff faces such a problem in that classroom so that the students won't miss a lecture. From the technical support side, it will be easy to view the complaints and respond to them quickly. in addition, he can write a weekly report containing all rooms with their issues so call the specialist to fix them.

for this software, we need information about:

- the technical support information and which room they are responsible for.
- the buildings in the campus and all their classrooms.
- the classroom information like the capacity, type, and time that is reversed or not.

all this information can be taken from Admission and Registration and others departments.

21 Glossary

Academic Staff:

a person holds an academic rank with such titles as professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of these academic ranks.

Technical Support:

a person who is responsible for specific rooms and resolves any issues that may have like fixing computers or projector.

Job Number:

a unique number assigned to each employee (e.g. the technical support) to identify different jobs in the same organization.

3.1 Functional Requirements

User Requirement:

1. the academic staff should be able to log into its own section that is under the name of "academic log in"
By Using its own email and password

System Requirement:

- 1.1 The academic staff enter their own college email and password
in the email and password fields to register in the system.
- 1.2 The system will check if the email is already for an academic member of the college by using the college database.
- 1.3 If the login was successful, a message will appear saying "Welcome to Tadbeer" and transform the user to the home page.
- 1.4 If the user enters an email that is not stored in the college database, it will ask to Enter your college email again.
- 1.5 If the user types randomly in the email field it will ask to " write your email correctly".
- 1.6 if the user types an incorrect password, it will appear that "an email or password might be incorrect.. try again".

31 Functional Requirements

User Requirement:

2. technicians specialized by a "Log in support " service which is an individual accessing processes that only identifies them.

System Requirement:

- 2.1 The system should specify the required identification fields for the user.
- 2.2 The system shall provide an input space for the user to write the required information.
- 2.3 The system shall check the user's identity content that has been written before.
- 2.4 The system shall send a successful login message if the data is matched the system's data.
- 2.5 The system shall prevent some illegal accessing such as the attempts of doctors to access.
- 2.6 The system shall send an error message if the accessing process goes wrong.

3.1 Functional Requirements

User Requirement:

3. The academic staff will be able to inform the technical support about the issues in the classrooms.

System Requirement:

3.2 The academic staff will choose the building [A, B, C, or D] where the classroom has issues in.

3.3 The academic staff will choose the classroom number.

3.4 The academic staff will choose the kind of issue in the classroom has: (Air Conditioner, projector, need a charge, lighting, smart board remote).

3.5 The academic staff can write a comment for more details about the problem.

3.6 The system shall find the technical support who is responsible for the classroom the user chose to inform him.

3.7 The system shall display the technical support name and phone number.

31 Functional Requirements

User Requirement:

4. The academic staff can search for an available classroom that met their needs like capacity, building, and classroom type.

System Requirement:

4.1 This service is only for academic staff.

4.2 The user may choose the building if he wants.

4.3 The user may enter the number of students and then search for a room that has equal or more than it. If not, the default is 40 students.

4.4 The user may choose the classroom type(lab, studio, room). if not, the default is room.

4.4 The user must choose the date and choose a time name 1, 2, 3, 4, ...

4.5 The system shall display all information that the user chooses about the room.

4.6 If the user finds a room, he will confirm that to change the state of the room to reversed.

4.7 If the user doesn't find a classroom, then display the message "Sorry, There isn't any available room like you want.".

3.1 Functional Requirements

User Requirement:

5. Technicians need to "View complaints" to identify problems and support doctors to continue their lessons in a professional way.

System Requirement:

- 5.1 The system shall allow technicians to filter a certain type or state of complaints, classes, and the sender of the complaint.
- 5.2 The system shall view a list of complaints to technicians so they can justify the problem easily.
- 5.3 The system should view a message if the desirable filtering content isn't available or not recorded in the list.
- 5.4 The system shall notify the technical support for issues.
- 5.5 The system shall display detailed information about complaint like issue type, academic staff, date, and time.

3.1 Functional Requirements

User Requirement:

6. The academic staff should be able to make rate about the technical support members and their services

System Requirement:

6.1 the system shall make the academic staff rate the service by a list of questions.

6.2 The questions will be as the following

- "Are you satisfied of our service ?"
- "Are you satisfied of our technical members?" and so on.

under each question, options will appear to the staff to select how much they are satisfied.

6.3 The system should be able to make the academic staff write comments beside to the question list.

6.4 The system shall display a message saying "thanks for sharing your opinion. We are happy to serve you", after the academic staff submits its rate.

3.1 Functional Requirements

User Requirement:

7. Technician shall be able to generate a reports.

System Requirement:

7.1 A weekly report shall be issued by the technician, to continuously update the status of the lab that has been reported.

7.2 The system should show a description of the lab's condition, whether the lab's problems have been resolved or it's still under maintenance.

7.3 The system provides the service of sending reports to department officials to submit a maintenance request if the problem is not resolved in a short time.

7.4 The system helps in identifying the labs that need to be repaired.

3 Non-Functional Requirements

Product Requirements

1. Availability:

Our project is linked to the university's website, so it should always be available. We will allocate more than one server. If one of them fails, the second will do the work for the site.

2. Response Time:

We need to reduce response time, because the nature of the site meets urgent needs, such as providing an alternative classroom and others. So we will simplify the code, reduce redirects, and enable the user to caching.

3. Usability:

The program is easy to use by professors, doctors and technicians, they can understand how the application organizes its content and know where to access pages to lead them to their desirable destination.

4. Security:

The program is based on a security system that allow access to accounts when users enter the correct accessing requirements.

It's connected with the university database so that doctors and technician can not log in as a doctor and vise versa.

3 Non-Functional Requirements

Product Requirements

5. Serviceability:

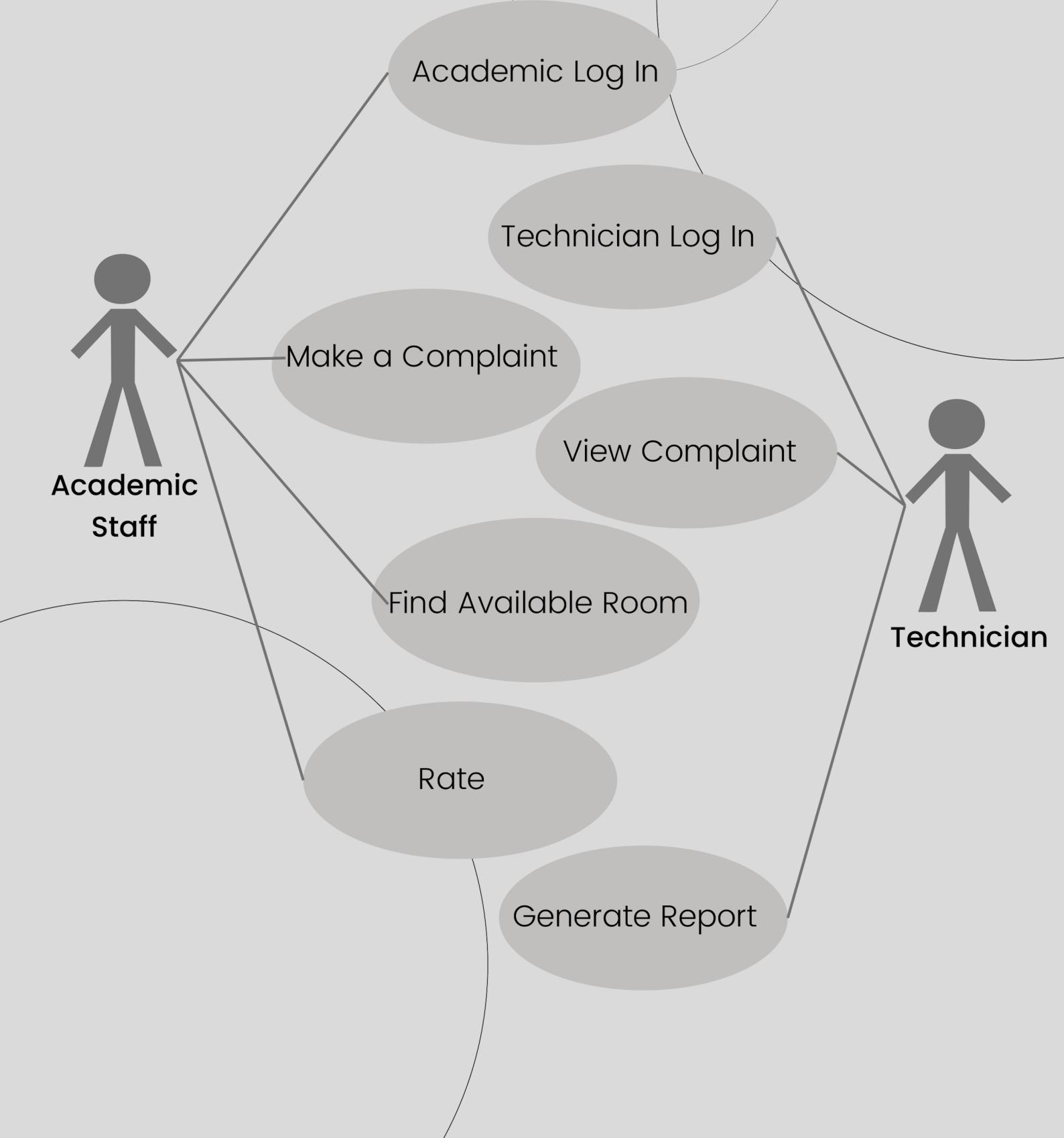
The software contains multiple services for different type of users, the program focusing on the university staffs, it can serving them in a radical and easy way giving them the service such as reviews as it been requested.

6. Localization:

A localized software has features that match the university environment such as Languages, Time zones and more, to keep doctors and technician posted about the state classes in the moment in the right time and location.

3

Use Case Diagram



3

Scenario

1. Academic Staff Log In

Actor

academic staff

Description

1. academic staff make registration to the system by enter their own collage email and password.
2. system will check the email that was entered by the academic staff if it was exist before in the collage database.
3. if the log in was successful a message will appear to the academic staff saying (welcome to tadbeer) and transform to its own home page.
4. if an email enter and it was not stored in the collage database it won't be able to log in and it will ask to enter a correct email.
- 5 if a user type randomly in the email field it will ask to type the email correctly.
6. if a user type incorrect password it will ask the user to try again.

Data

email and password of the academic staff.

Pre-condition

has an collage email and password.

Output

- Successful log-in message.
- log-in to home page.

Comments

The system displays the home page depends on user type.

3

Scenario 2.Technician Log In

Actor

Technicians.

Description

1. Technicians will tap to their correspond log-in area.
2. The system will ask them an academic email having the signature "@uqu.edu.sa" and a correct password.
3. The information will be checked based on the UQU database.
4. A successful message will appear by the system after successful checking.
5. Accessing to the platform with all the available services.

Data

Technicians need

- An academic email.
- A password related to that emile.

Pre-condition

Previous registration In the university's technicians database.

Output

- Successful log-in message.
- the ability to access to the technician interface.
- the ability to use platfom services.

Comments

Its a security service to direct technicians to their special services.

3

Scenario

3. Make a Complaint

Actor

Academic staff .

Description

3.2 The academic staff will choose the building [A, B, C, or D] where the classroom has issues in.

3.3 The academic staff will choose the classroom number.

3.4 The academic staff will choose the kind of issue in the classroom has: (Air Conditioner, projector, need a charge, lighting, smart board remote).

3.5 The academic staff can write a comment for more details about the problem.

3.6 The system shall find the technical support who is responsible for the classroom the user chose to inform him.

3.7 The system shall display the technical support name and phone number.

Data

- Building Number
- Classroom number
- The type of issue
- Comment for more details

Pre-condition

Academic staff loged in

Output

- “Notification has been sent “ message
- display the technical support name and phone number.

Comments

The system shall match the input to find the responsible technician, and his information.

3

4 Scenario

4. View Complaint

Actor

Technicians.

Description

1. After checking technician's identity the user will be able to have the service.
2. After choosing the a list of complaints will appear to the technicians.
3. Technicians will be able to filter complaints to make them easier to manage.
4. The user can check the state of the complaints and update their situation.
5. accomplished complaints can be marked or saved in an external files.

Data

Specify the type of the filtered contents.

Pre-condition

- Academic staffs should write complaints deatils in advance.
- Complaints sent to Technicians to be veiwed.

Output

name of the sender, sending date and time, view type of a current problems and their states, classrooms of the complaints, and more..

Comments

The service specified for technicians only to deal with problems.

3

Scenario

5. Find Available Room

Actor

Academic staff.

Description

1. The user will choose finding available room service.
2. He will start by selecting some filters for the classroom.
3. These filters are the building name, classroom type, and capacity. Initially, there will be default values for them. But then, the values will be the last ones the user has chosen before to make it easier and faster.
4. Then, he must choose the desirable time and day.
5. hence, the system will start searching to display available rooms if there.
6. Finally, the user will confirm the room he chose to change its status.

Data

- Building name,
- classroom type,
- classroom capacity
- day and time of lecture.

Pre-condition

The academic staff is logged in.

Output

- available room with its information if there.
- Message "Sorry, There isn't any available room like you want" if not.

Comments

The user can echo his inputs by displaying the classroom information while searching and before confirming because this information is easy to confuse.

3.

Scenario

6.Rate

Actor

academic staff.

Description

- 1.the system should be able to make the academic staff make rates and comments to see how much satisfied the academic staff of the services provided by the Technician
- 2.a list of questions will appear to the academic staff as follow
 - (Are you satisfied with our service ?)
 - (Are you satisfied with our technical members ?) and so on..
3. under each question 5 stars will appear to the academic staff and they should select from 1 to 5.
4. the system should be able to let the academic staff make comments besides the questions list.
5. after the academic staff make rate a message will appear thanking the staff to share their own opinion.

Data

- writing comments for the review.
- Ratings stars out of 5.

Pre-condition

have deal with the system and its services.

Output

- thankful message
- display the comments of the academic staff in a section known as " review and Comments "

Comments

making a technical rate will be very useful for other staff to look for a very cooperative technical.

3

Scenario 7. Generate Report

Actor

Technicians.

Description

1. The technician can create a weekly report to continuously update the status of the labs and classrooms that have been reported.
2. The technician will write in the report a description of the condition of the lab and classrooms, whether the problem has been resolved or it is still under maintenance.
3. The technician will monitor the progress of the repair, and will inform the responsible department if the repair is not completed in a short time.
4. This report will help the technician to easily identify the labs and classrooms that need repair.

Data

1. (name or number - building) of the lab or classroom.
2. Report writing time.
3. The name of the author of the report.
4. A complete and accurate description of the problem.
5. Description of the condition (not maintained, under maintenance, maintained).

Pre-condition

We need from the academic staff to make complaints to repair laboratories or classrooms.

Output

Weekly report.

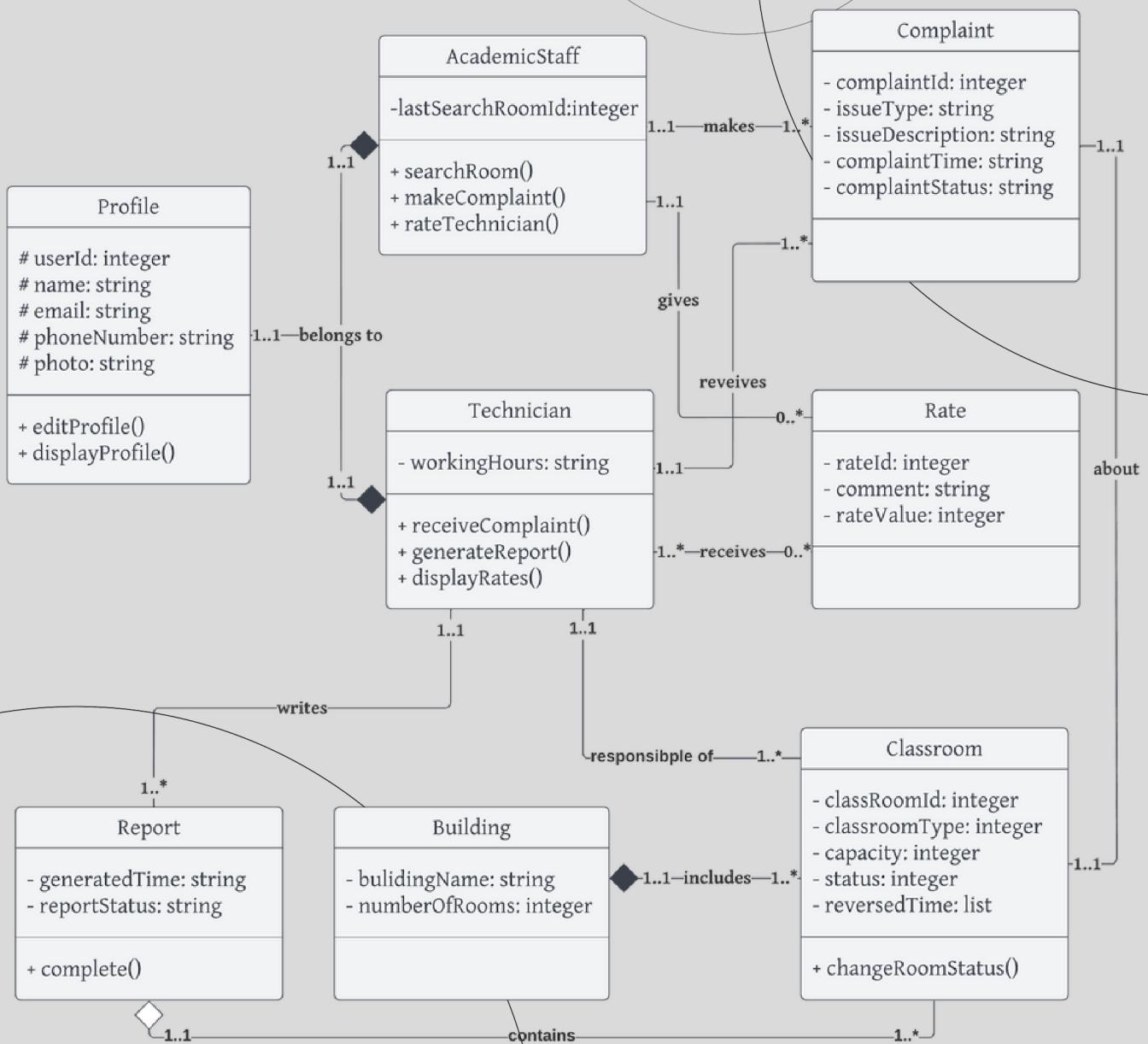
Comments

These reports will motivate technicians because they help them organize and facilitate the work, so the service rate of them will rise.

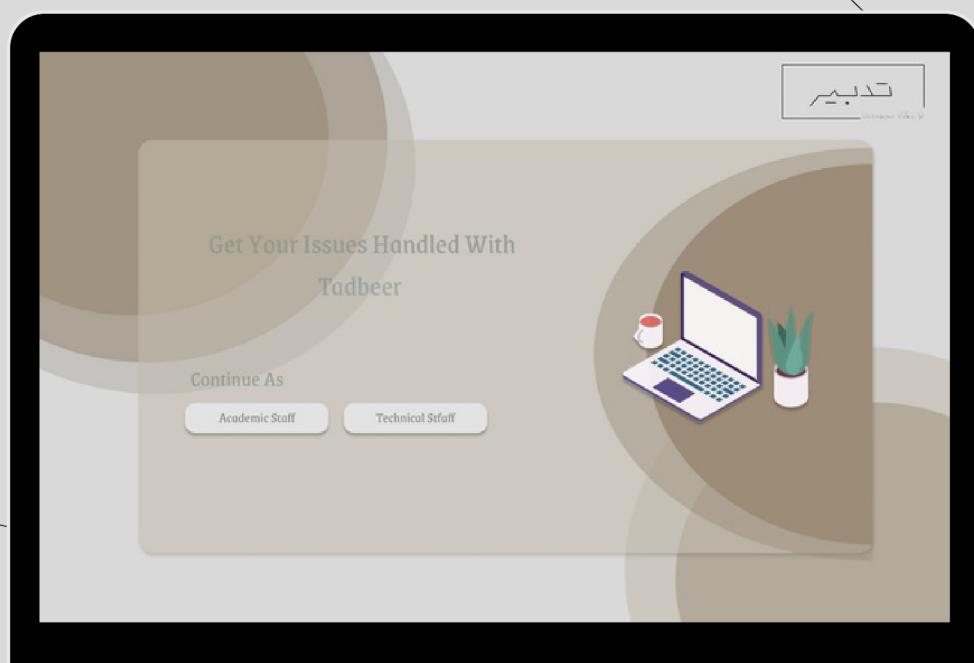
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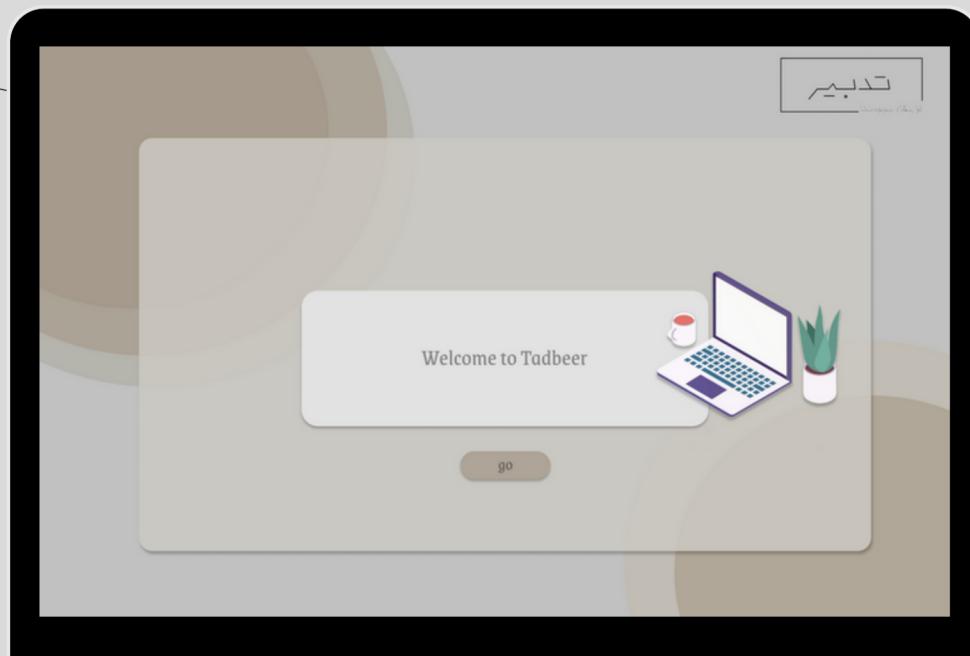
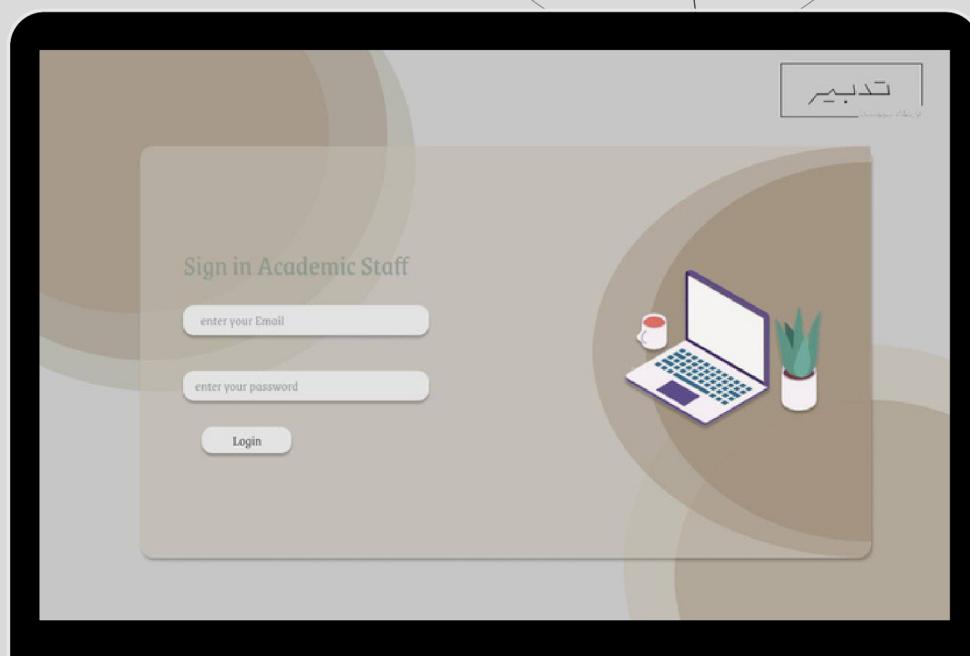
Class Diagram



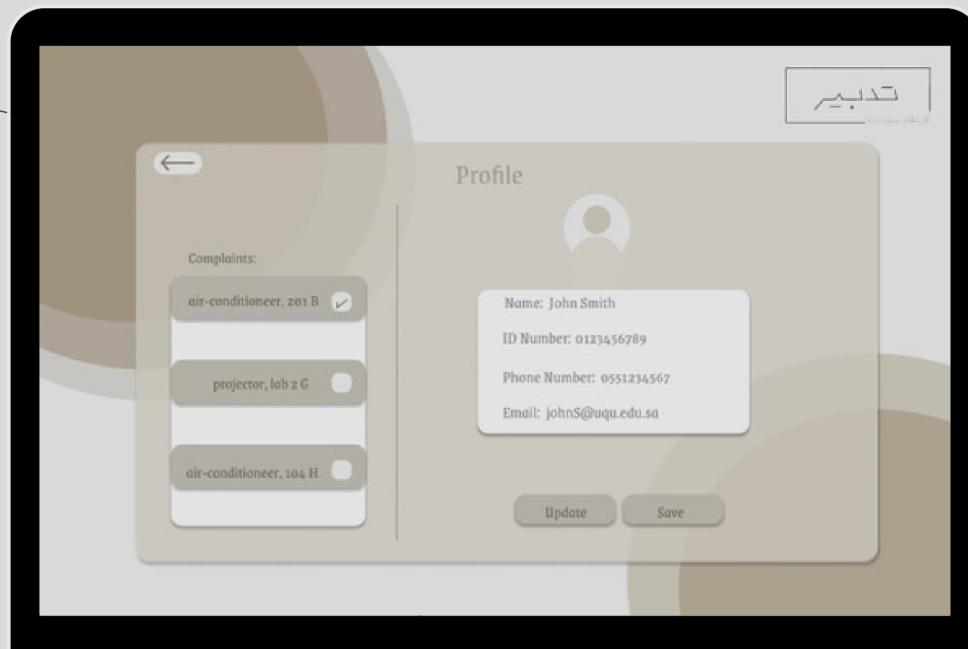
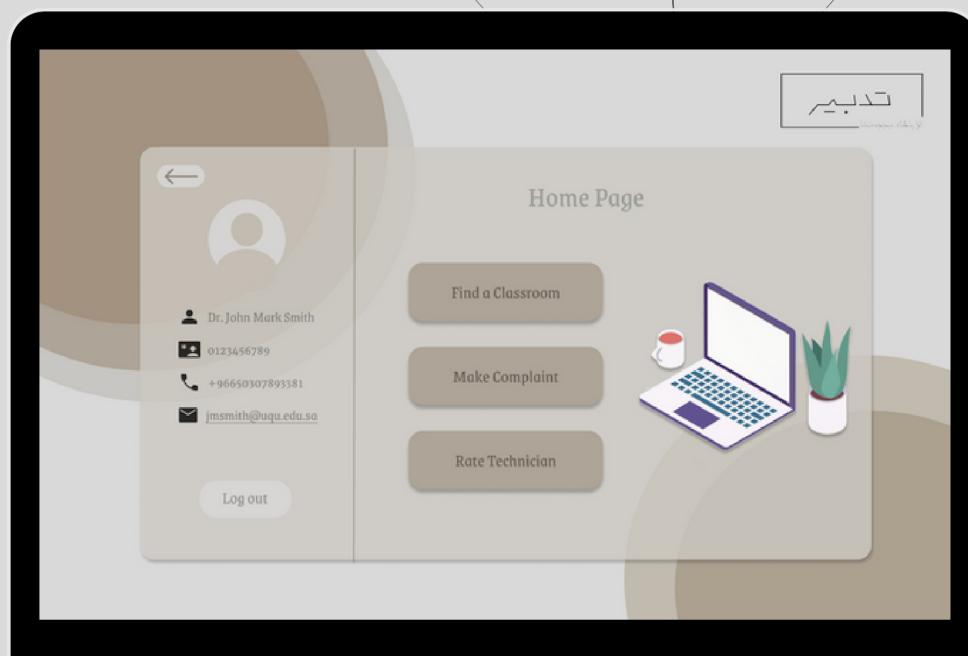
4.1 Prototype



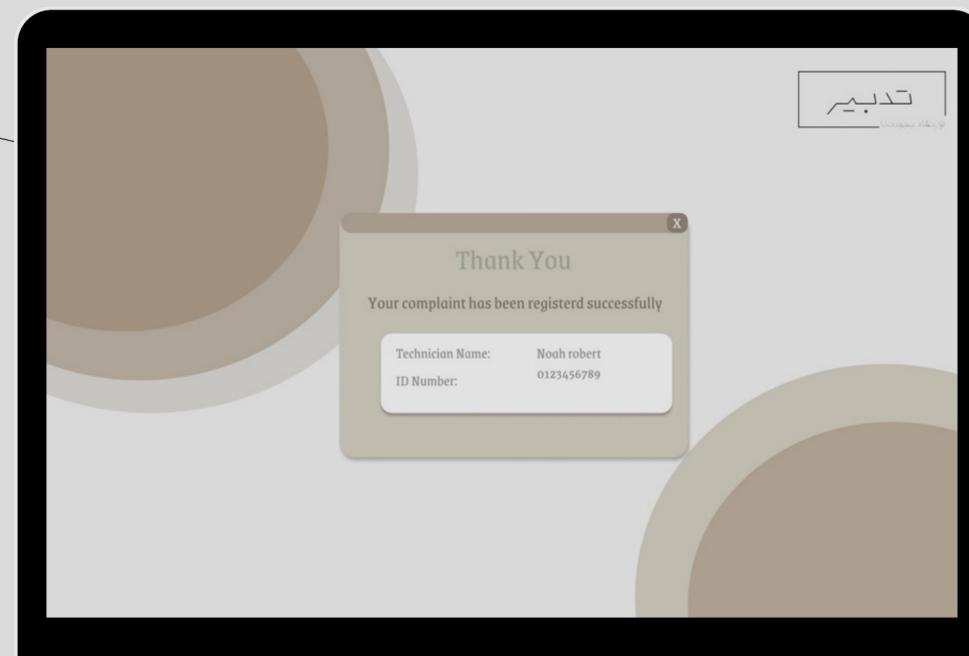
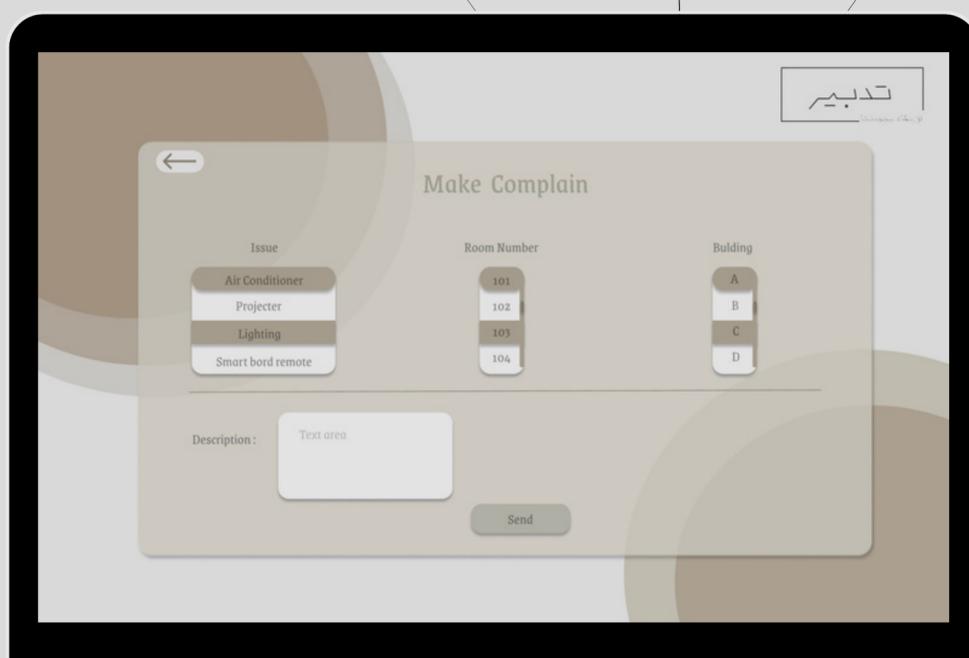
4.1 Prototype



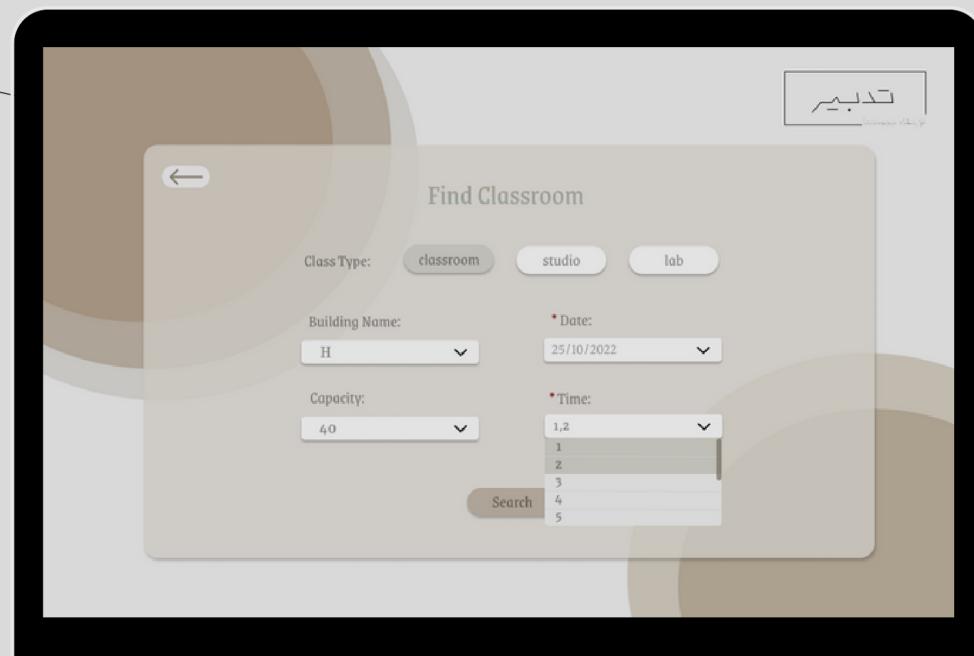
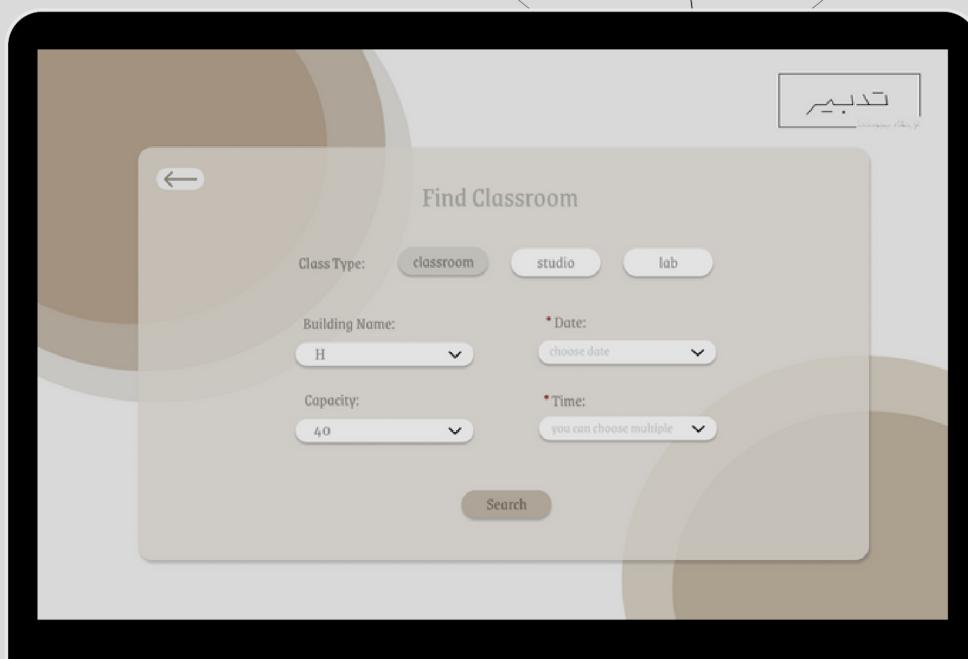
4.1 Prototype



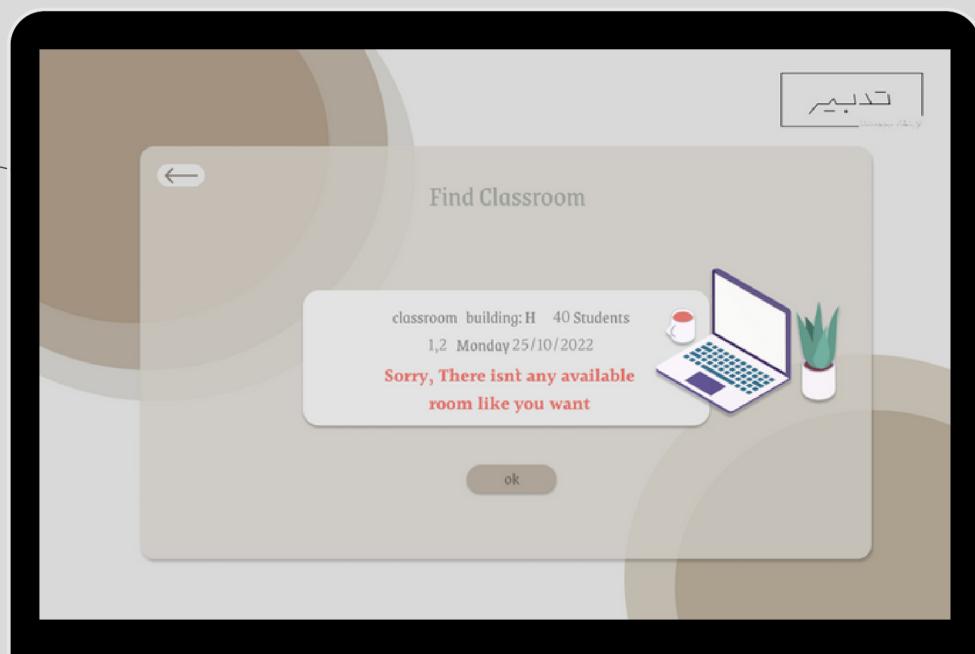
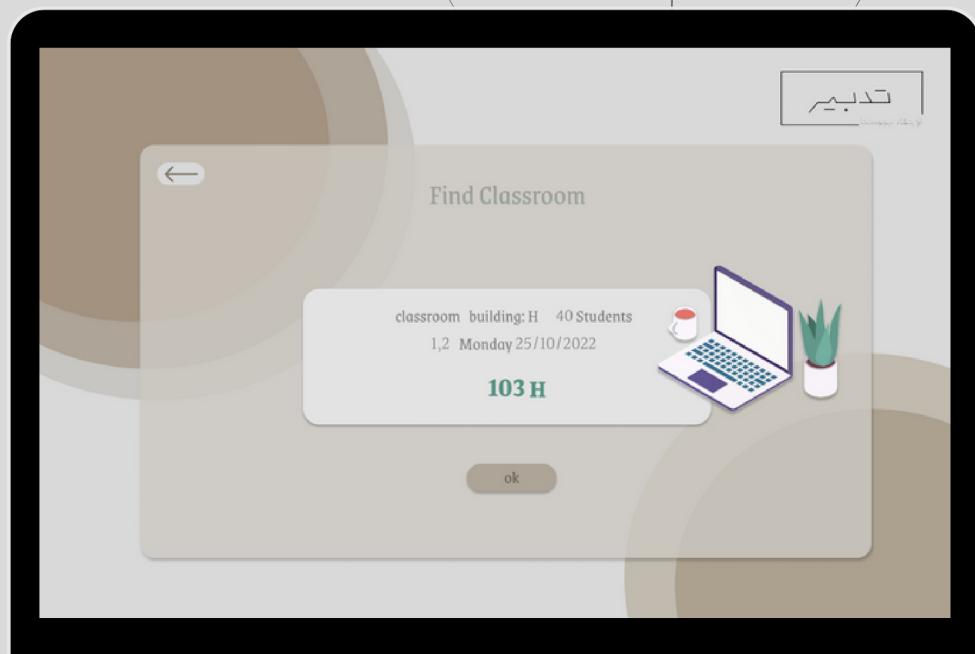
4.1 Prototype



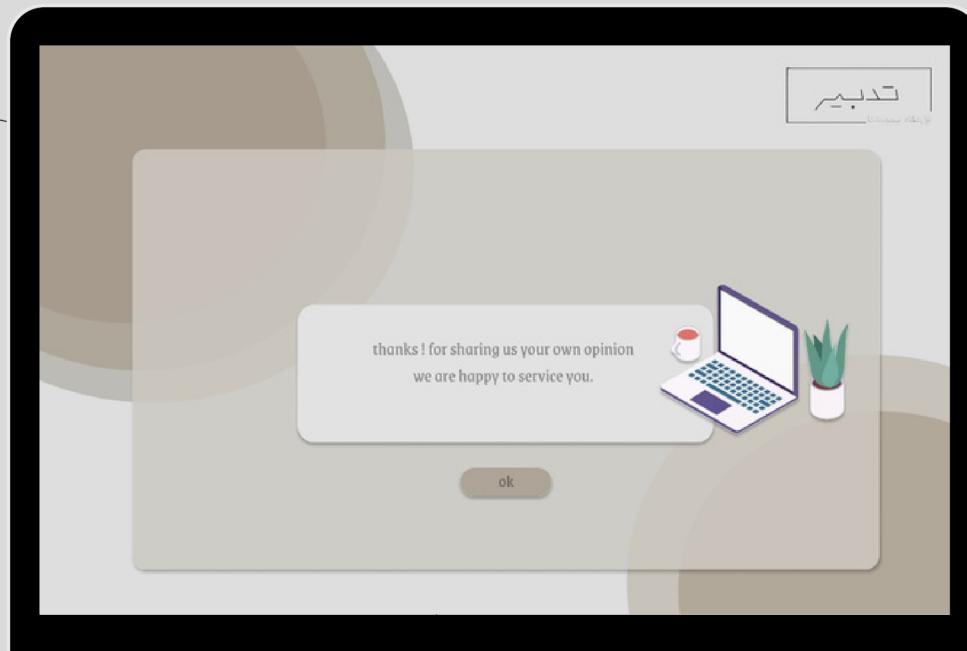
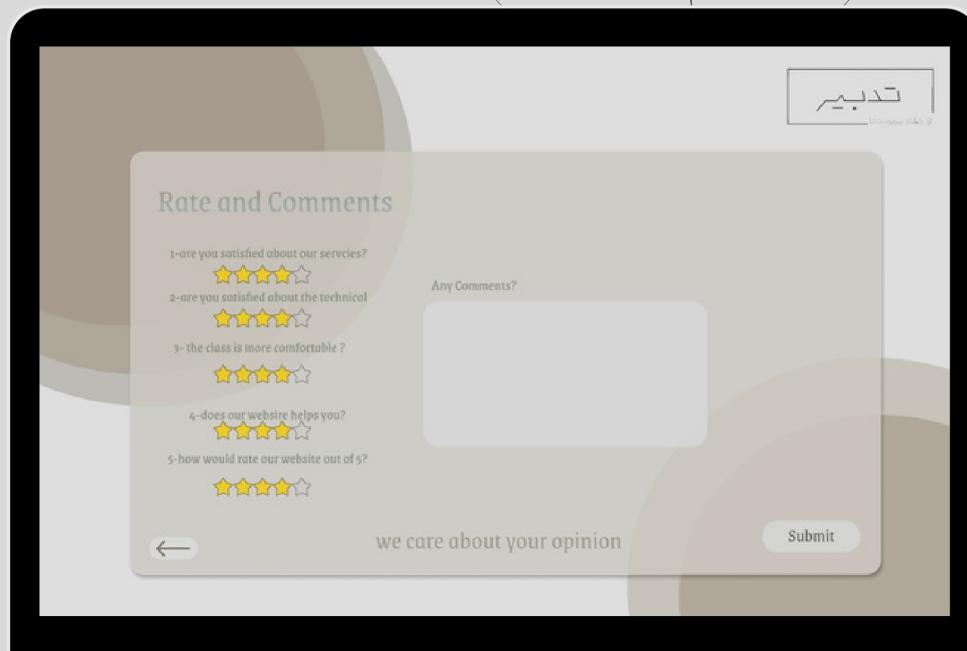
4.1 Prototype



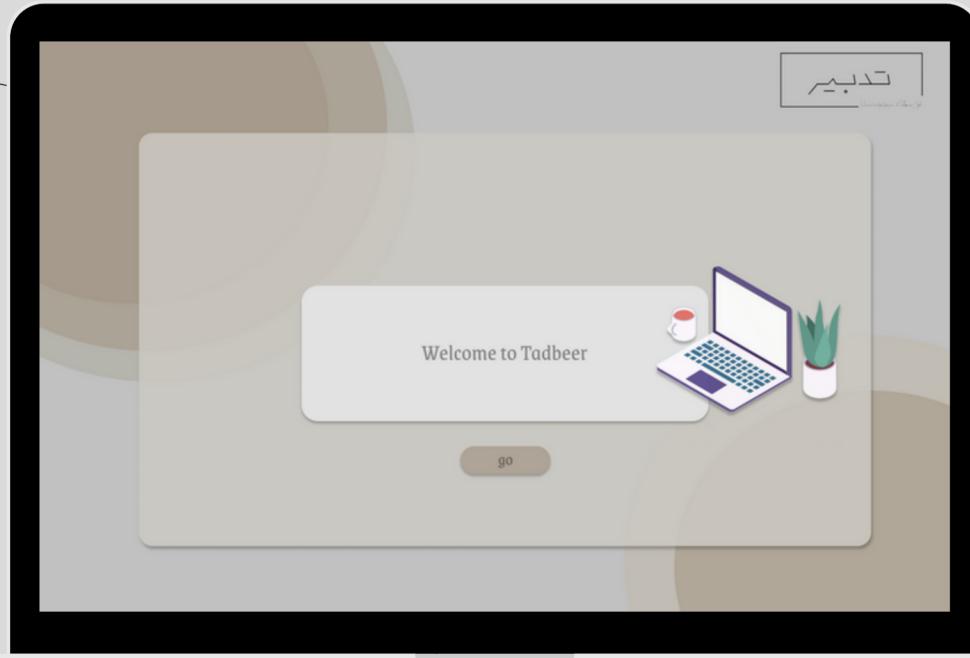
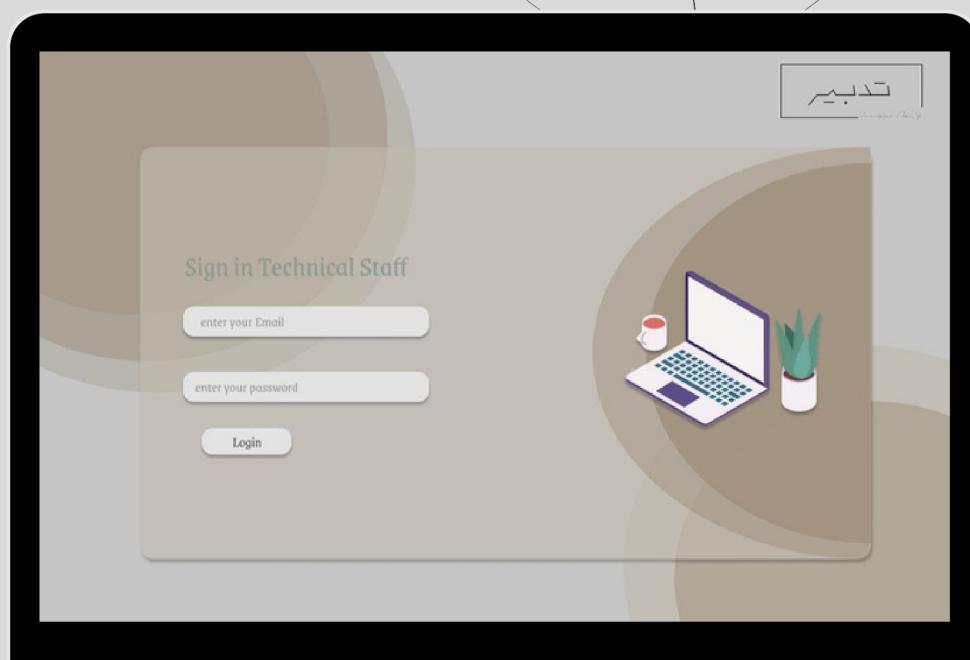
4.1 Prototype



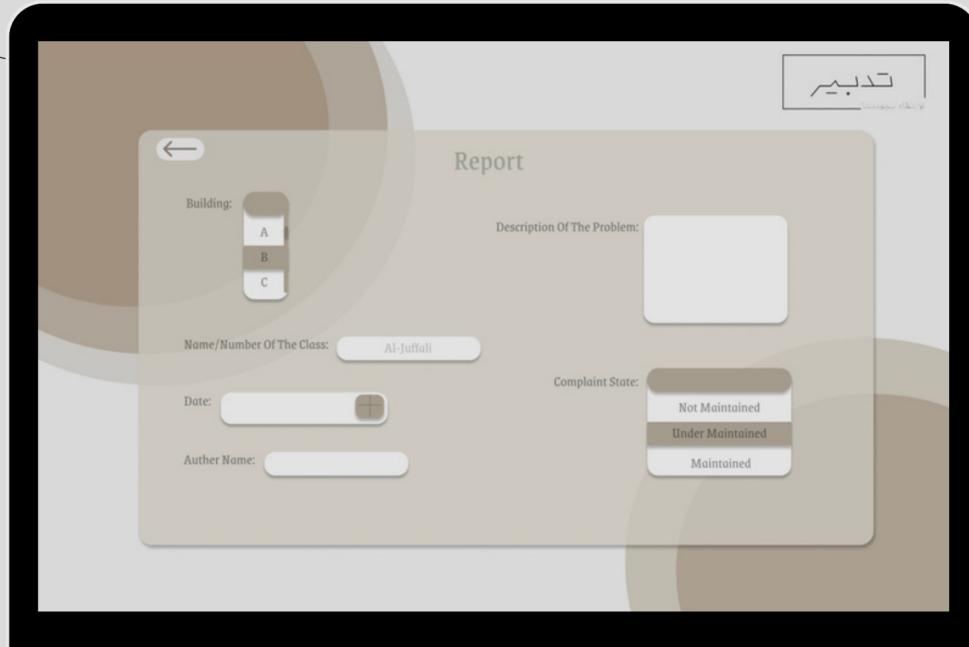
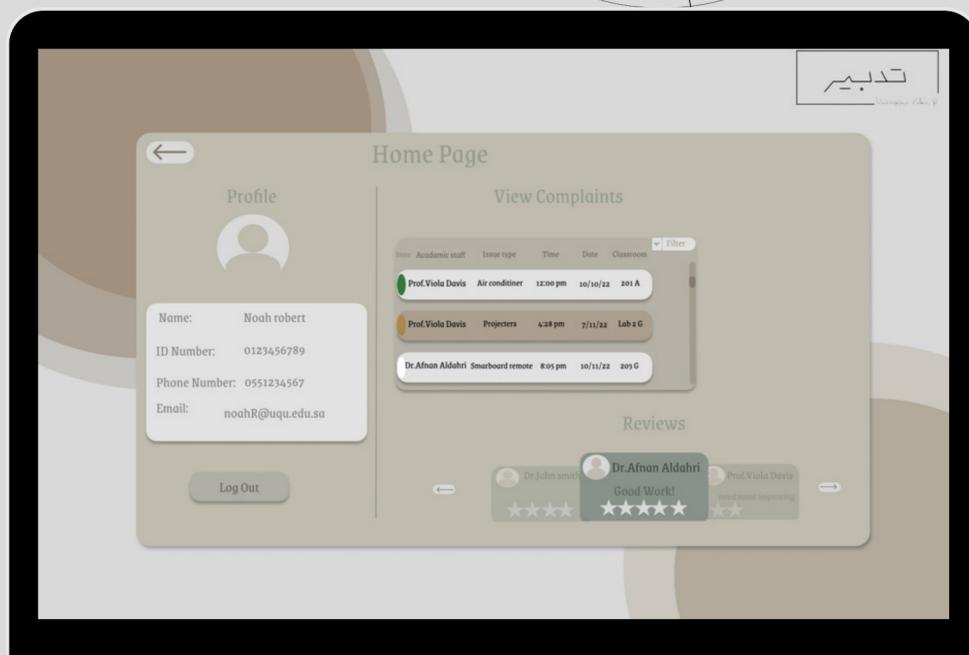
4.1 Prototype



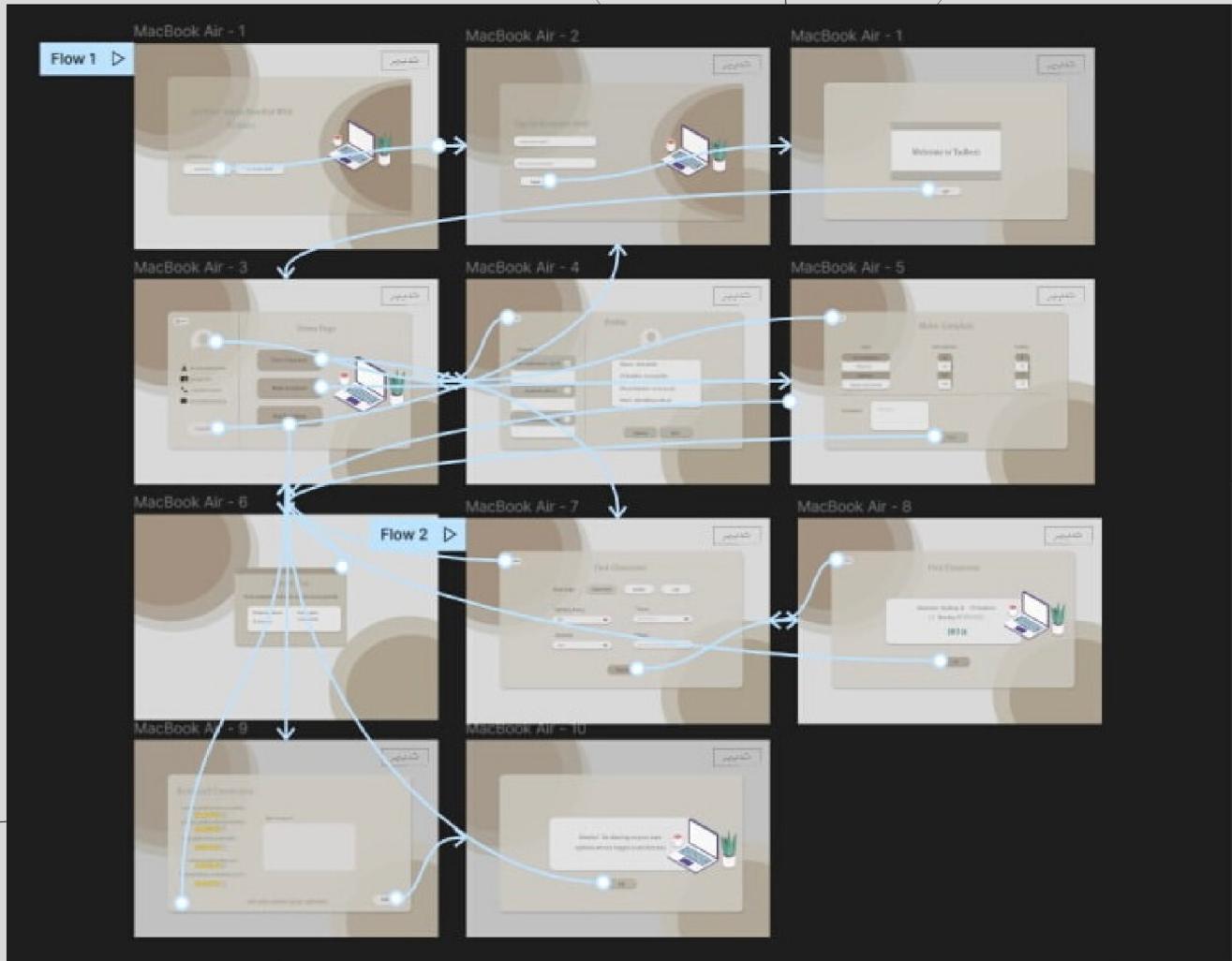
4.1 Prototype



4.1 Prototype



4.1 Prototype



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