An-Najah National University

Faculty of Engineering & Information Technology Computer Engineering Department

Graduation Project I

Unilife

An application that tries to make students' experience in their University life smoother, by implementing several features and ideas students actually need.

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+
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Acknowledgements

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Furthermore, we are immensely thankful to our friends and loved ones for their unwavering encouragement and support. The successful completion of this project would have been an insurmountable challenge without the aid and motivation provided by these exceptional individuals."

Disclaimer

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Table of Contents

Catalog

Abstract

In Palestinian Universities, Students lack some services to ease their lives, some challenges arise that can waste time and energy. Our application aims to minimize some difficulties and save students some valuable time by offering practical solutions and assistance.

Students, Especially fresh ones, generally struggle to move and navigate through the university, finding their classes and other places, even non-fresh students may be unfamiliar with some places, especially when the University area is relatively large, so our application features an outdoor navigation system on the map, as well as indoor navigation using QR codes in each floor, that tells students where to go based on which class they wanna get to.

Another annoying thin could be the Cafeteria and the lack of online ordering, students may want to eat between lectures, where there is a 10 min break, they won't be able to wait for long, so we implemented a cafeteria system where restaurants register themselves, and get ready to receive, update and notify user's orders, while having Paypal payment option, or on receipt.

Finding a suitable dormitory can be a challenging task, so we allowed for dormitory owners to post their dormitories, including information like distance from campus, rooms, rent and other necessary information, so students can filter posts to find a suitable dormitory.

We also allowed users to post items they wanna sell or trade, and other students interact with their posts by reserving them and chatting to reach an agreement.

In our project, we leverage ReactJS for web development, utilizing the power of JavaScript. For mobile app development, we employ React Native. The core functionalities and database management are facilitated through an API built with Node JS. This robust combination of technologies ensures a seamless and efficient development process for our application.

In terms of databases, the project employs a SQL database (MySQL) for storing the primary data in our application, while a cloud storage of Firebase is used to store images.

Introduction

1.1 Background

We believe that the idea of a project that help students save their time, energy can be a successful one, so, our application addresses some challenges by incorporating outdoor and indoor navigation systems, an online cafeteria ordering system, and a platform for dormitory owners to post accommodation details. Additionally, an exchange feature facilitates student-to-student transactions.

The goal is to enhance the overall university experience.

1.2 Problem Statement

almost for every non-formal service in our university, everything is done manually, such as searching dormitories, Cafeteria ordering, exchanging items, this will result in waste of time and energy.

1.3 Significance

the application plays a pivotal role in enhancing the overall student experience in Palestine by addressing significant challenges they face. By integrating an Outdoor and Indoor GPS system, it simplifies navigation within the university, reducing the stress of finding classes or locations. The innovative cafeteria ordering system not only saves time but also ensures convenience for students with tight schedules. Additionally, the platform facilitates the search for suitable dormitories, easing the burden on those seeking accommodation near the university. The inclusion of a trading and exchange section fosters a sense of community, allowing students to efficiently share resources and fulfill their needs. Ultimately, your

application significantly streamlines daily tasks, providing practical solutions that enhance the quality of students' lives in Palestine.

1.4 Objectives and Scope

The primary aim of our university-centric application is to streamline the academic and daily experiences of students in Palestine. The objectives of our app encompass:

Efficient Navigation: Offering an Outdoor and Indoor GPS system, the app ensures students can easily find their way around the university, minimizing time wastage and enhancing productivity.

Time-Saving Cafeteria System: By allowing students to order meals through the app, we address the hassle of waiting in line during tight schedules, making it convenient for them to enjoy meals between classes.

Dormitory Search Simplification: The application facilitates the search for suitable dormitories, providing a platform for dormitory owners to showcase their facilities, helping students find accommodations that align with their needs.

Resourceful Trading Section: The inclusion of a trading and exchange section fosters a sense of community, enabling students to efficiently share resources such as books and dormitory items, enhancing the collaborative spirit within the university.

Enhanced Student Experience: Overall, the app significantly contributes to the well-being and satisfaction of students by addressing common challenges they face, creating a more streamlined and enjoyable university experience in Palestine.

Some Features:

1. The Chatting feature, allowing student's to communicate with each other, mainly for the exchange feature.
2. Payment feature: Paypal integration for online payment.
3. Admin and restaurant dashboards to keep track of important statistics.
4. Mapbox integration and routing algorithm, getting the closest route between student and destination.
5. ADs feature, allowing for advertisements with redirect like to their page.

Constraints and Earlier Coursework

2.1 Constraints Limitations

2.1.1 Time Limitations

Building the software was a time-consuming process that involved learning new technologies, researching a topic, designing the user interface, and implementing the software on both the front-end and the back-end. Despite time constraints, certain constraints such as time constraints to search and implement the best libraries for specific attributes have been encountered.

2.2 Earlier Coursework

In terms of previous coursework, the development of this app has been heavily influenced by:

- Web Development: Front-end HTML, CSS and JavaScript were used, this course provided a solid grounding in these languages, making it easy to learn libraries and frameworks like react, react native and node js.

- Database design management: The database for this application is built using MySQL, and database design principles and concepts, such as dependencies, keys, and indexes, are applied.

- Software Engineering: In the domain of software engineering, I immersed myself in a holistic exploration of the software development life cycle. This encompassed a meticulous examination of requirements, meticulous architectural design, and meticulous validation through user acceptance testing. These insights have proven invaluable in steering the development of the application towards success.

- Critical Thinking Scientific Research: The proficiency in critical thinking and scientific research cultivated during this course played a pivotal role in shaping the research methodology and preparatory stages for constructing the app. The acquired skills in researching and crafting scientific papers significantly informed and enhanced the development process of the

application.

- In short, The creation of this application is a culmination of insights from diverse courses—object-oriented programming, database design, web development, software engineering, critical thinking, and scientific research. Despite time constraints, the successful development and implementation underscore the integration of these multifaceted skills and knowledge.
9

Chapter 3

Literature Review

1.1 Review & Studies.

The proposed application addresses several challenges faced by students in Palestine, focusing on enhancing their overall university experience. The following literature review examines similar initiatives and research related to the key features of the application, including GPS navigation, efficient cafeteria services, dormitory searches, and a platform for student-to-student exchanges.

Campus Navigation Applications:

Many universities globally have implemented campus navigation applications to assist students in finding their way around large campuses. Research by High tower ET AL. (2005) emphasizes the importance of outdoor and indoor navigation systems in university settings. The utilization of GPS technology and unique QR codes for indoor guidance aligns with best practices identified in the literature.

Efficient Cafeteria Services:

The concept of streamlining cafeteria services through mobile applications has been explored in various studies. Research by Wang ET AL. (2017) highlights the potential for reducing wait times and enhancing user satisfaction by implementing mobile ordering systems in campus cafeterias. The proposed solution aligns with this research, offering a platform for students to order and receive notifications when their meals are ready.

Student Housing Search Platforms:

The literature on student housing search platforms emphasizes the significance of providing students with accessible and comprehensive information about available accommodations. Research by Dawson and Granter (2006) discusses the challenges students face when searching for suitable dormitories. The application's feature allowing dormitory owners to post details aligns with the need for transparent and user-friendly housing search platforms.

Student-to-Student Exchanges:

The idea of creating a section for trading and exchanging items between students has parallels in existing research on peer-to-peer exchanges in university settings. Studies by Chiu et al. (2015) discuss the benefits of creating platforms that facilitate resource sharing among students, including textbooks and dormitory essentials. The proposed section for trading and exchanging aligns with this literature, providing students with a convenient avenue for peer-to-peer transactions.

1.2 Why Unilife is the best?

Unilife stands out as the premier solution for optimizing the university experience. With its state-of-the-art GPS navigation system, Unilife ensures that students, especially newcomers, can effortlessly navigate both outdoor and indoor spaces, eliminating the stress of getting lost on campus. The streamlined cafeteria services provide a revolutionary approach to dining, allowing students to place orders in advance and save valuable time between classes. Unilife's commitment to comprehensive dormitory searches empowers students in finding suitable accommodations, fostering a sense of security and convenience for those living far from the university. Moreover, the platform's innovative section for peer-to-peer exchanges adds a unique layer to student life, encouraging a community spirit by facilitating seamless transactions of various items. In essence, Unilife stands as the epitome of a holistic, student-centric solution, addressing diverse challenges and enhancing the overall quality of university life.

Methodology

4.1 Architecture & Technologies Utilized

4.1.1 ReactJS & React Native

React, a versatile and open-source front-end JavaScript library born from the realms of Meta (formerly Facebook), has garnered widespread acclaim for its prowess in crafting swift and engaging web applications [3]. With a sprawling community and a repository brimming with libraries and reusable components, React has become a linchpin in modern web development.

In tandem with React, we've embraced React Native, an innovative JavaScript framework tailor-made for mobile application development. Positioned at the intersection of React core principles, React Native simplifies the creation of mobile apps for both iOS and Android platforms, all from a unified codebase. Like its web-centric counterpart, React Native basks in the support of a dynamic community and an array of developer-friendly libraries.

Our decision to leverage React and React Native rests on several compelling reasons:

Firstly, the JSX syntax, a hallmark of React, offers a clean and intuitive way to code. Resembling HTML but with the added flexibility of injecting JavaScript seamlessly into the front-end design, JSX empowers developers with unparalleled control over components.

Another standout feature is the re-usability of components. With React, there's no need to painstakingly recreate layouts. Instead, a layout crafted once can be effortlessly imported and utilized across various parts of the project, streamlining development and enhancing maintainability.

Furthermore, the treasure trove of free libraries available for React adds a powerful dimension to our development arsenal. By tapping into the collective expertise of other seasoned developers, we can harness pre-built libraries to expedite project timelines. While this abundance may not always guarantee quality, it undeniably accelerates the pace of project development.

In essence, our adoption of React and React Native is fueled by a commitment to a syntax that balances simplicity and power, the efficiency gained through component reusability, and the vast ecosystem of libraries that fosters rapid development. These elements collectively empower our team to deliver robust and feature-rich web and mobile applications.

4.1.2 MySQL

The selection of MySQL as the relational database management system (RDBMS) for this project stems from various considerations:

Seamless Integration with NodeJs: MySQL aligns seamlessly with NodeJs, enhancing the efficiency of data handling within the project.

Streamlined Retrieval of Updated Documents and Query Results: MySQL facilitates the straightforward retrieval of updated documents and query results, simplifying the overall data management process.

4.1.3 Firebase

Firebase is a comprehensive app development platform developed by Google that enables the creation of mobile and web applications. It provides a wide range of tools to support app development, including real-time databases, authentication, and hosting services,FCMs, cloud storage.

We chose to integrate Firebase into this project for several reasons, including:

It’s real time capabilities allowing for notifications, also for storing images on cloud storage.

4.1.4 Map-Box

We chose to integrate Mapbox into our application, leveraging its capabilities for map functionality and geolocation. This decision was motivated by the following reasons:

Mapbox offers a user-friendly solution for seamlessly incorporating maps and geolocation features, aligning well with our requirements.

The integration of Mapbox brings advanced mapping features to our application, such as routing, contributing to an optimized user experience and improved visual representation of location-based data.

4.1.5 Node JS

- Node.js is a JavaScript runtime built on the V8 engine, facilitating server-side development. It employs an event-driven, non-blocking model, making it efficient for handling concurrent tasks. With npm (Node Package Manager), developers can easily integrate third-party libraries. NodeJs is known for its scalability, making it ideal for real-time applications. Its cross-platform compatibility and a robust community contribute to its popularity in building server-side applications, APIs, and microservices.

4.1.6 Socket IO

Socket.IO is a JavaScript library that enables real-time, bidirectional communication between web clients and servers using WebSocket technology, providing an efficient and responsive connection for applications.
We used it in our app for chatting between students, as well as rendering the orders directly for the restaurant admin, without the need to refresh to fetch new orders.

4.1.7 Others

In addition to the technologies discussed above, several other techniques were utilized in the development of the uniLife app. These include:

4.1.7.1 JSON Web Tokens (JWT)

JWT is a standard for creating secure, self-contained access tokens. These tokens are used to authenticate users and provide secure communication between the app and the API. JWT is an open standard (RFC 7519) that defines a compact and self-contained way for securely transmitting information between parties.

4.1.7.2 GitHub

GitHub is a web-based platform for version control and collaboration that allows developers to work together on a project. In this project, GitHub was used to manage the source code, track issues and bugs, and collaborate with other team members.

4.1.7.3 Git

Git is a free and open-source distributed version control system that allows developers to manage the source code of their projects. It was used in this project to track changes, collaborate with other team members, and maintain the history of the project.

4.1.7.4 Axios

Axios is a JavaScript library that enables easy communication between the app and the API. It is a popular library for making HTTP requests from JavaScript and it was used in this project to handle all the API calls.

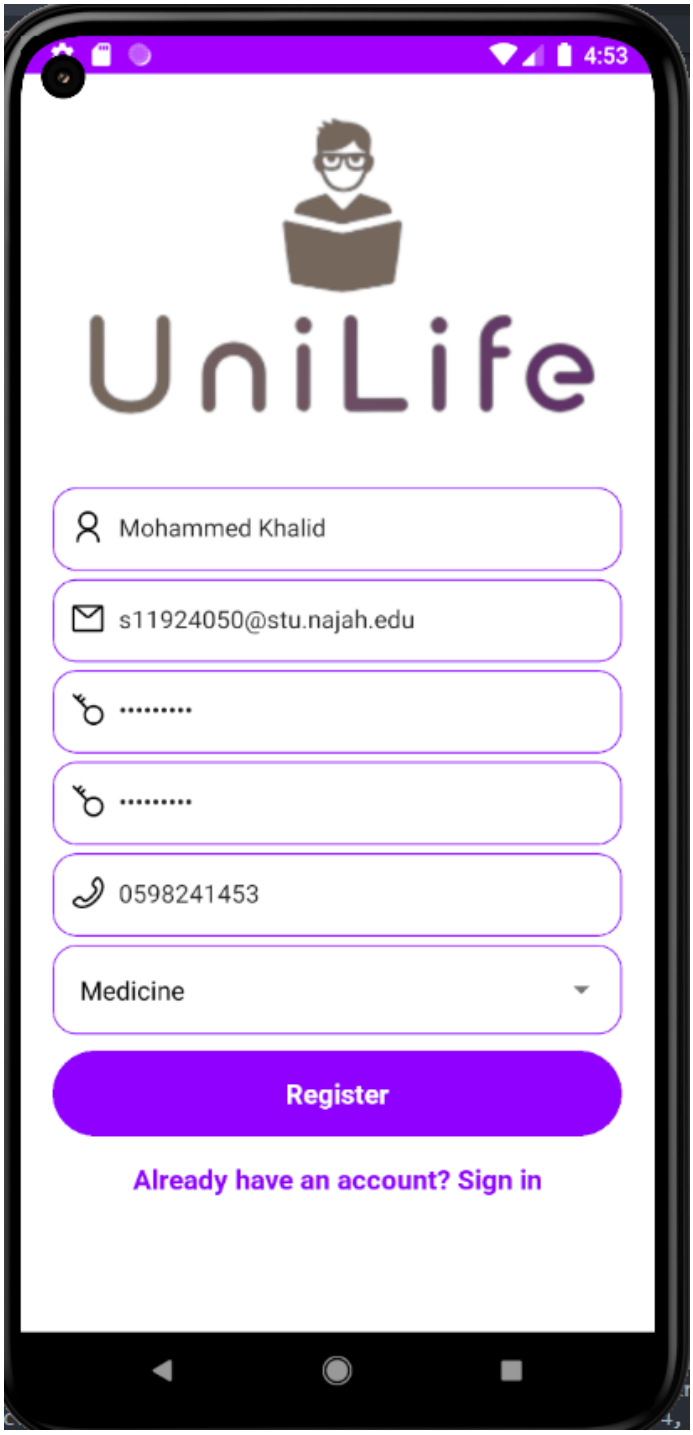
4.1.7.5 Node Cron

We had utilized node cron to automate tasks like managing the lectures schedule and delivering ads efficiently within the app. This integration streamlined operations and enhanced user experience by ensuring timely updates and targeted advertising.

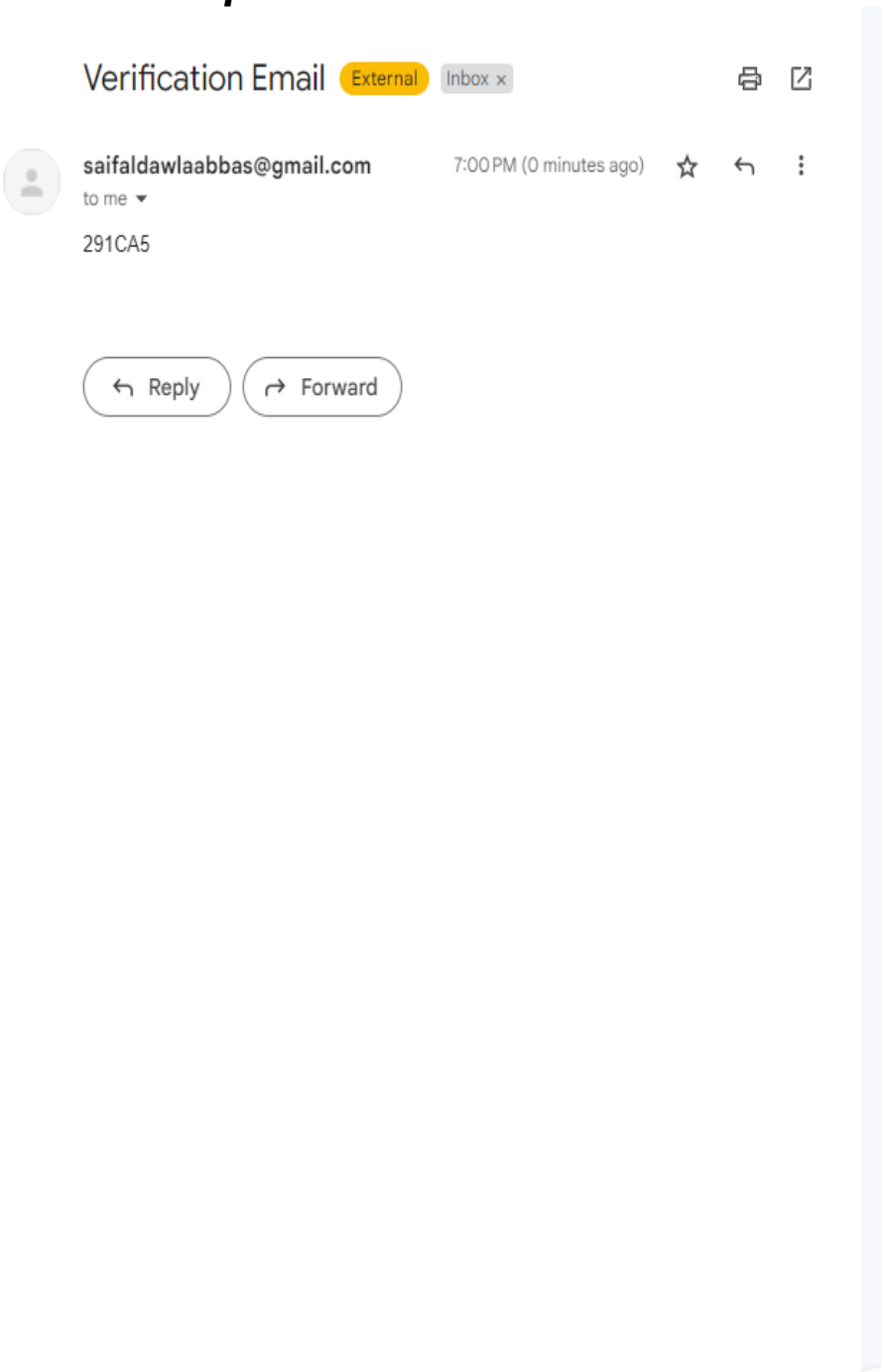
4.2 Features & Implementation

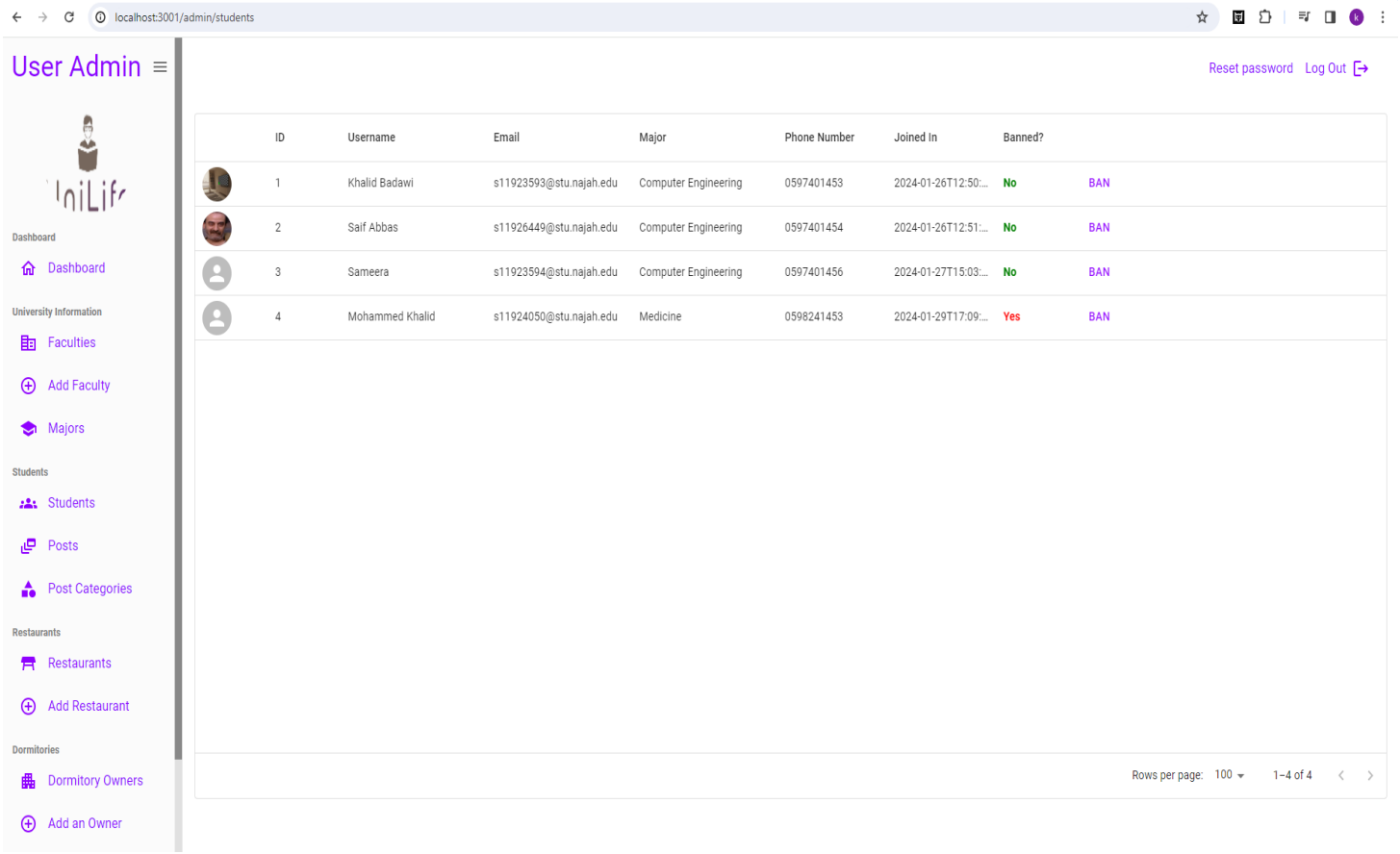
Sign Up

1. Sign Up Directly

2. 
4:53
UniLife
Mohammed Khalid
s11924050@stu.najah.edu
0598241453
Medicine
Register
Already have an account? Sign in

Registeration Email Confirmation ***Interface***

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User Admin
Reset password
Log Out
Dashboard
Dashboard
University Information
Faculties
Add Faculty
Majors
Students
Students
Posts
Post Categories
Restaurants
Restaurants
Add Restaurant
Dormitories
Dormitory Owners
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ID
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Email
Major
Phone Number
Joined In
Banned?
1 Khalid Badawi s11923593@stu.najah.edu Computer Engineering 0597401453 2024-01-26T12:50:... No BAN
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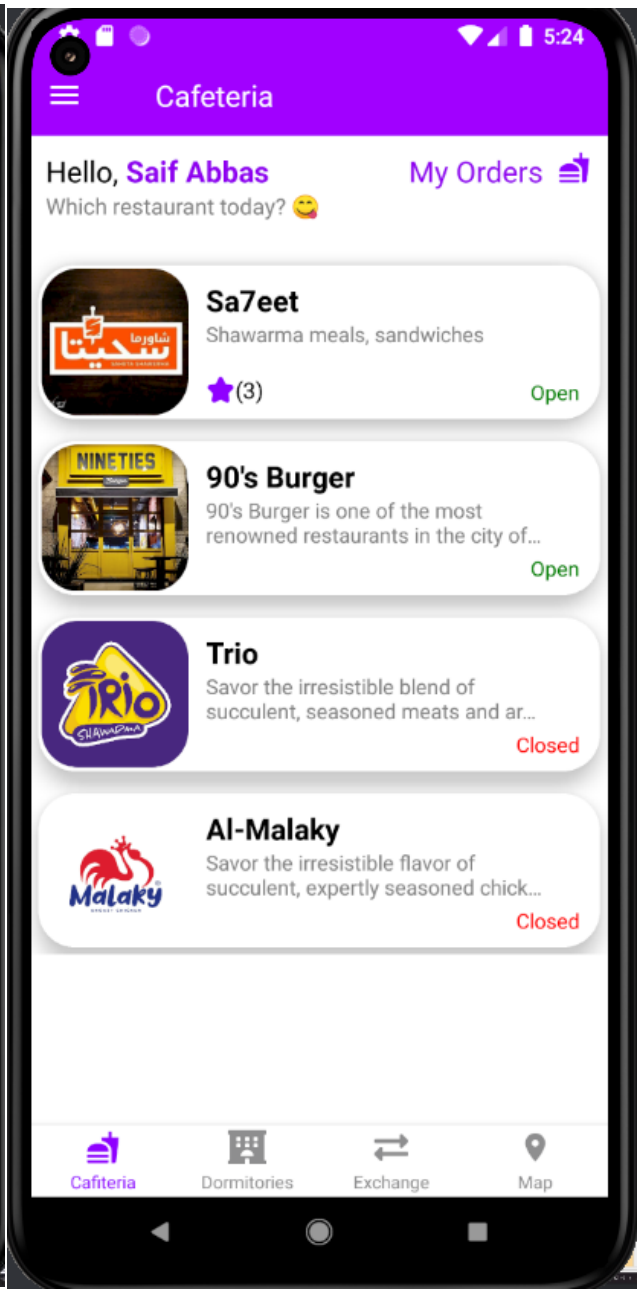
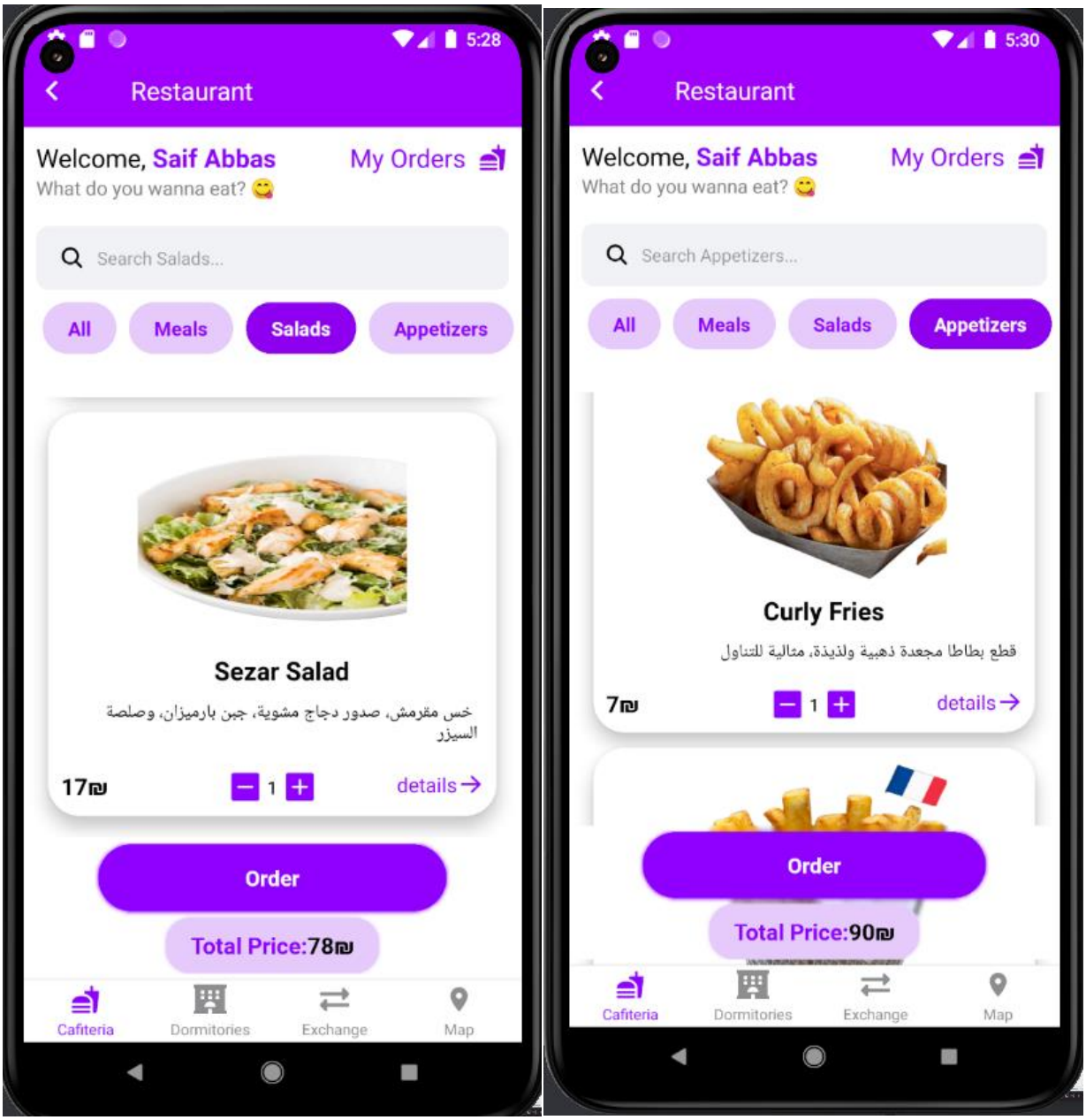
- ***Restaurants Menu Interface***

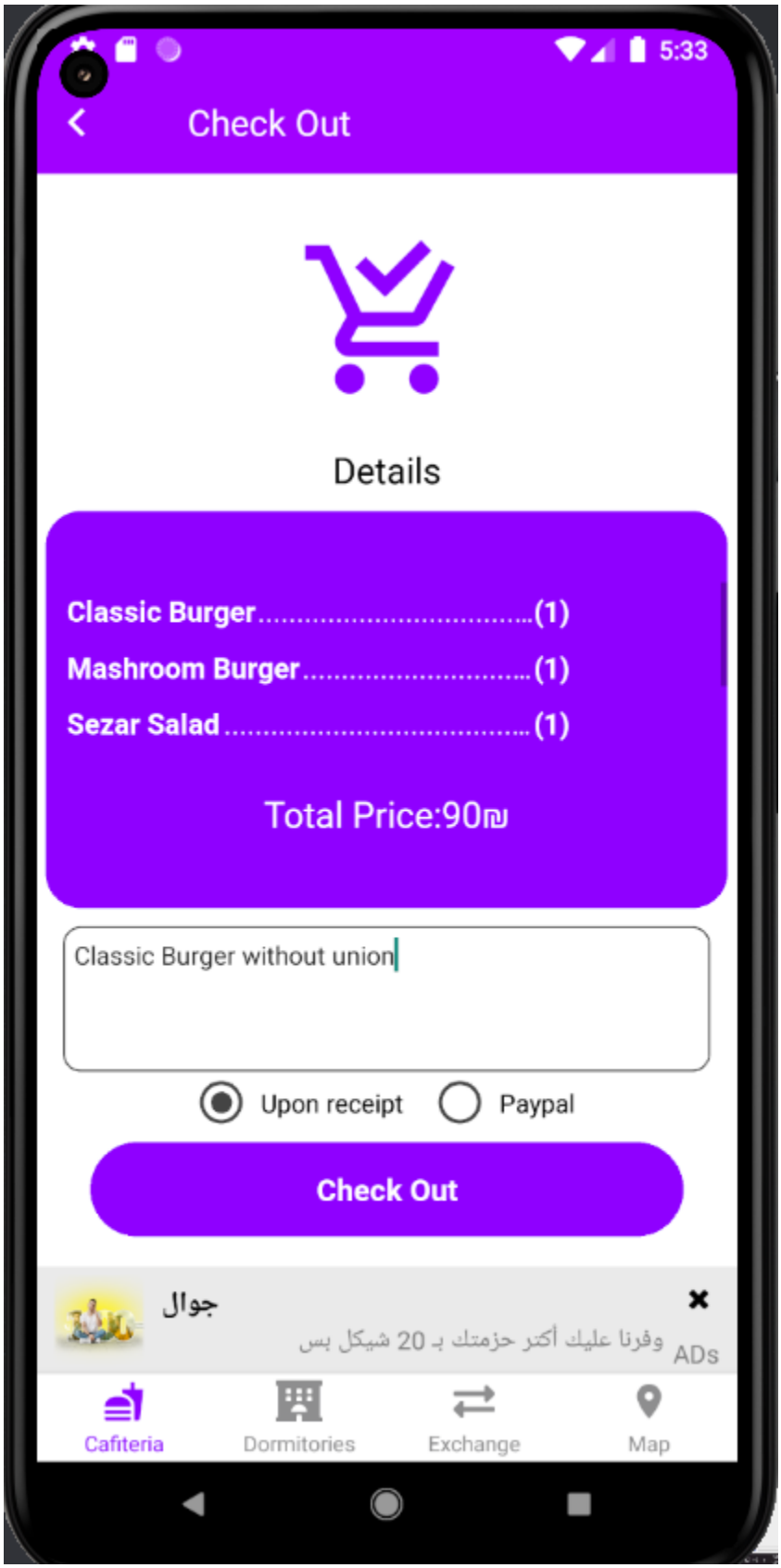


- ***Resraurants Menus Items Interfaces***

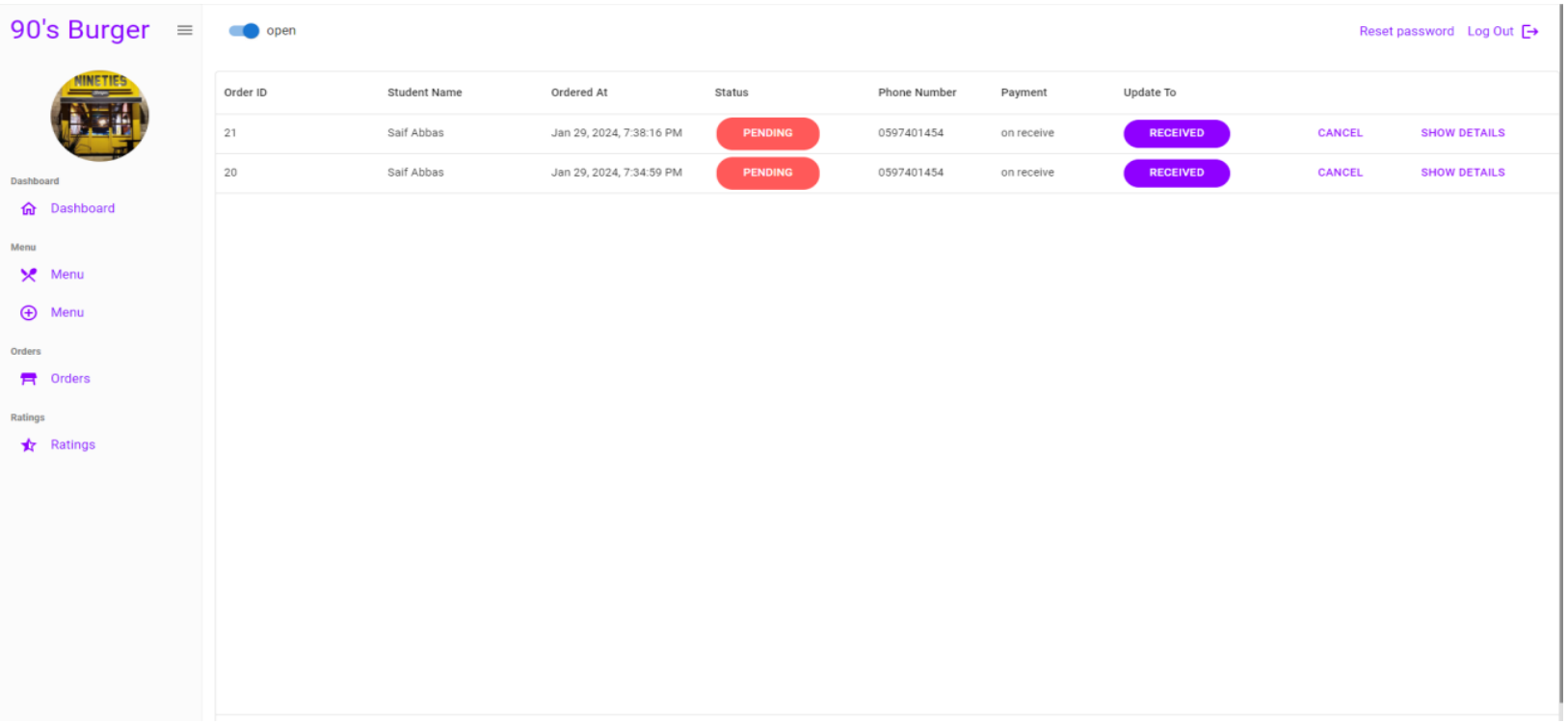


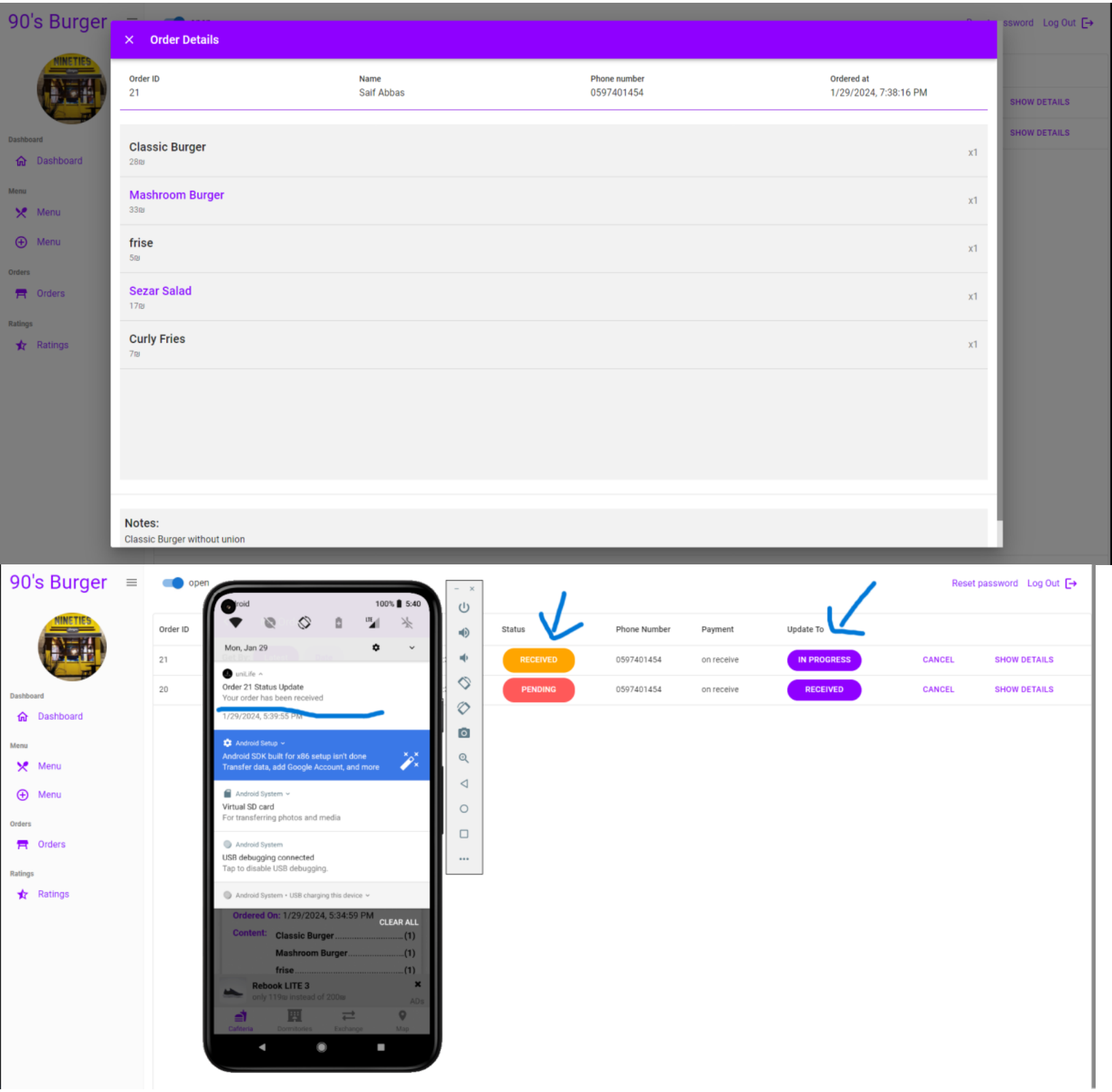
- ***Login Interface***

- ***Checkout Order Interface***



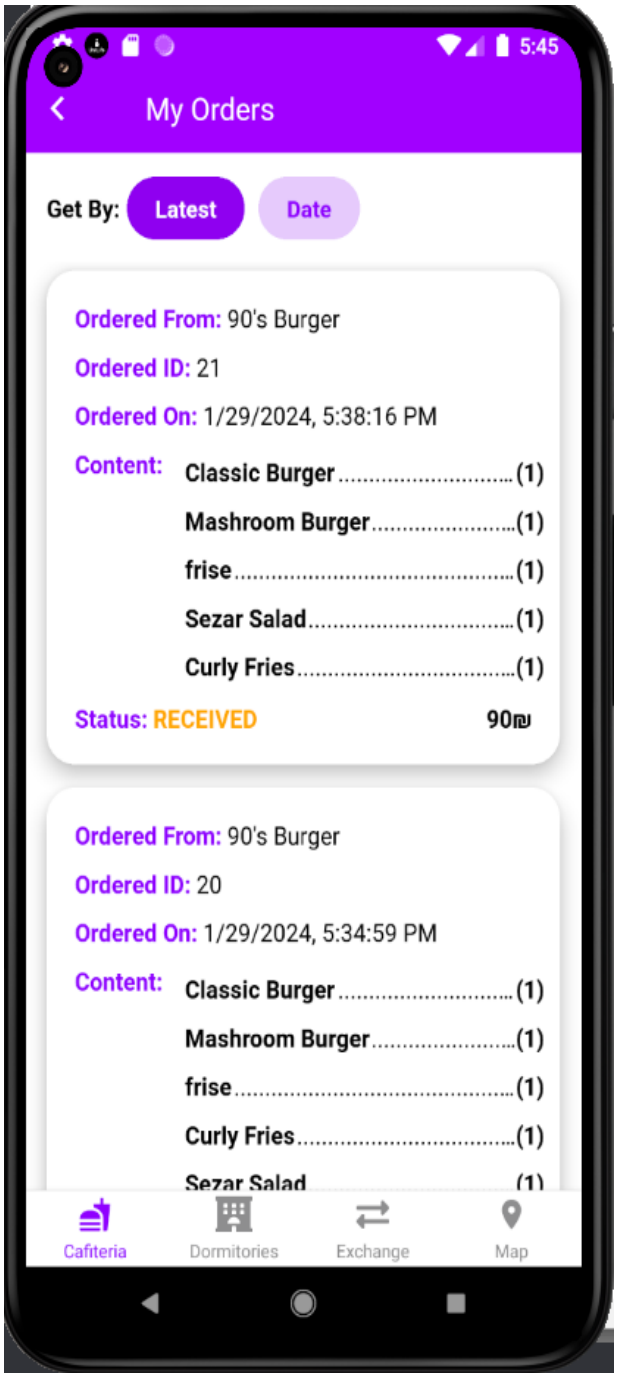
- ***Restaurant Order Interface***




90's Burger
Order Details
Order ID
21
Name
Saif Abbas
Phone number
0597401454
Ordered at
1/29/2024, 7:38:16 PM
Classic Burger
28₪
x1
Mashroom Burger
33₪
x1
frise
5₪
x1
Sezar Salad
17₪
x1
Curly Fries
7₪
x1
Notes:
Classic Burger without union
Dashboard
Menu
Orders
Ratings
Log Out
SHOW DETAILS
SHOW DETAILS

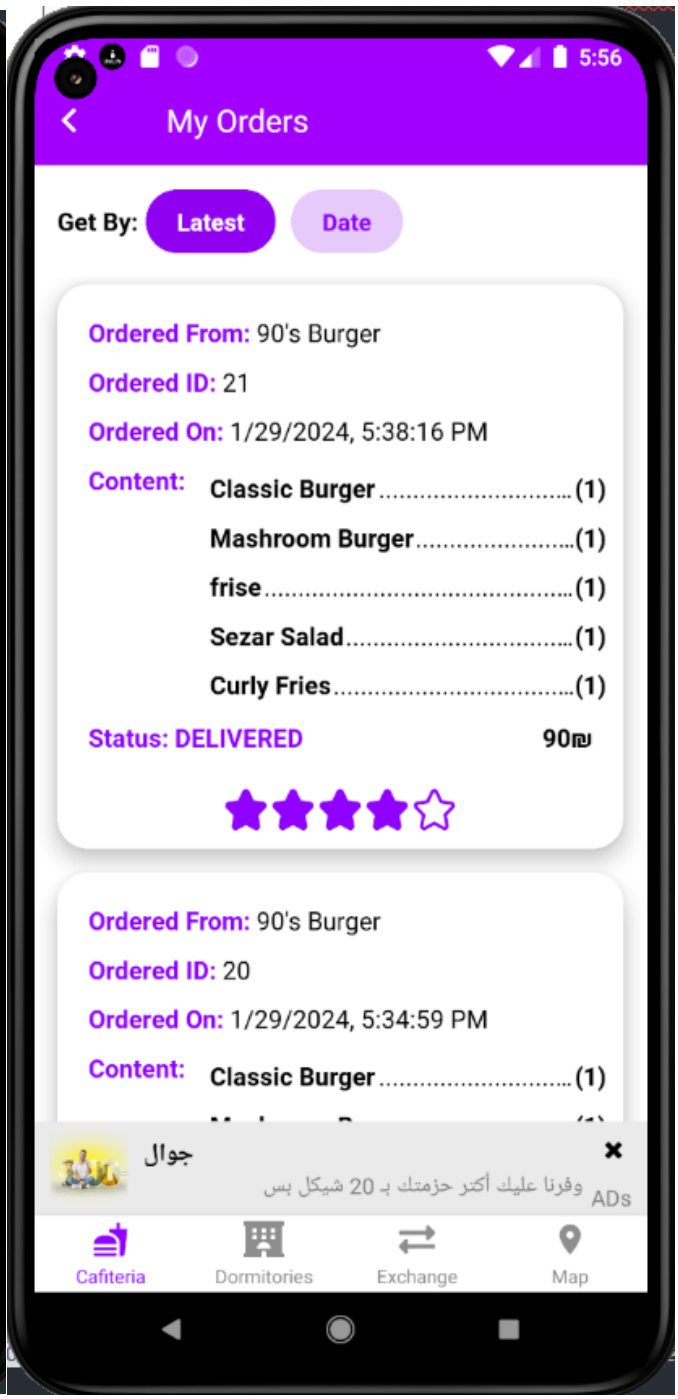
90's Burger
open
Reset password
Log Out
Order ID
Status
Phone Number
Payment
Update To
21
RECEIVED
0597401454
on receive
IN PROGRESS
CANCEL
SHOW DETAILS
20
PENDING
0597401454
on receive
RECEIVED
CANCEL
SHOW DETAILS
Order 21 Status Update
Your order has been received
1/29/2024, 5:39:55 PM
Android SDK built for x86 setup isn't done
Transfer data, add Google Account, and more
Virtual SD card
For transferring photos and media
USB debugging connected
Tap to disable USB debugging.
Ordered On: 1/29/2024, 5:34:59 PM
CLEAR ALL
Content:
Classic Burger.....(1)
Mashroom Burger.....(1)
frise.....(1)
Rebook LITE 3
only 119₪ instead of 200₪
Dashboard
Menu
Orders
Ratings

- ***Students lists Of Order Interface***

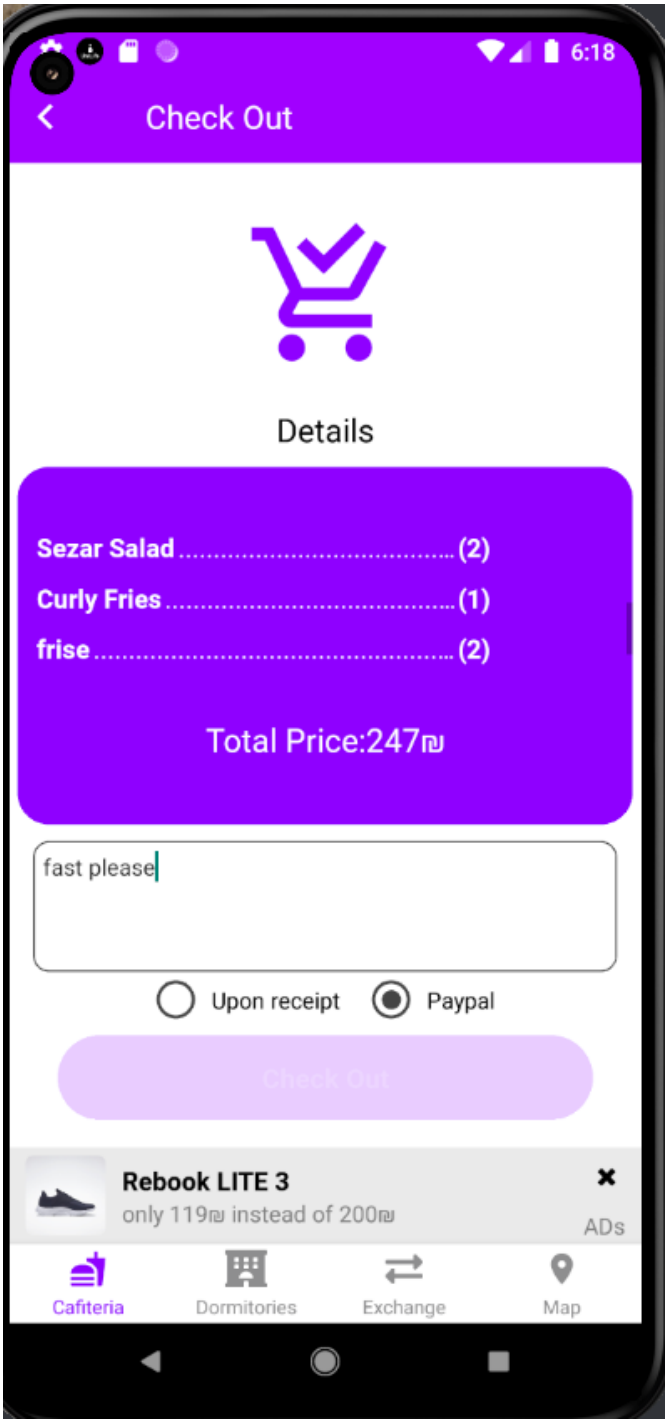


- *Reset Password*

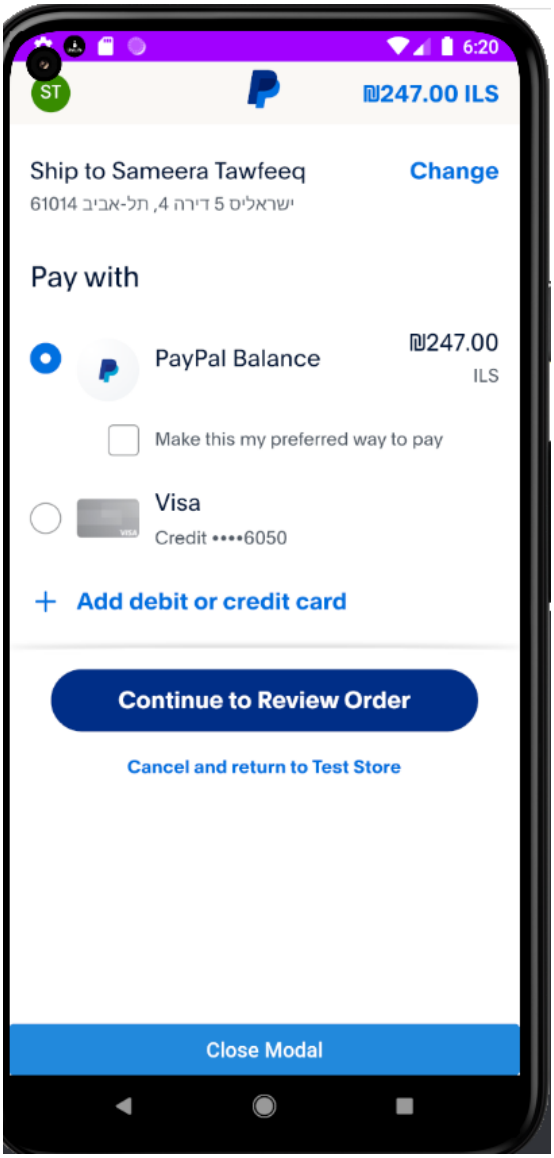
- ***Rating Order Interface***

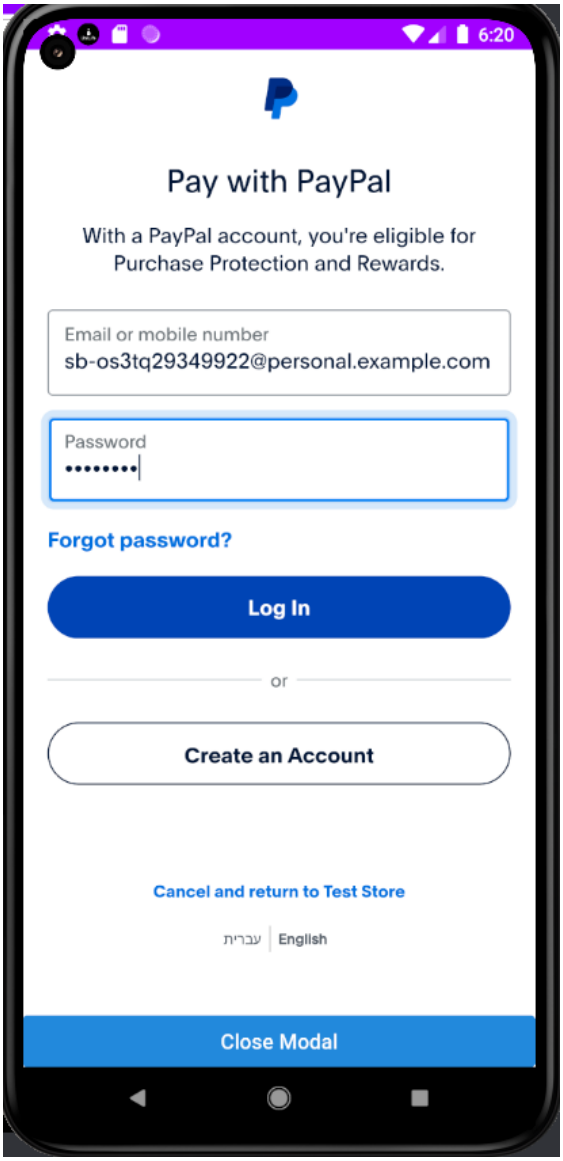


- ***Order Payment via PayPal Interface***

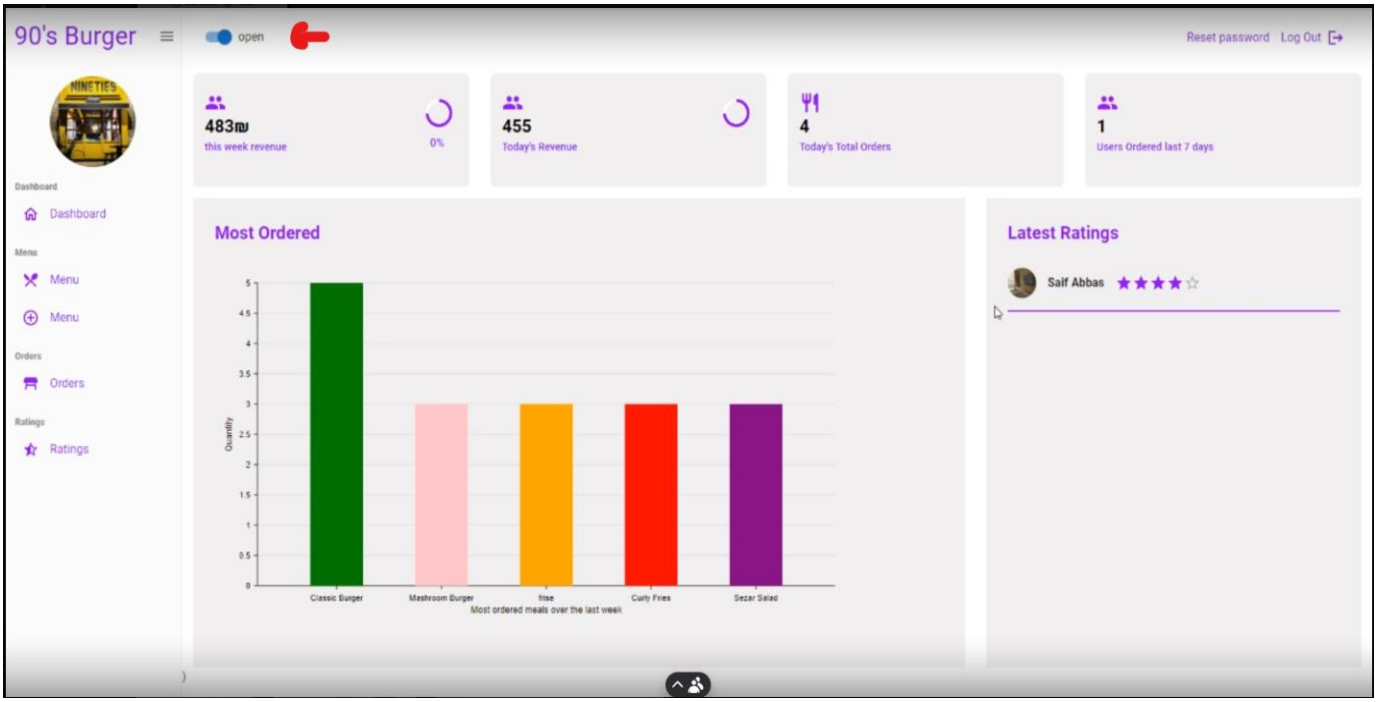


- ***Continue Payment via PayPal Interface:***

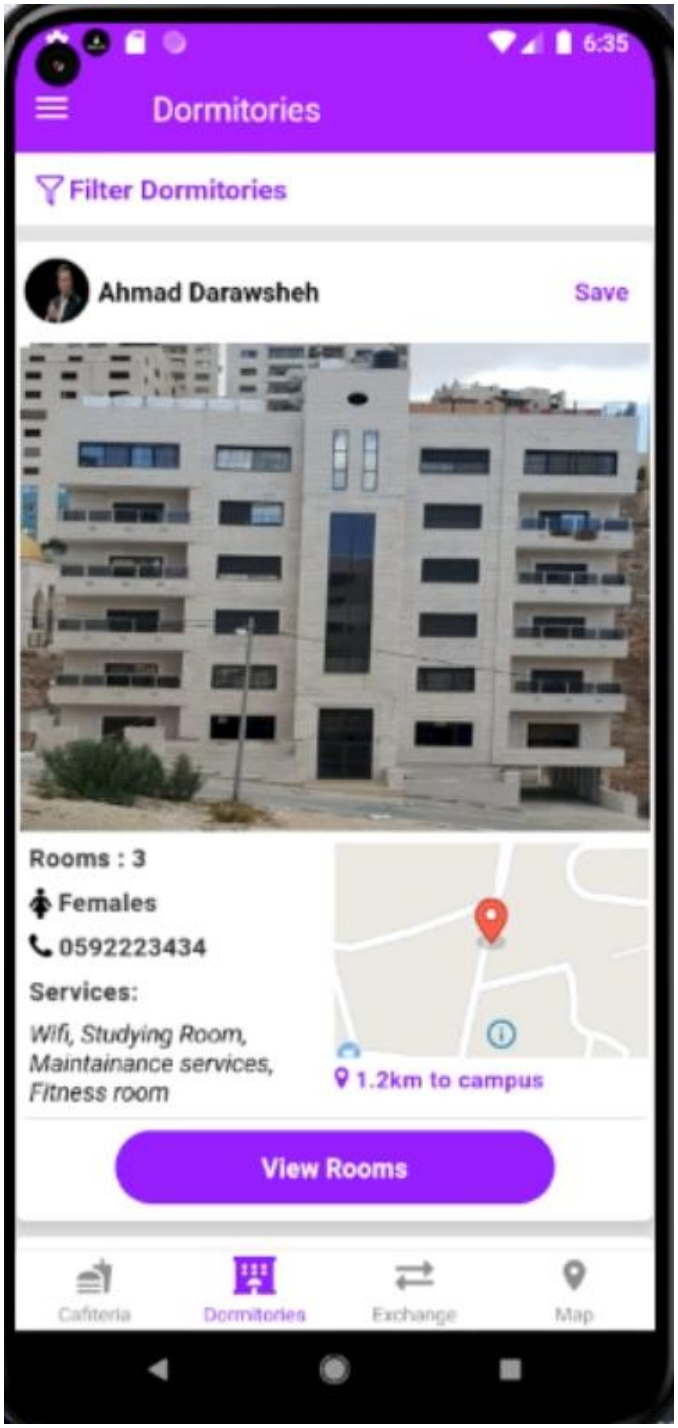




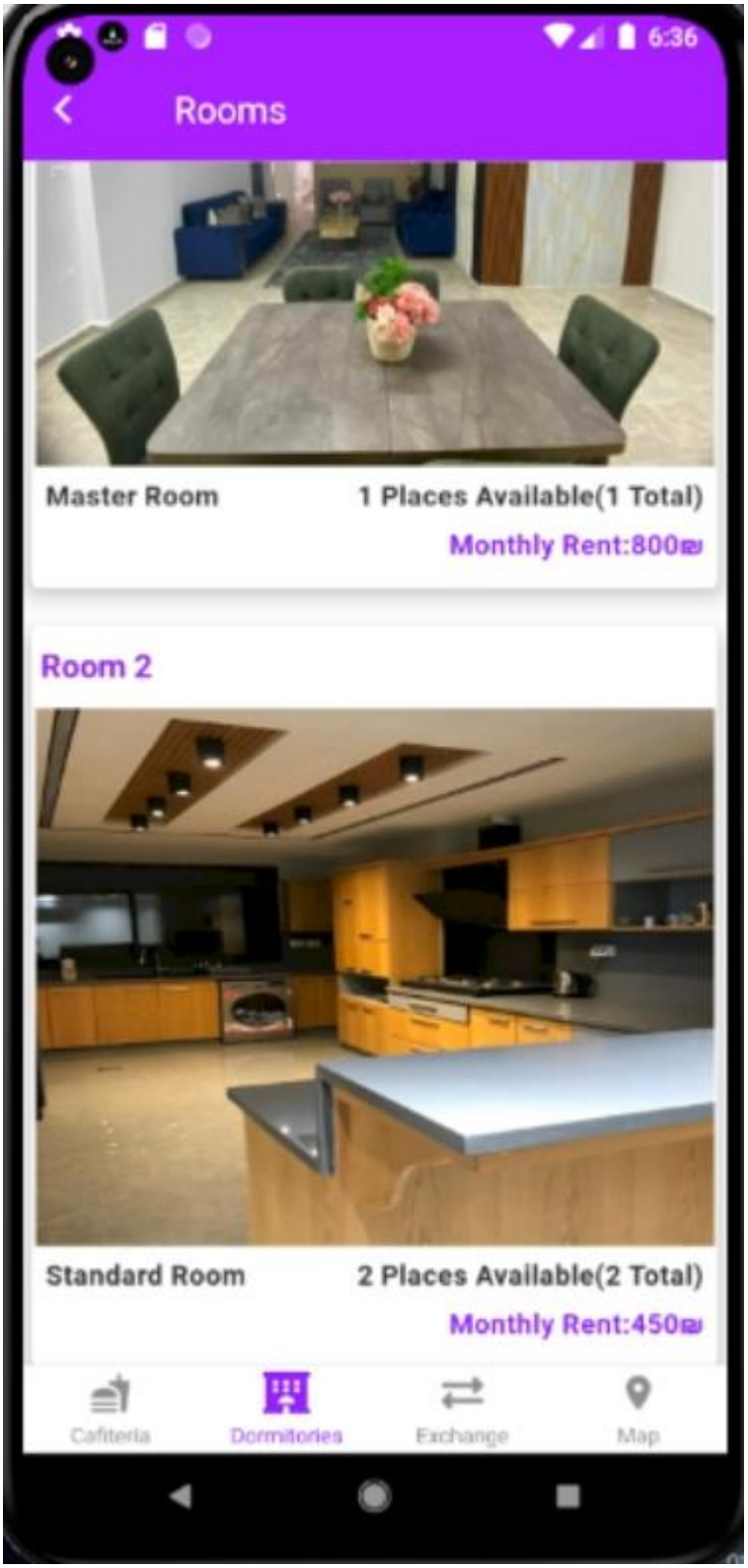
- ***Restaurant Dashboard***



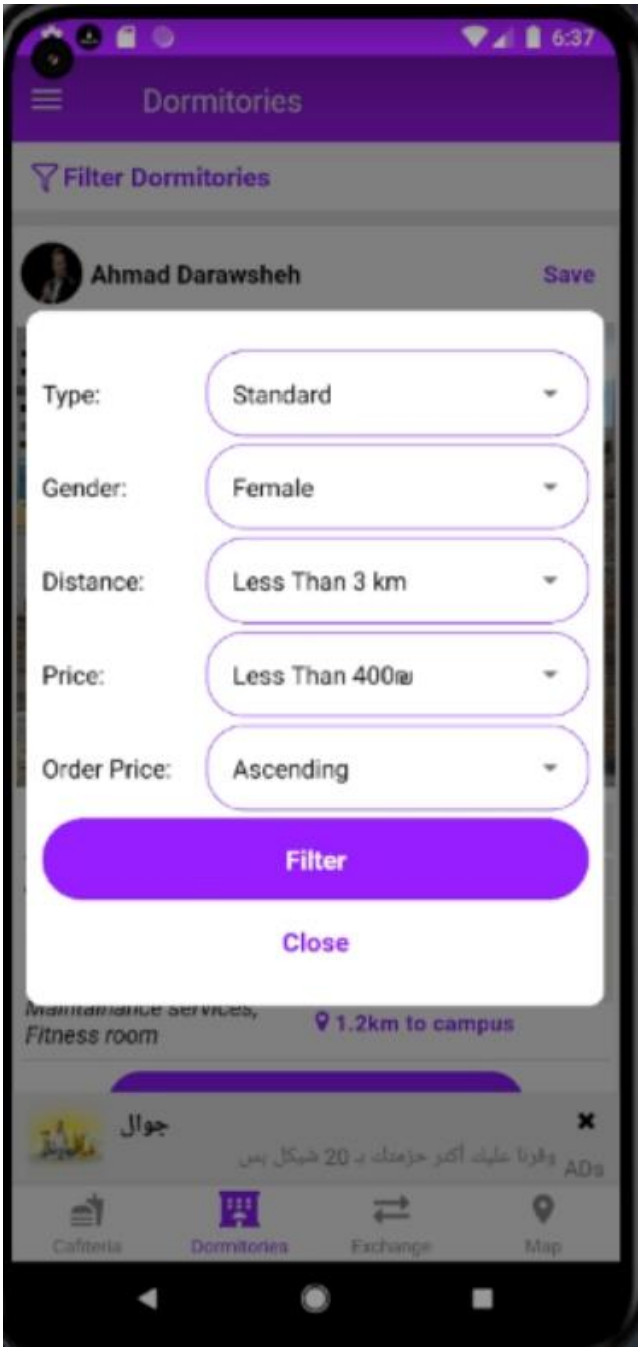
- ***Dormitories***

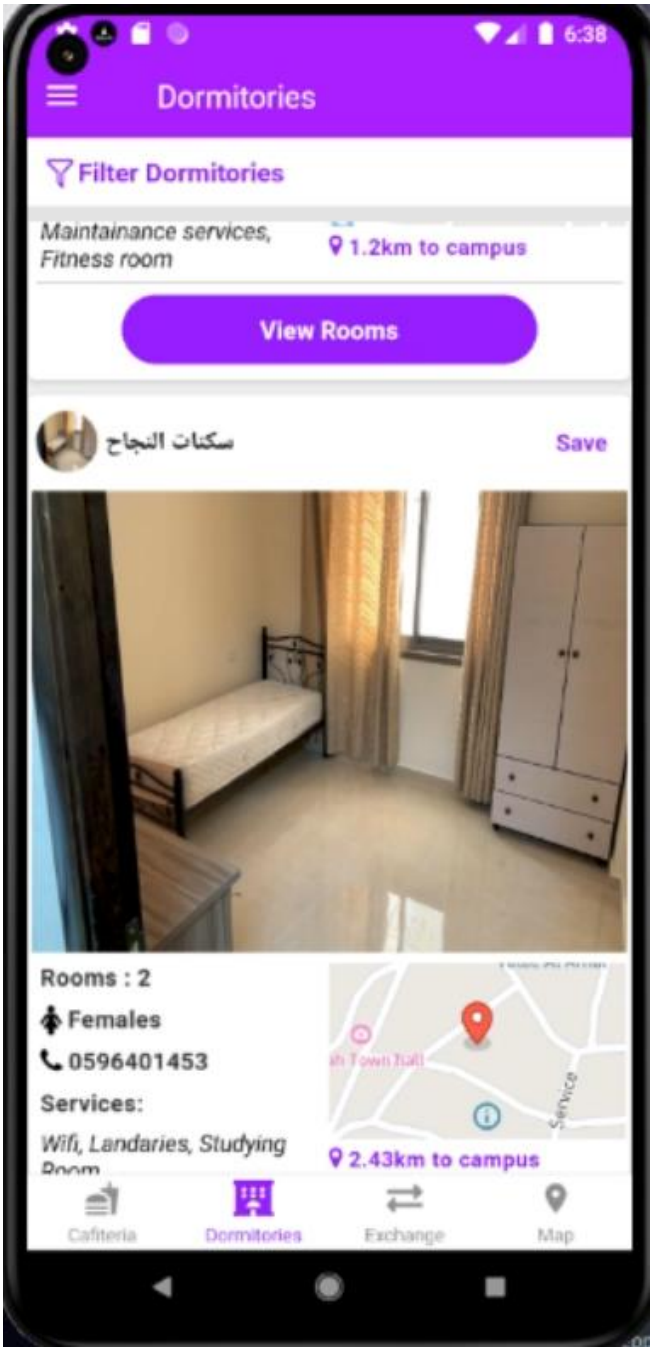


- ***Dormitories Room Details***

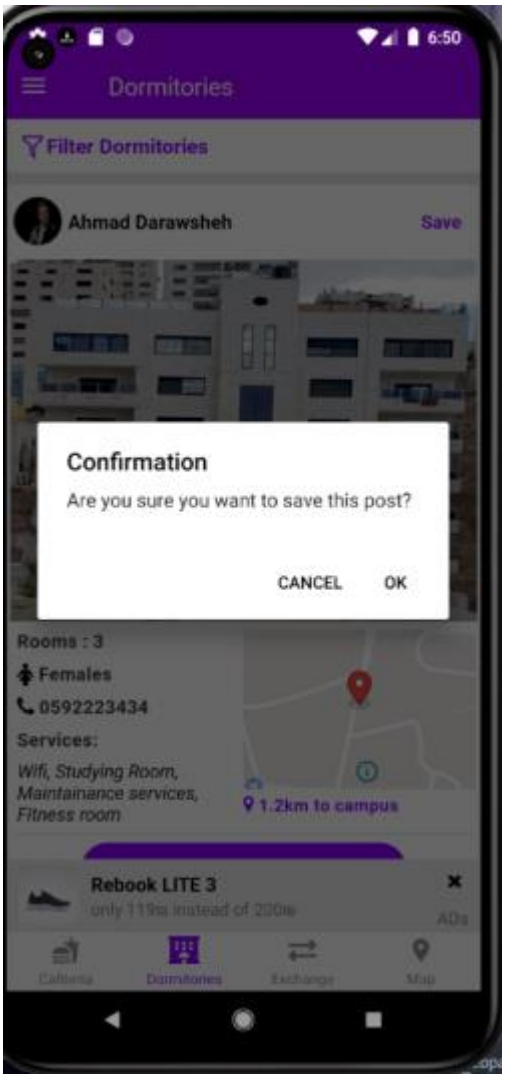


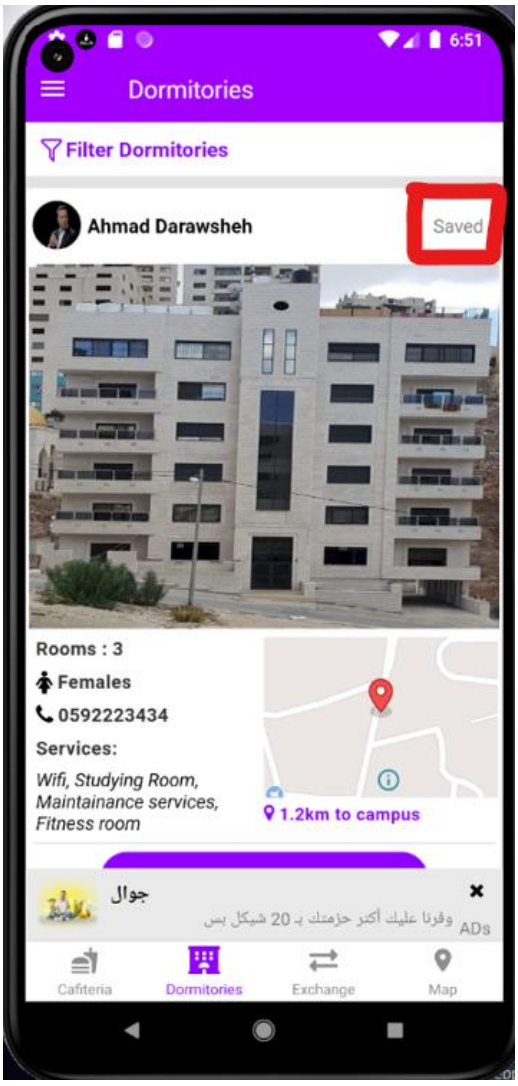
- ***Display Rooms by Filtering***

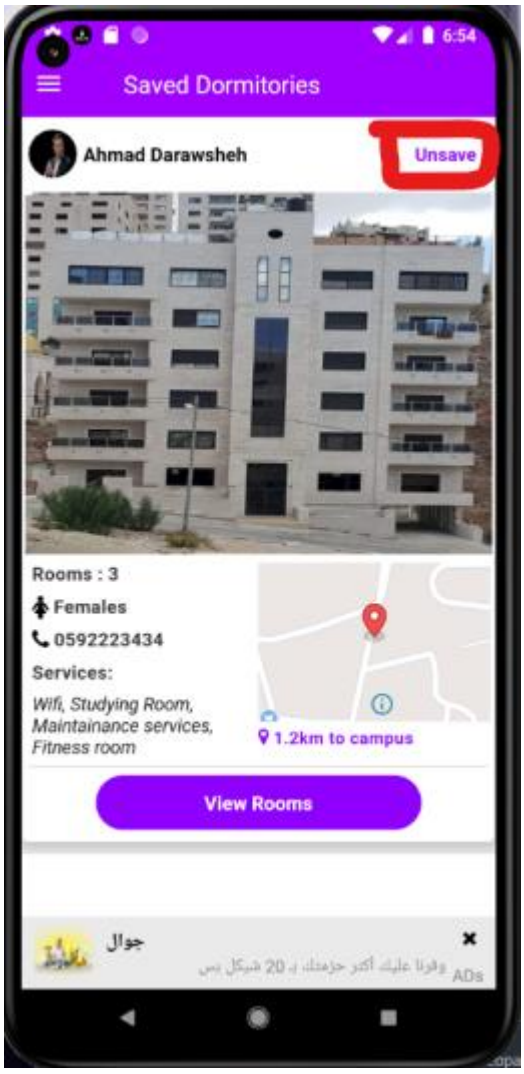




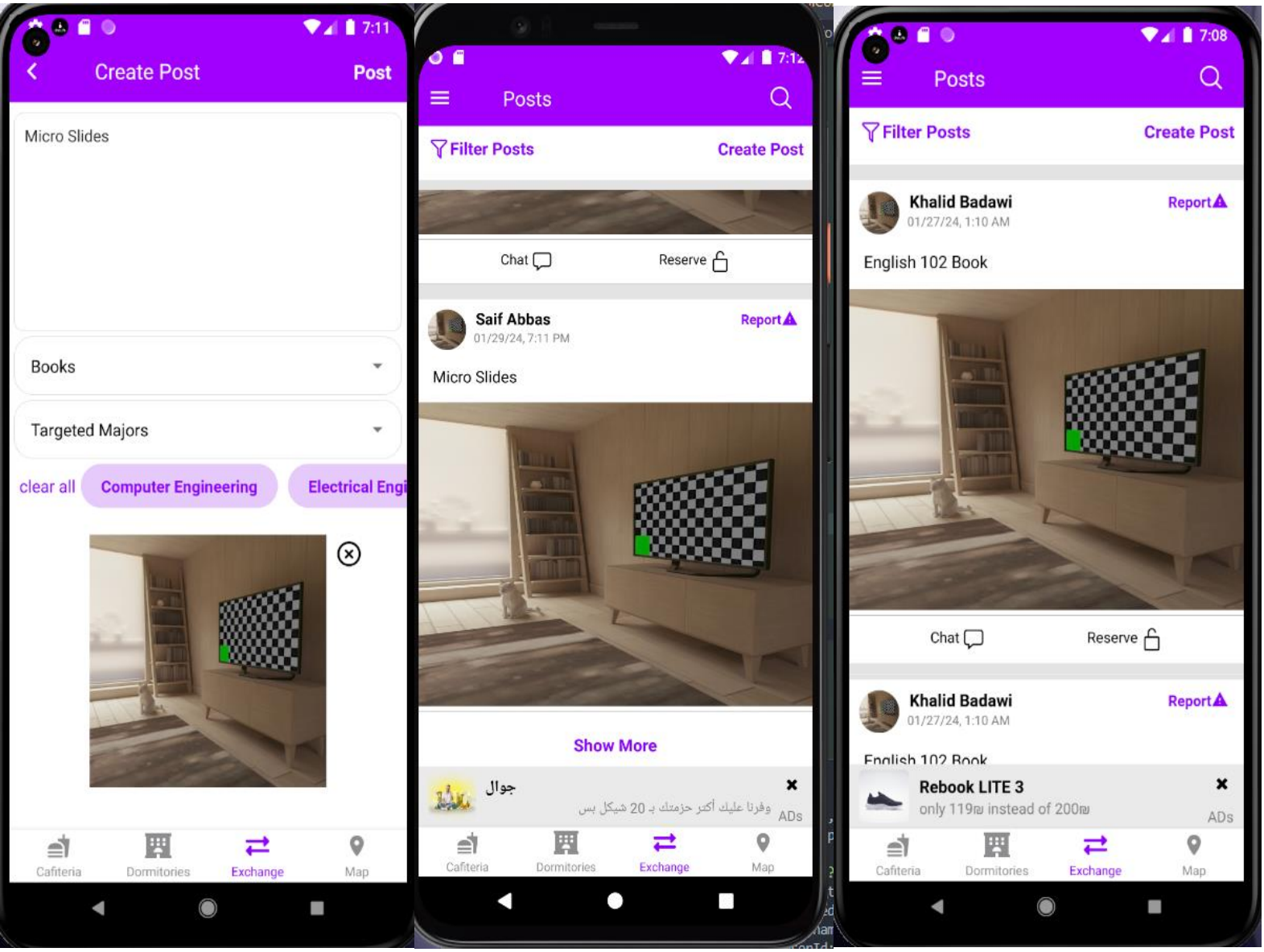
- ***Dormitories Saved Items***







- ***Exchange Post Items Dashboard***



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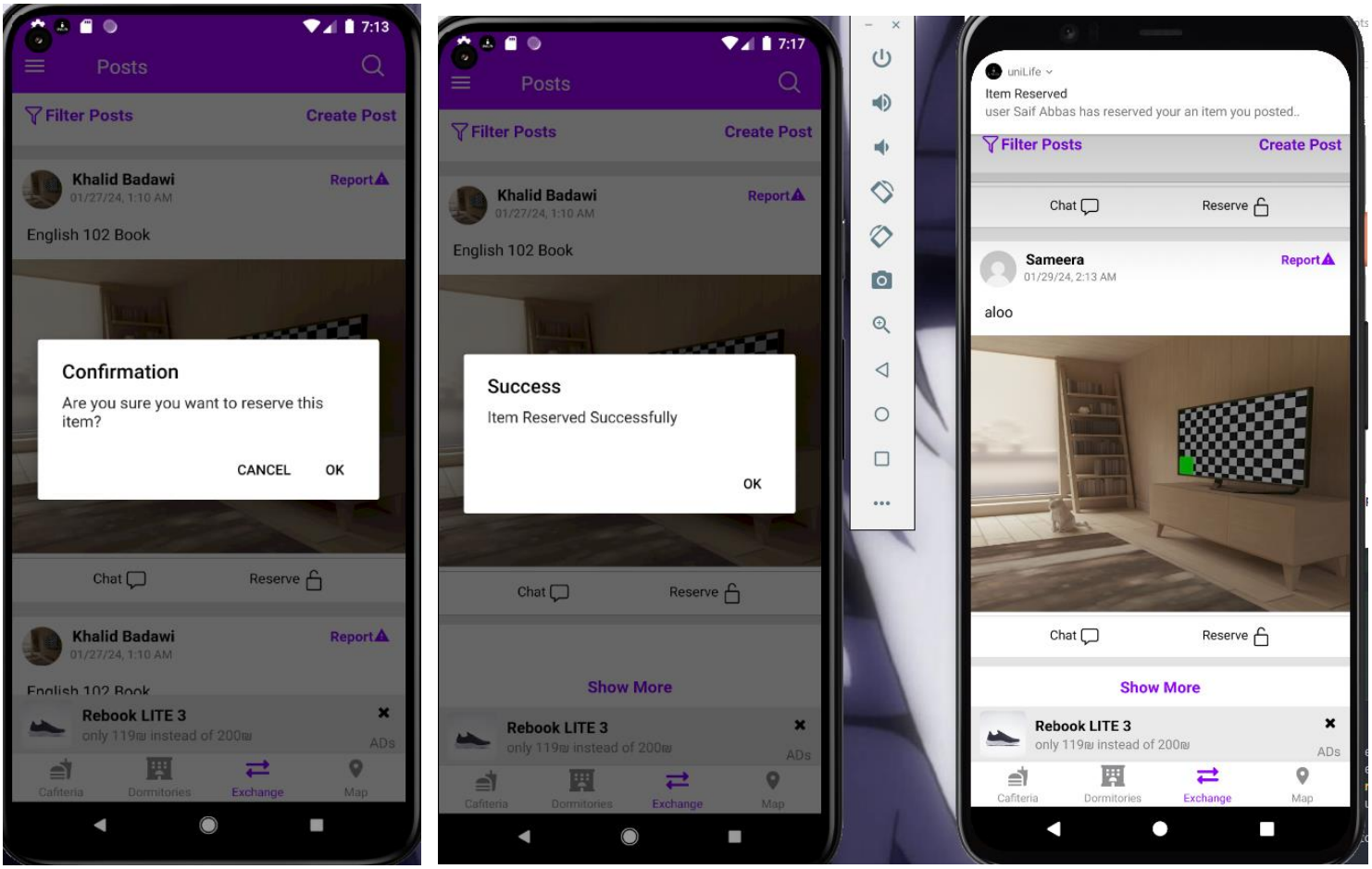

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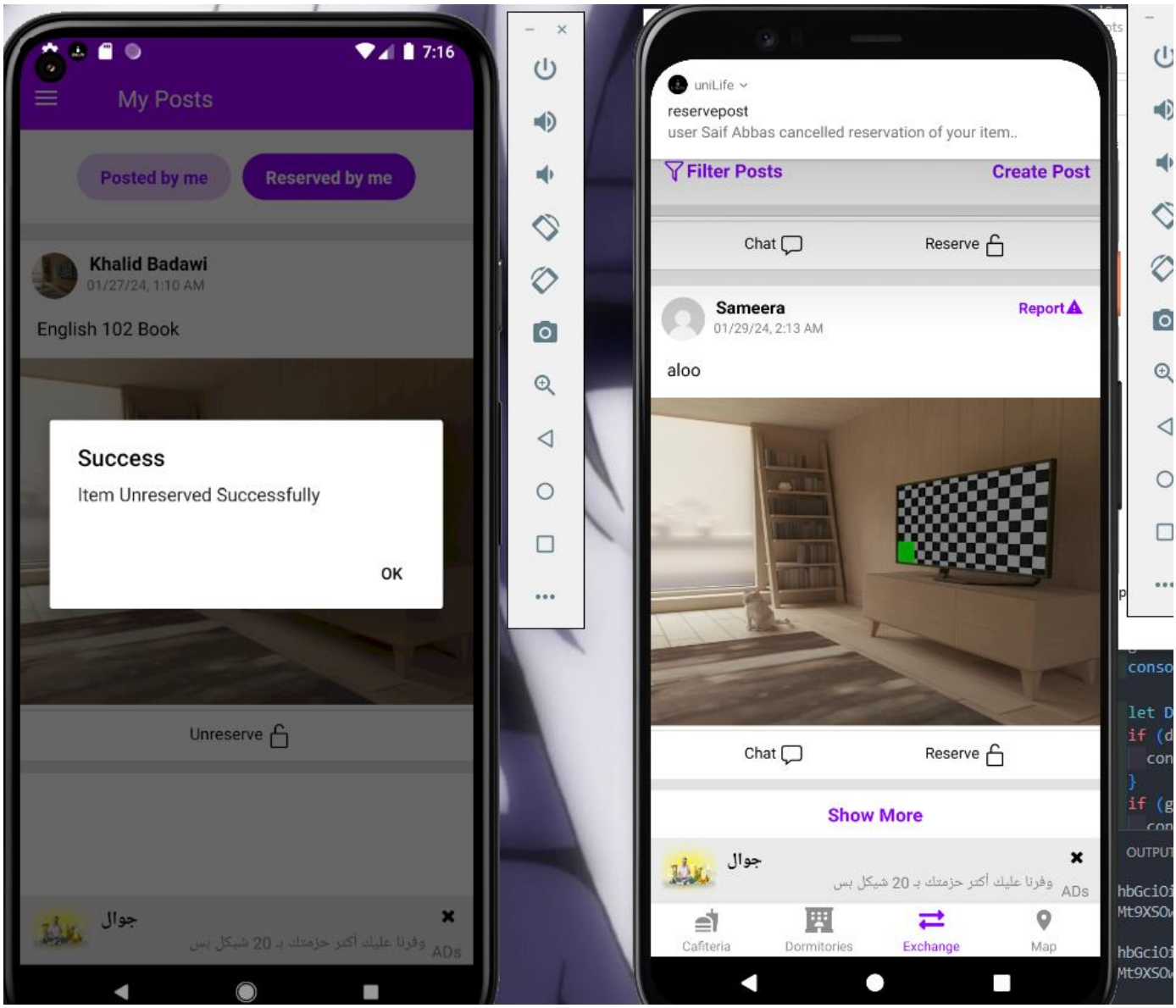

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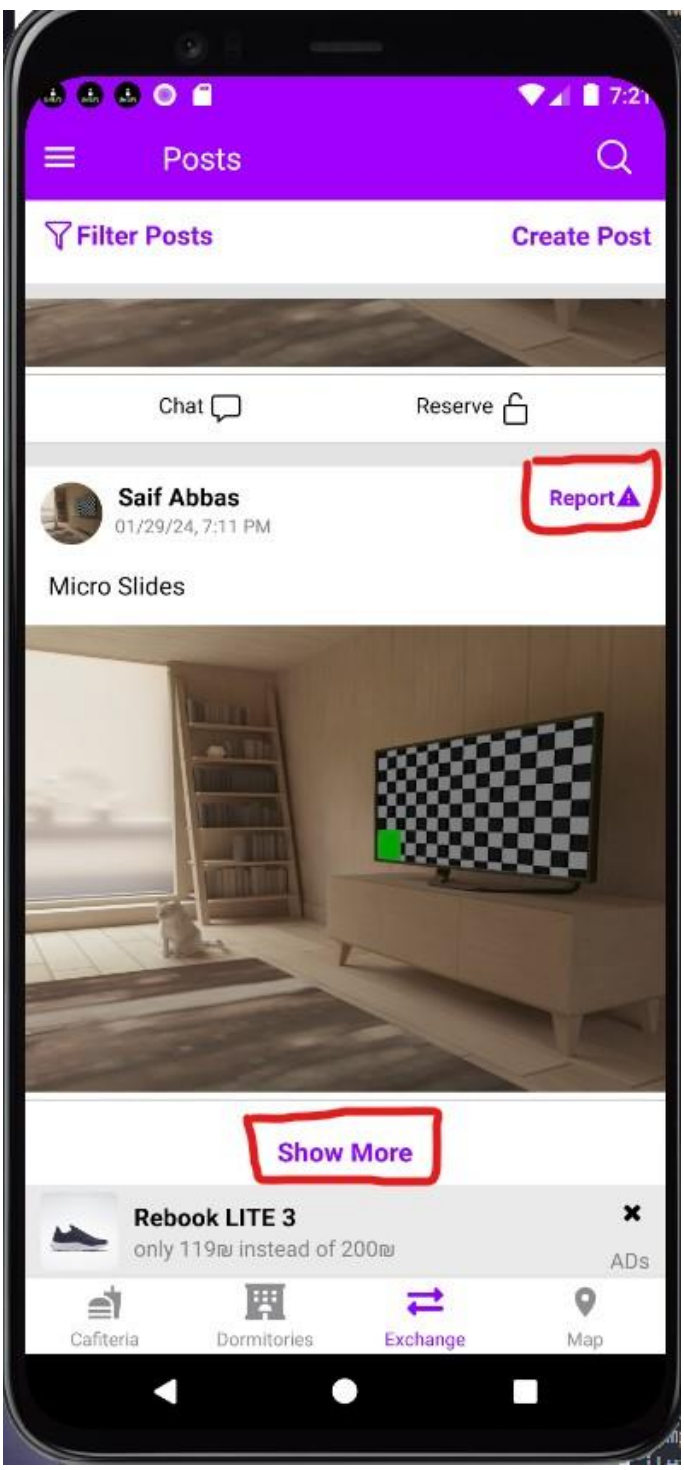
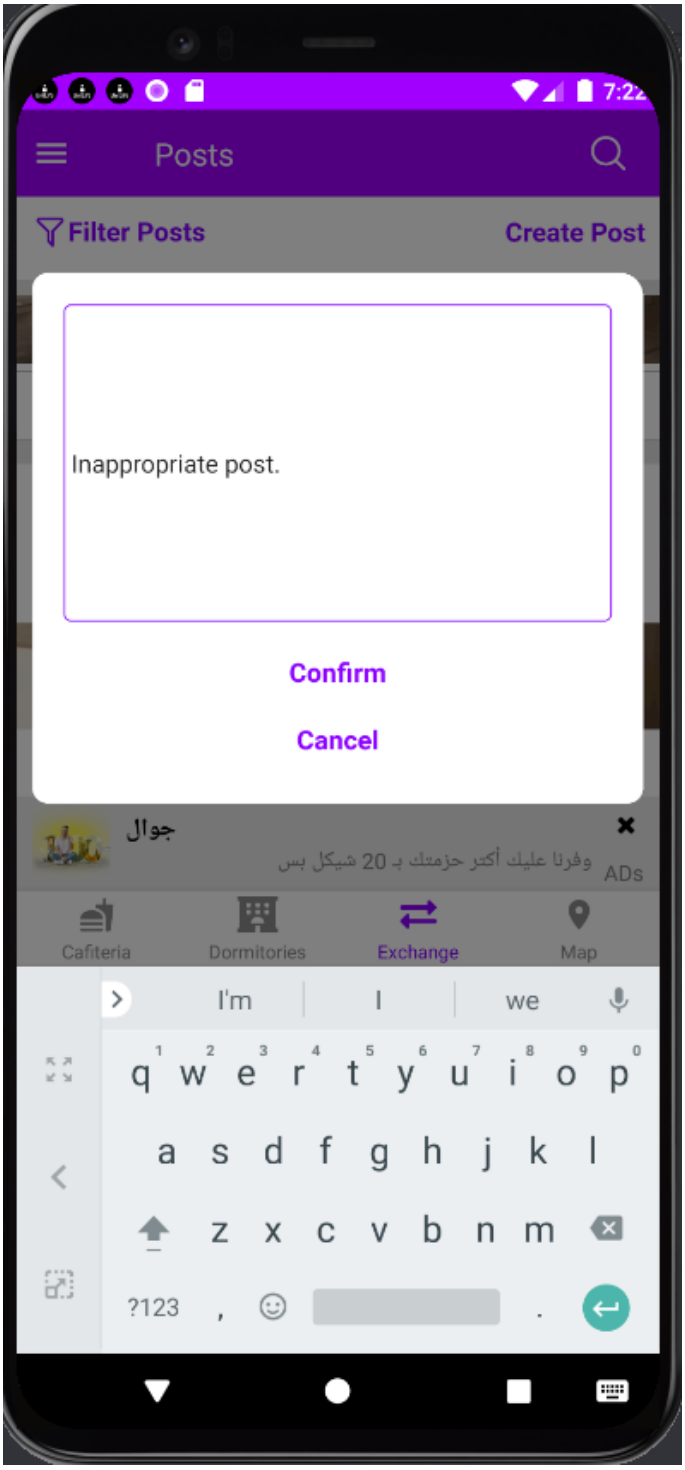
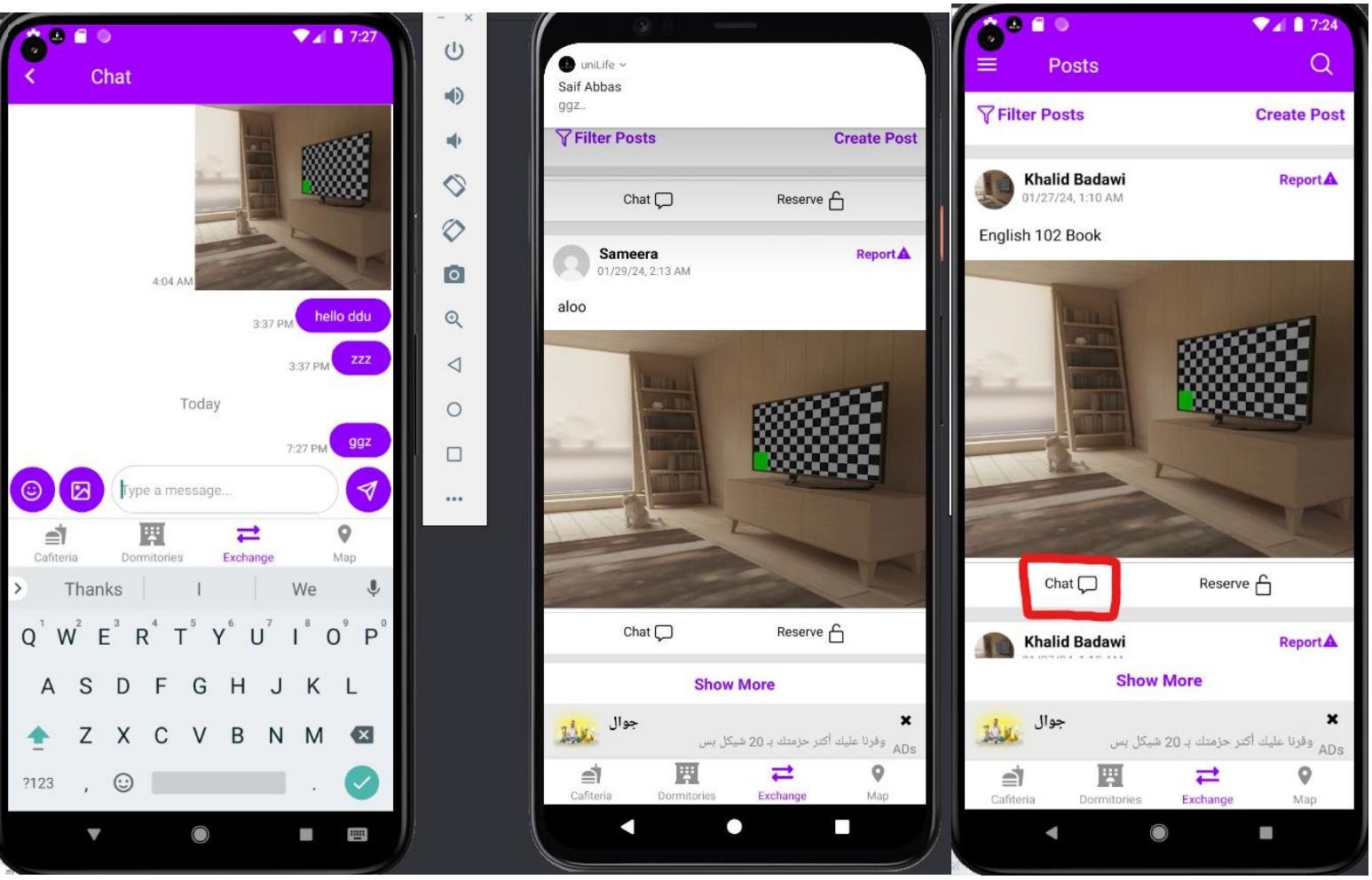
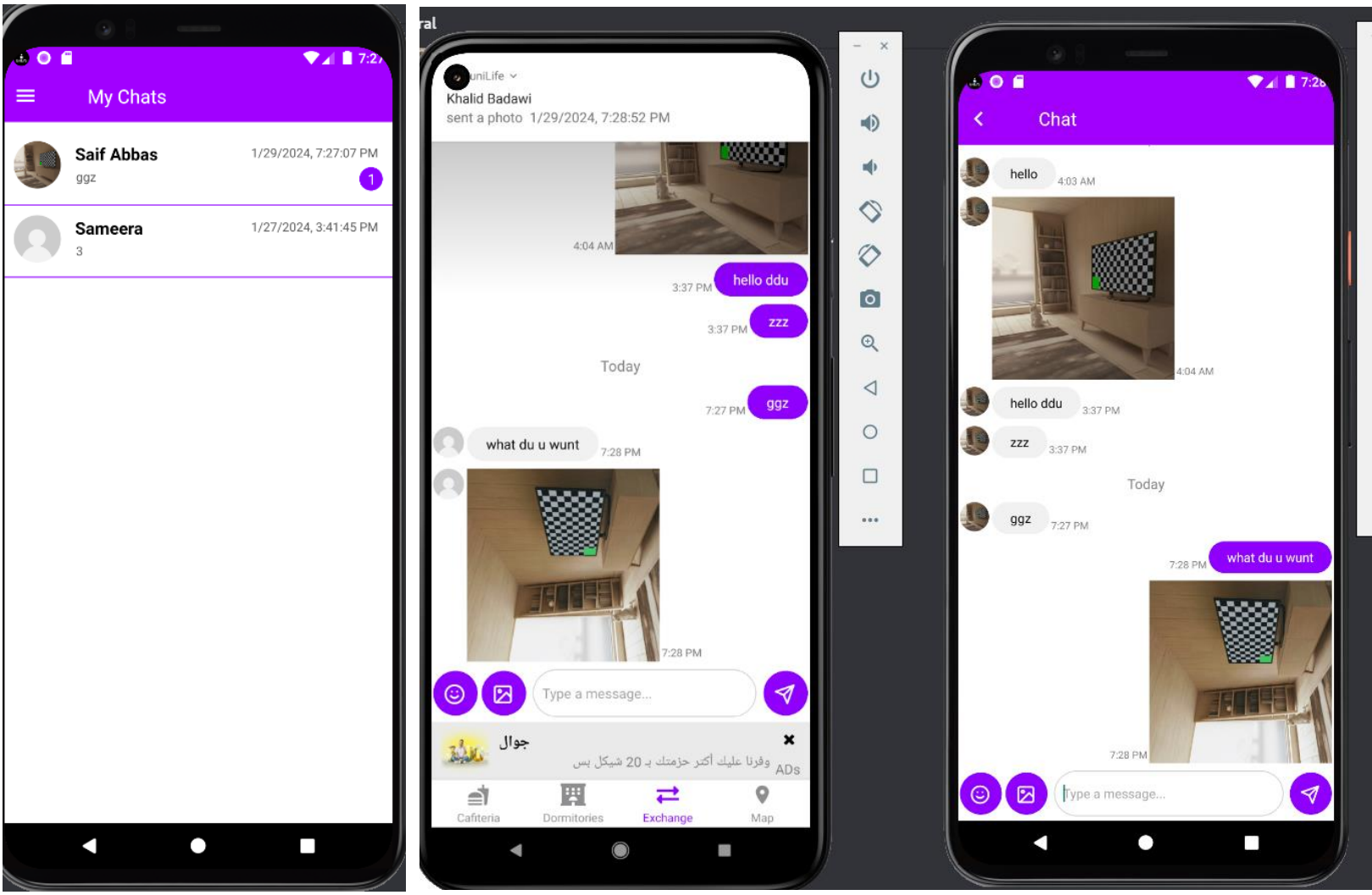




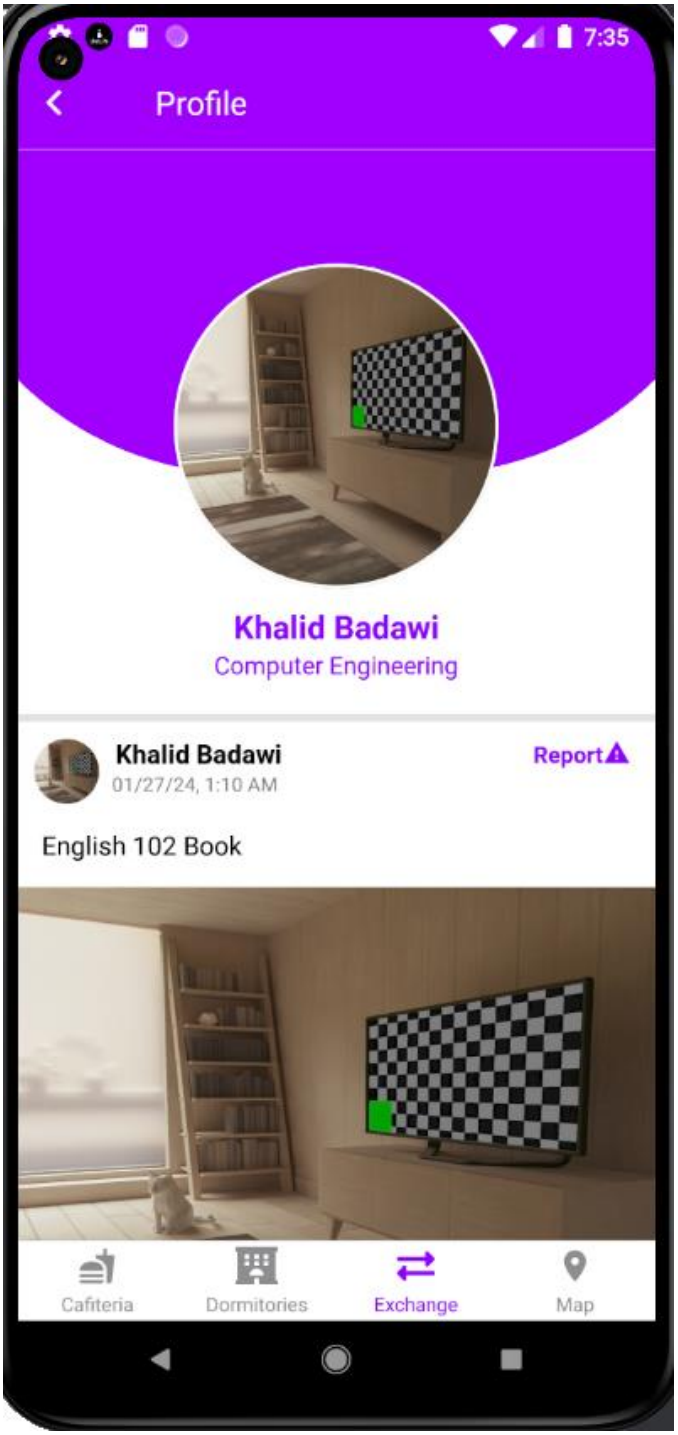
Exchange Post Items Dashboard

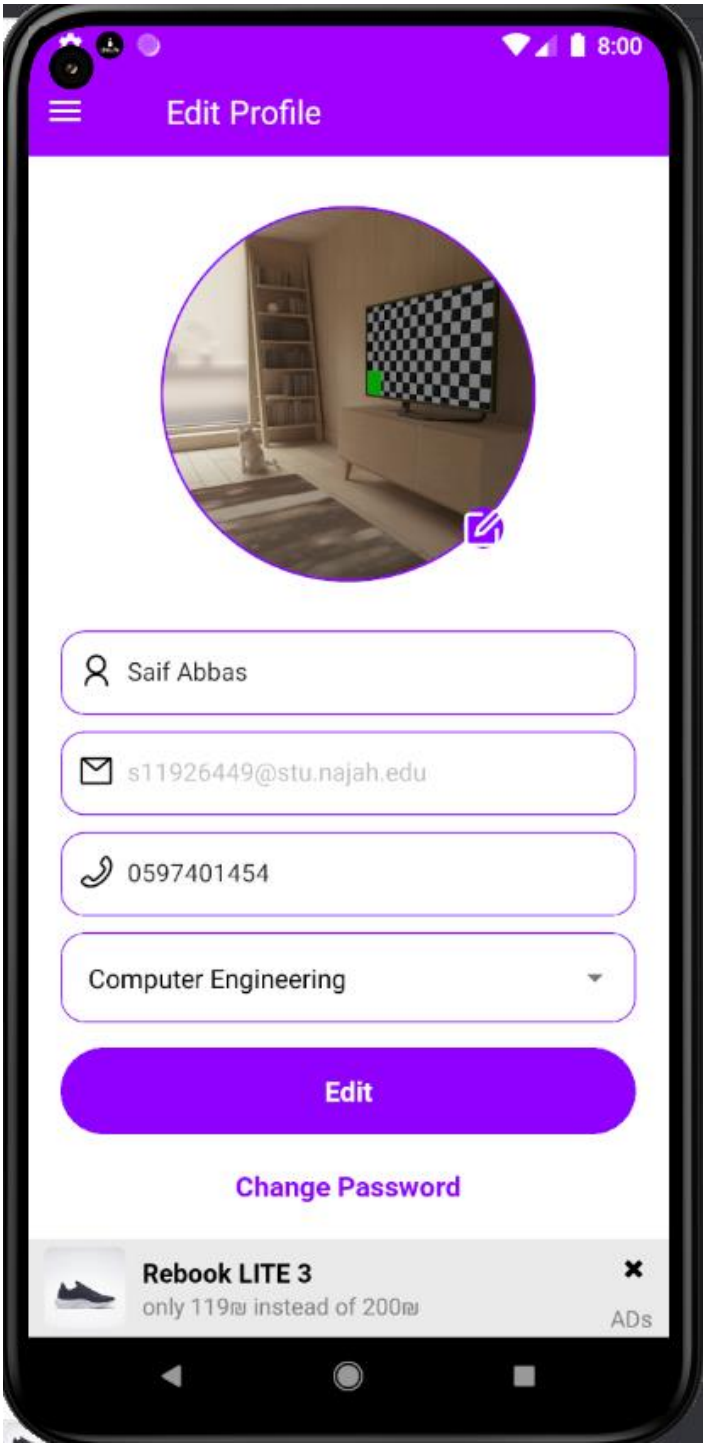


- ***Chatting and Notification on chats***

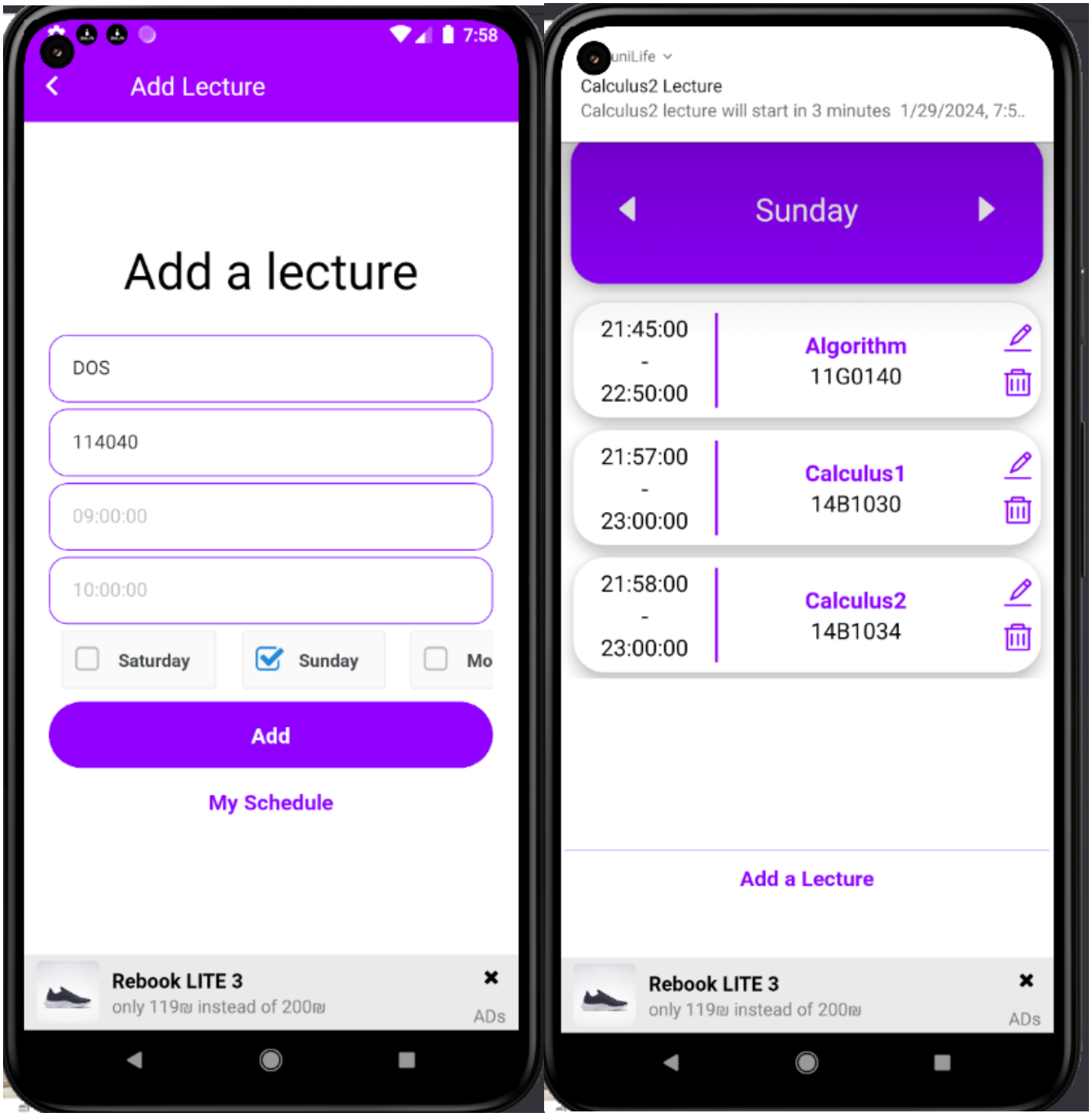


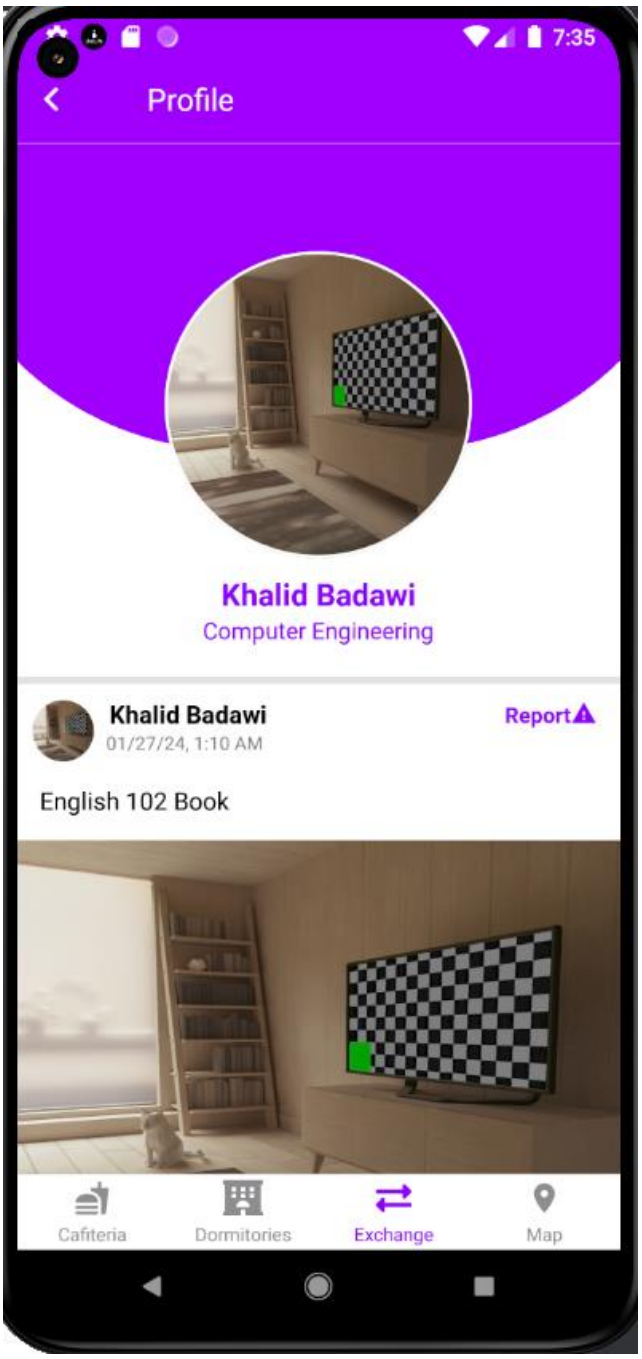
- ***Profile Editing and Others Profile Interface***



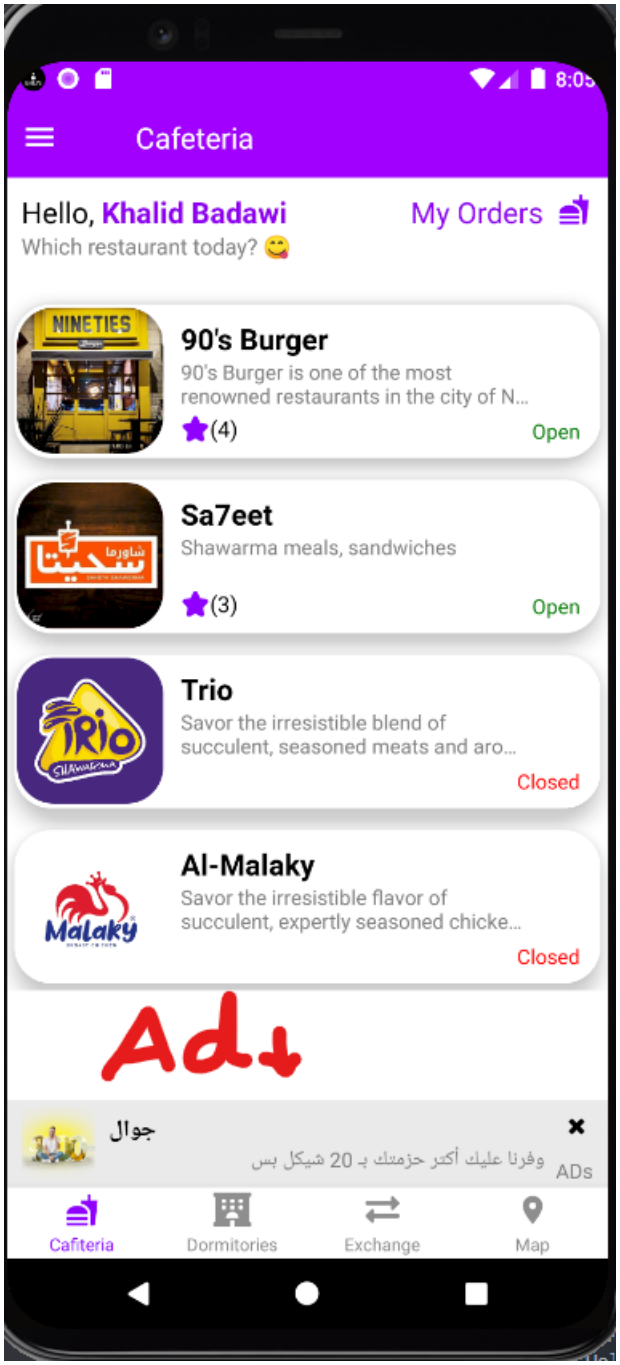


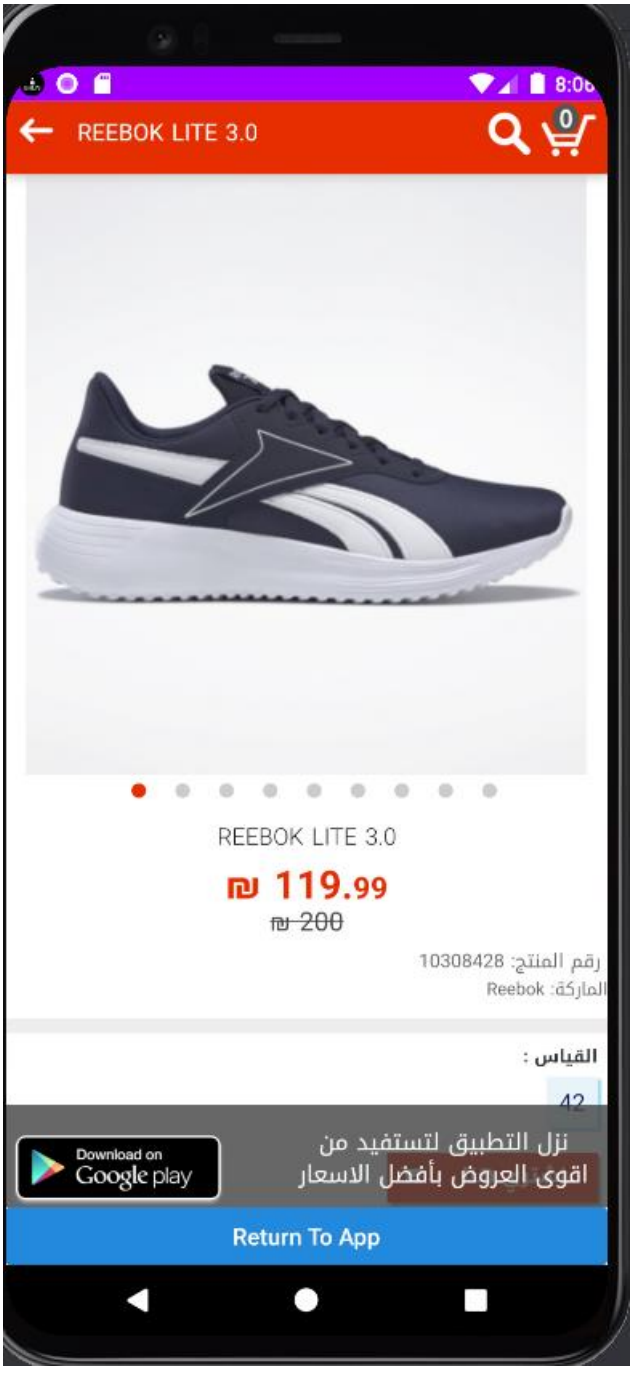
- ***Add Lecture and Alerting Before 5mins***



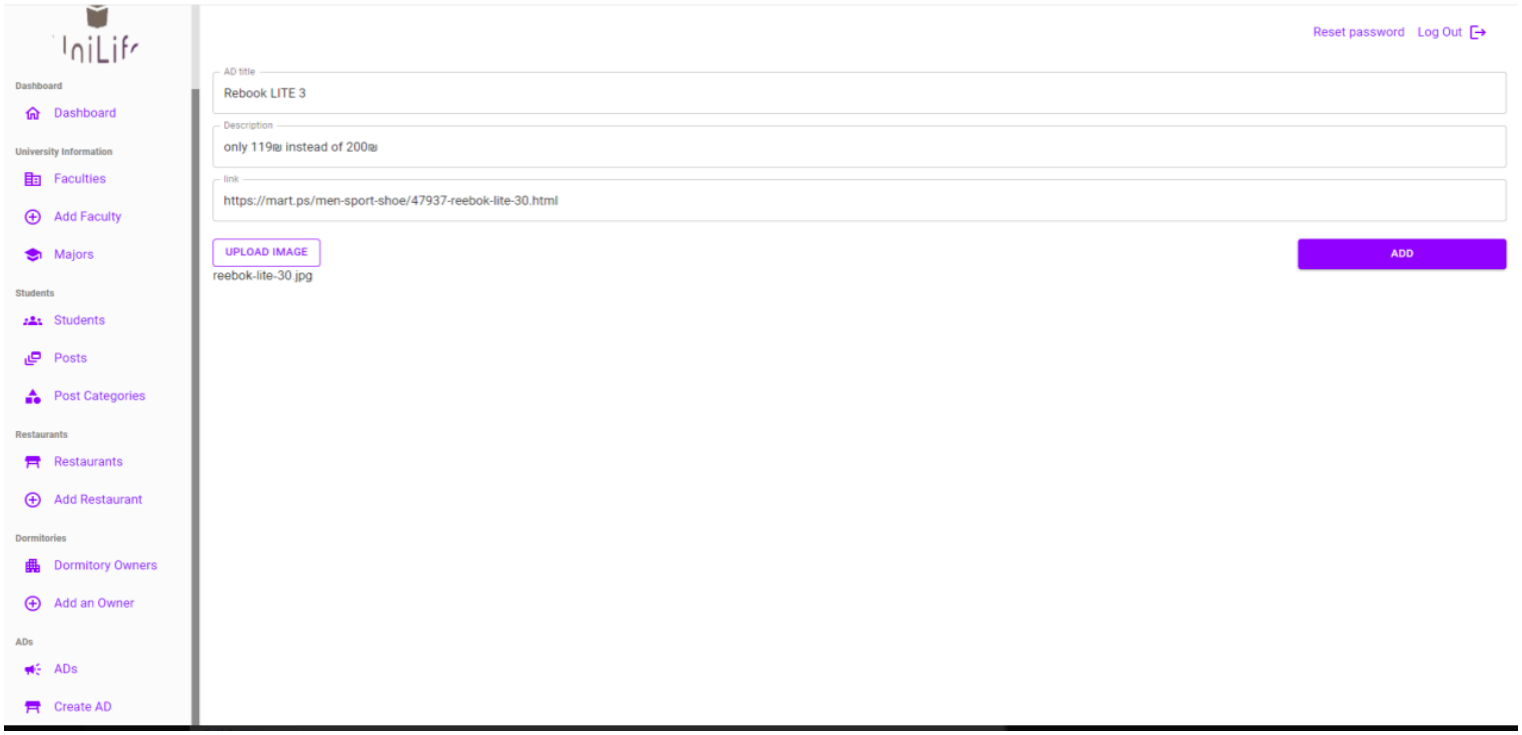

7:35
Profile
Khalid Badawi
Computer Engineering
Khalid Badawi
01/27/24, 1:10 AM
Report
English 102 Book
Cafiteria
Dormitories
Exchange
Map

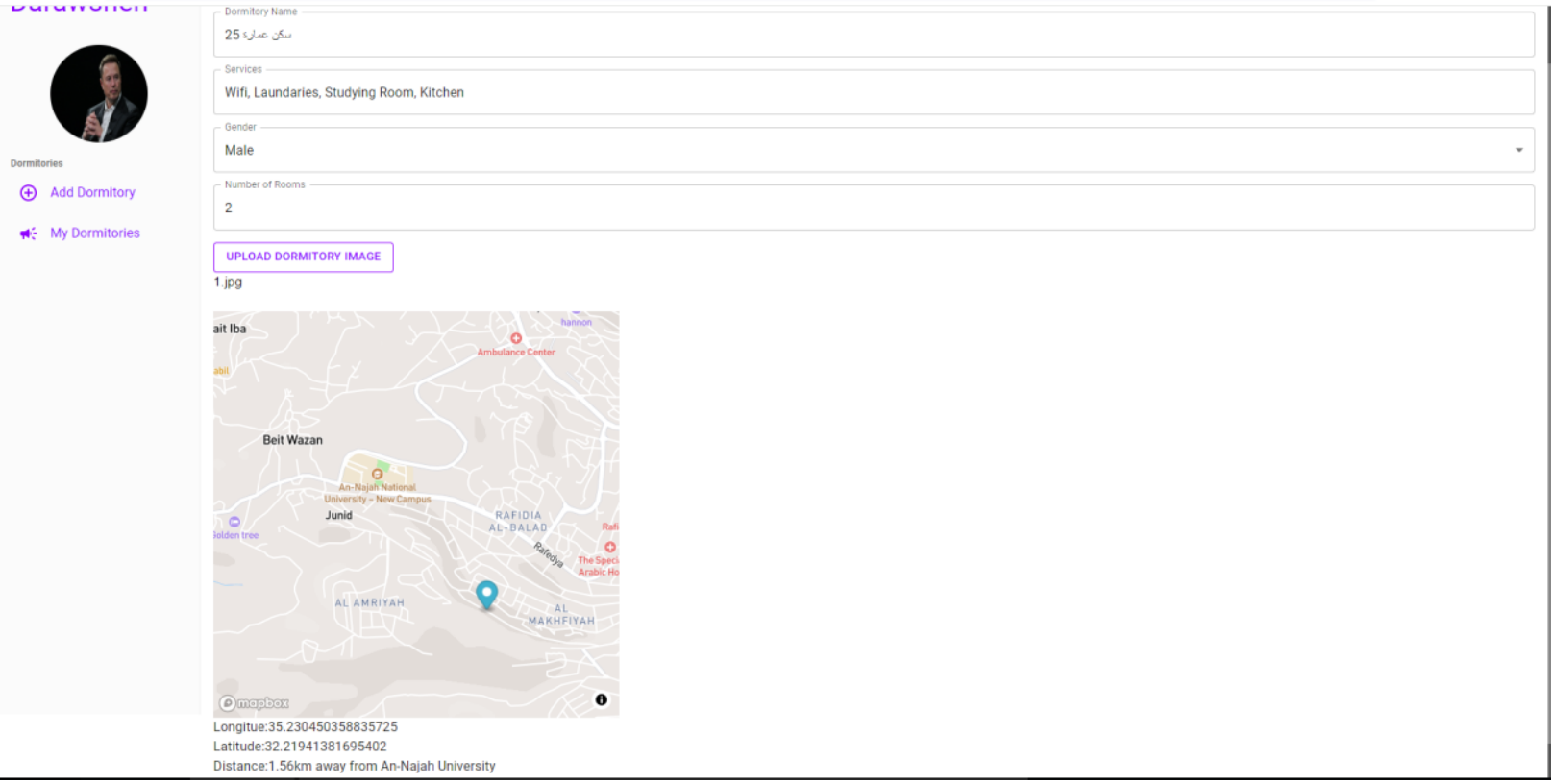
- ***Display Ads and redirect for the Ad Pages***

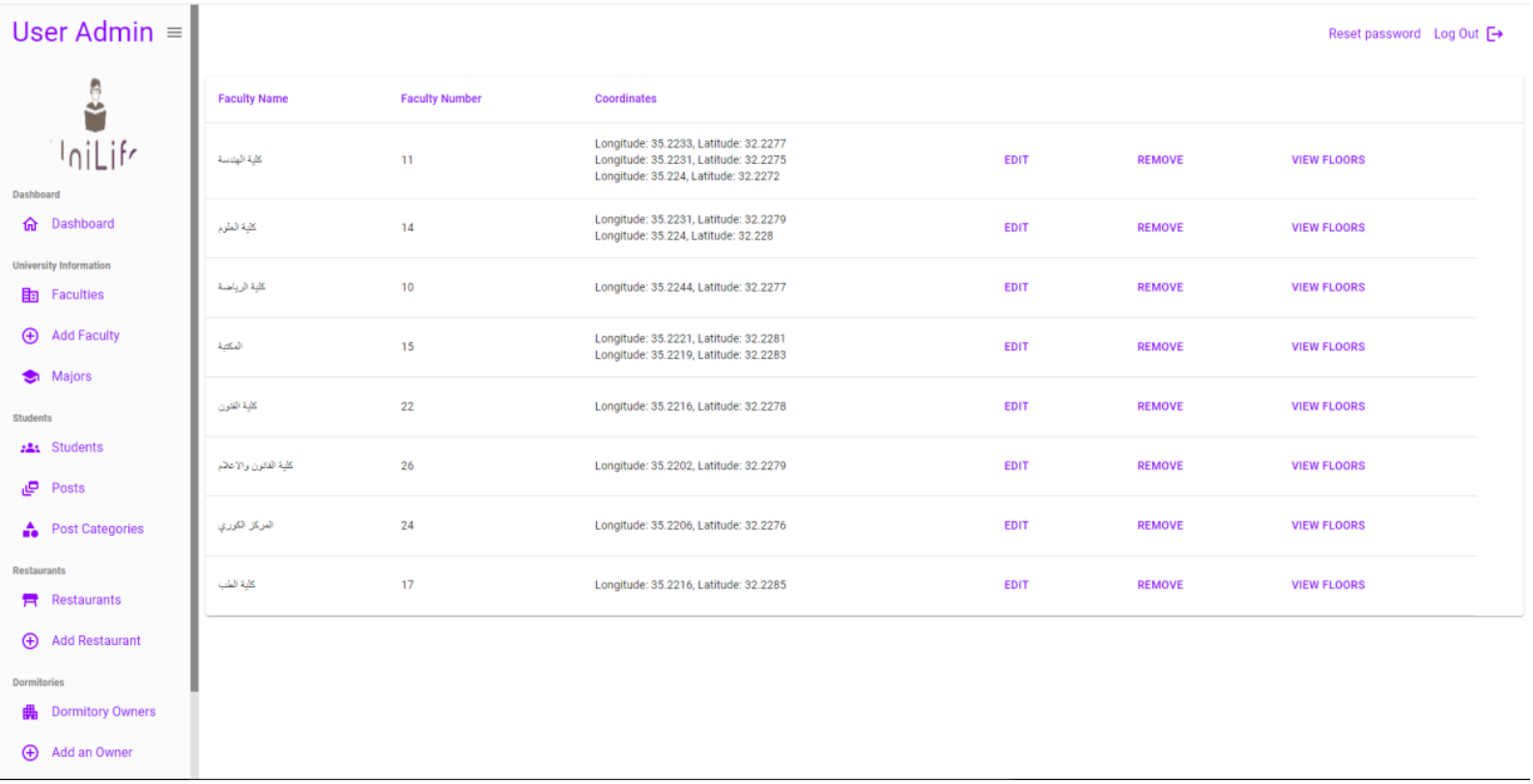


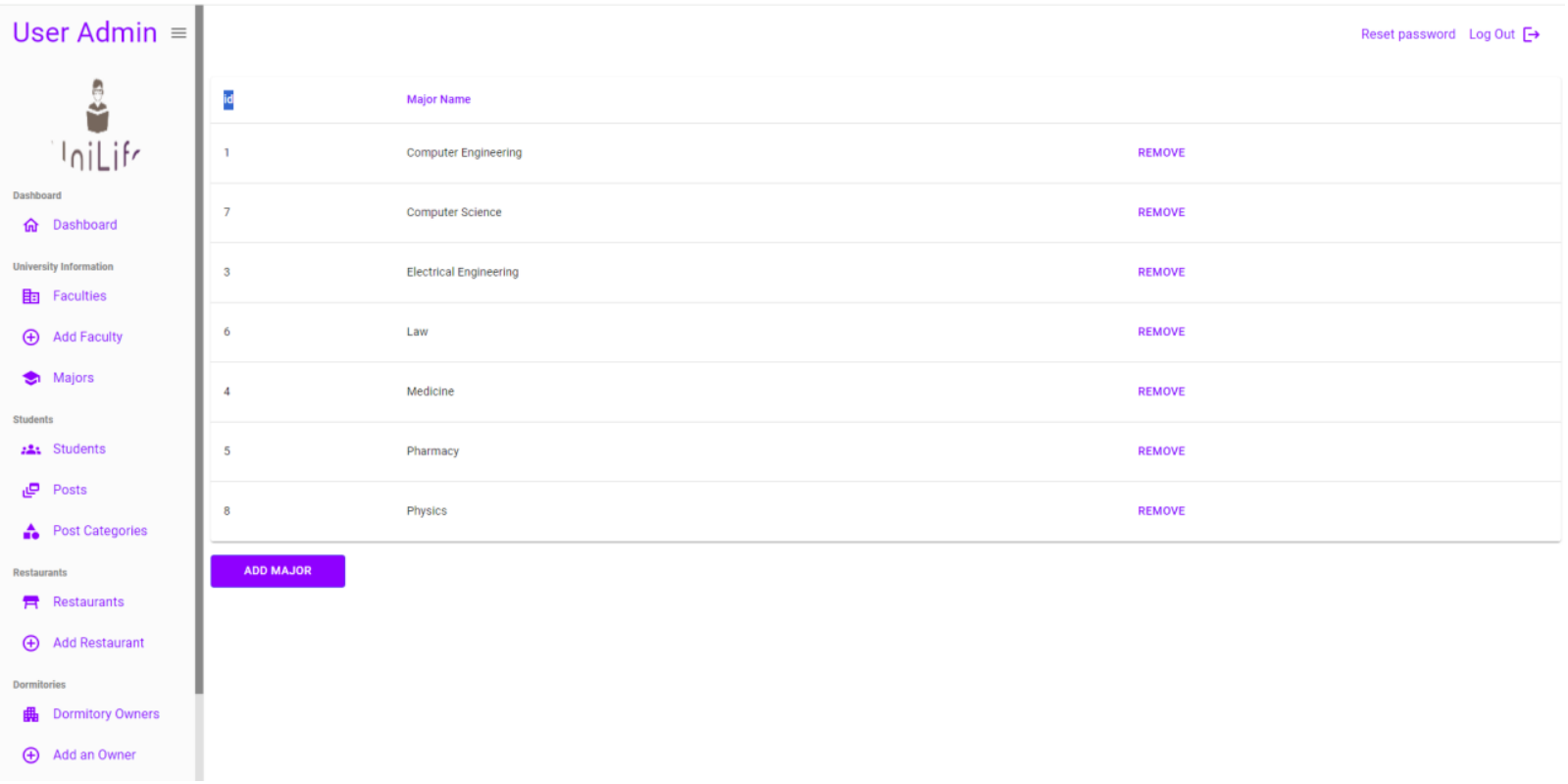


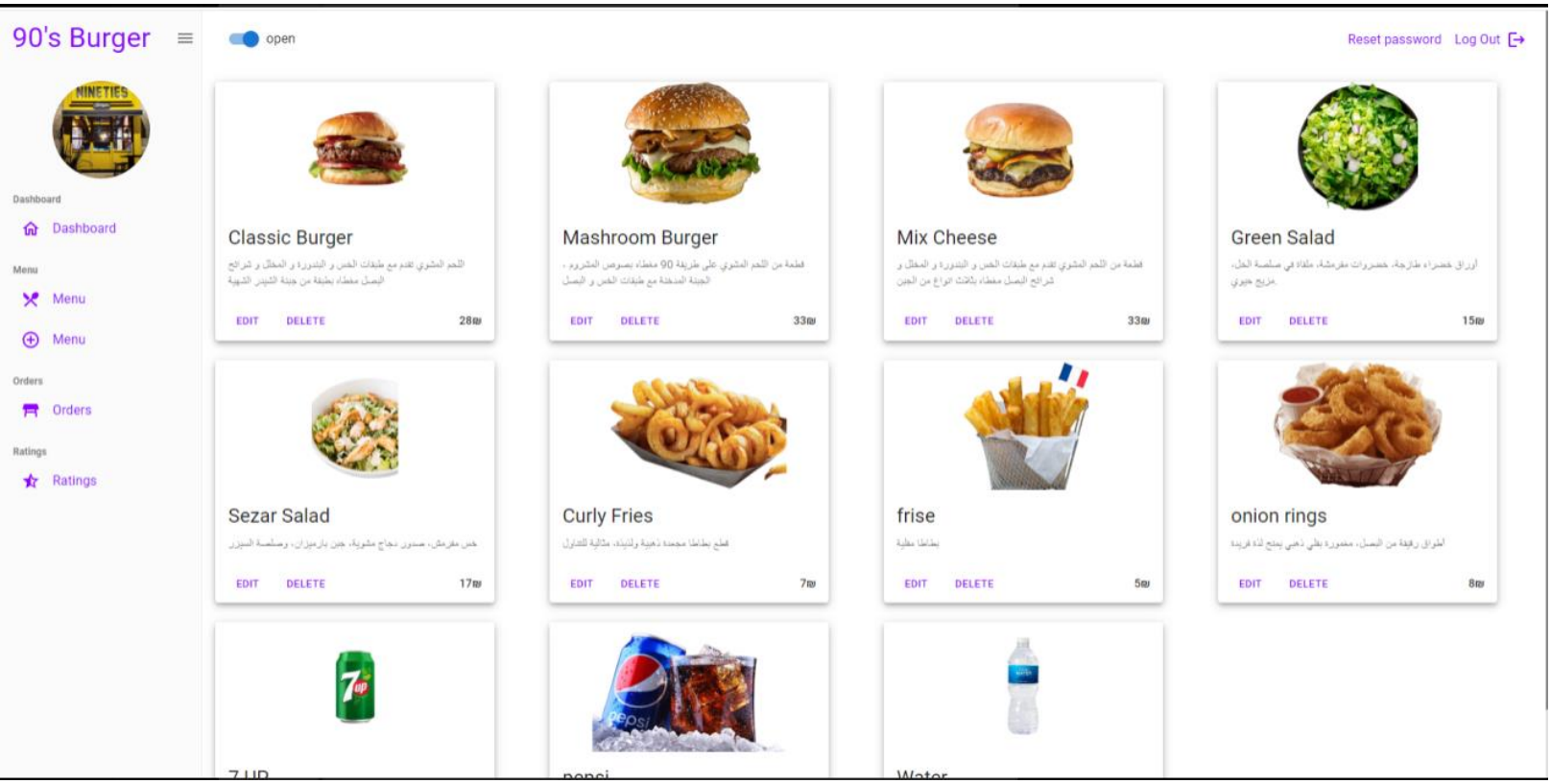
- ***Admin's Dashboard***

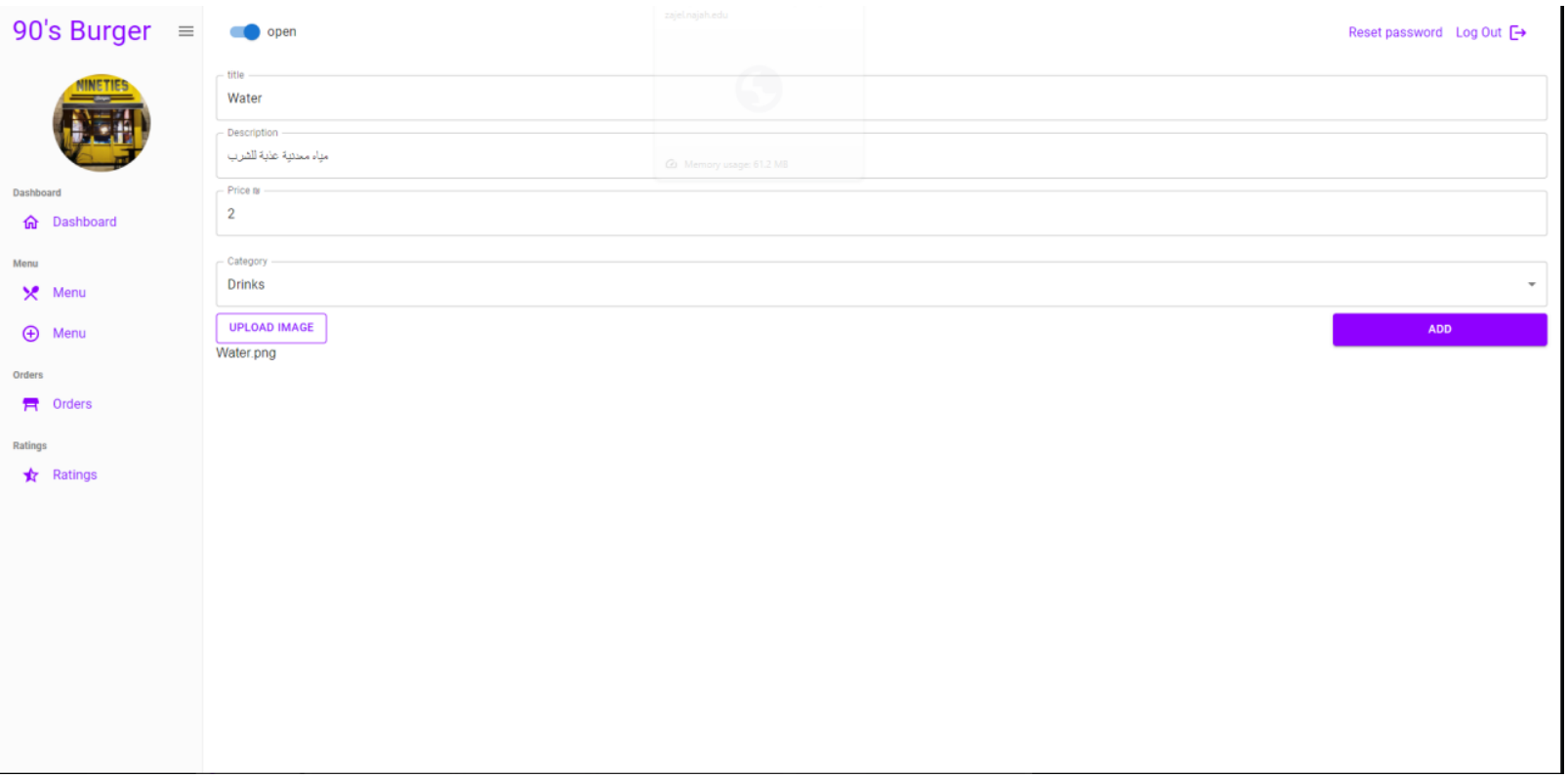


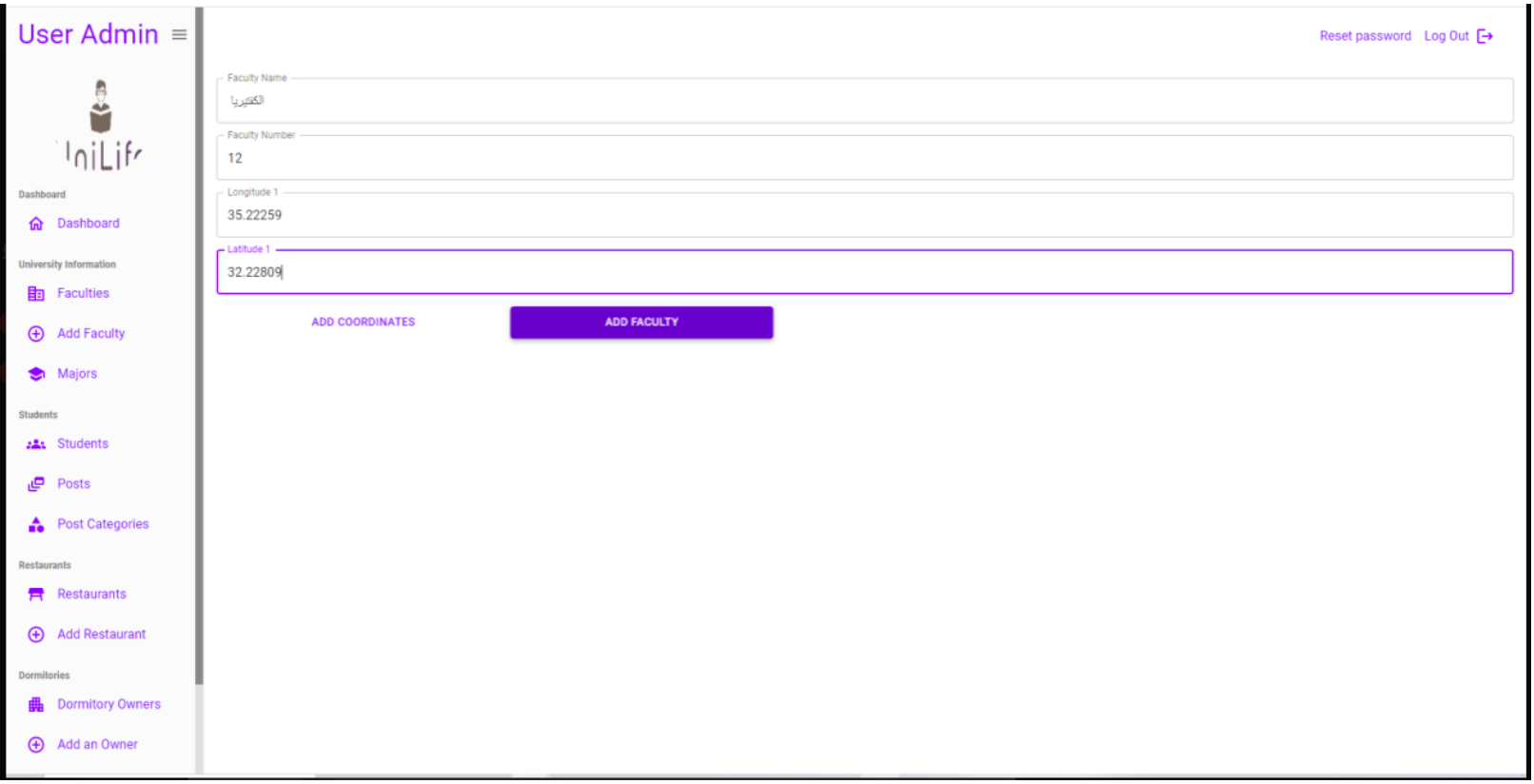

Dormitory Name
سكن عمارة 25
Services
Wifi, Laundaries, Studying Room, Kitchen
Gender
Male
Number of Rooms
2
Dormitories
Add Dormitory
My Dormitories
UPLOAD DORMITORY IMAGE
1.jpg
Ambulance Center
Beit Wazan
An-Najah National University - New Campus
Junid
RAFIDIA AL-BALAD
AL AMRIYAH
AL MAKHFIYAH
mapbox
Longitue:35.230450358835725
Latitude:32.21941381695402
Distance:1.56km away from An-Najah University

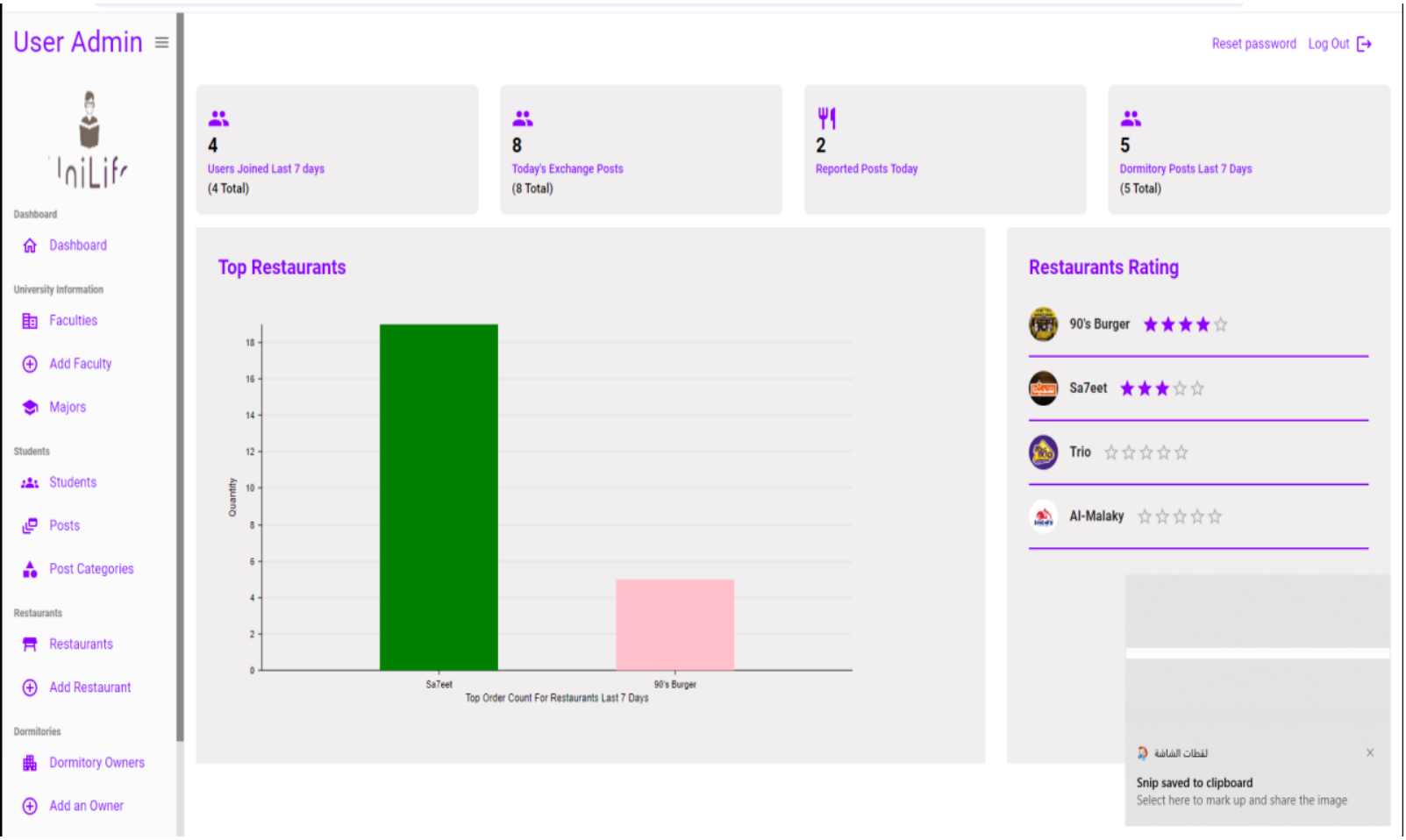

User Admin
Reset password
Log Out
Dashboard
Dashboard
University Information
Faculties
Add Faculty
Majors
Students
Students
Posts
Post Categories
Restaurants
Restaurants
Add Restaurant
Dormitories
Dormitory Owners
Add an Owner
Faculty Name
Faculty Number
Coordinates
كلية الهندسة
11
Longitude: 35.2233, Latitude: 32.2277
Longitude: 35.2231, Latitude: 32.2275
Longitude: 35.224, Latitude: 32.2272
EDIT
REMOVE
VIEW FLOORS
كلية العلوم
14
Longitude: 35.2231, Latitude: 32.2279
Longitude: 35.224, Latitude: 32.228
EDIT
REMOVE
VIEW FLOORS
كلية الرياضة
10
Longitude: 35.2244, Latitude: 32.2277
EDIT
REMOVE
VIEW FLOORS
المكتبة
15
Longitude: 35.2221, Latitude: 32.2281
Longitude: 35.2219, Latitude: 32.2283
EDIT
REMOVE
VIEW FLOORS
كلية القانون
22
Longitude: 35.2216, Latitude: 32.2278
EDIT
REMOVE
VIEW FLOORS
كلية القانون والاعلام
26
Longitude: 35.2202, Latitude: 32.2279
EDIT
REMOVE
VIEW FLOORS
المركز الكوري
24
Longitude: 35.2206, Latitude: 32.2276
EDIT
REMOVE
VIEW FLOORS
كلية الطب
17
Longitude: 35.2216, Latitude: 32.2285
EDIT
REMOVE
VIEW FLOORS

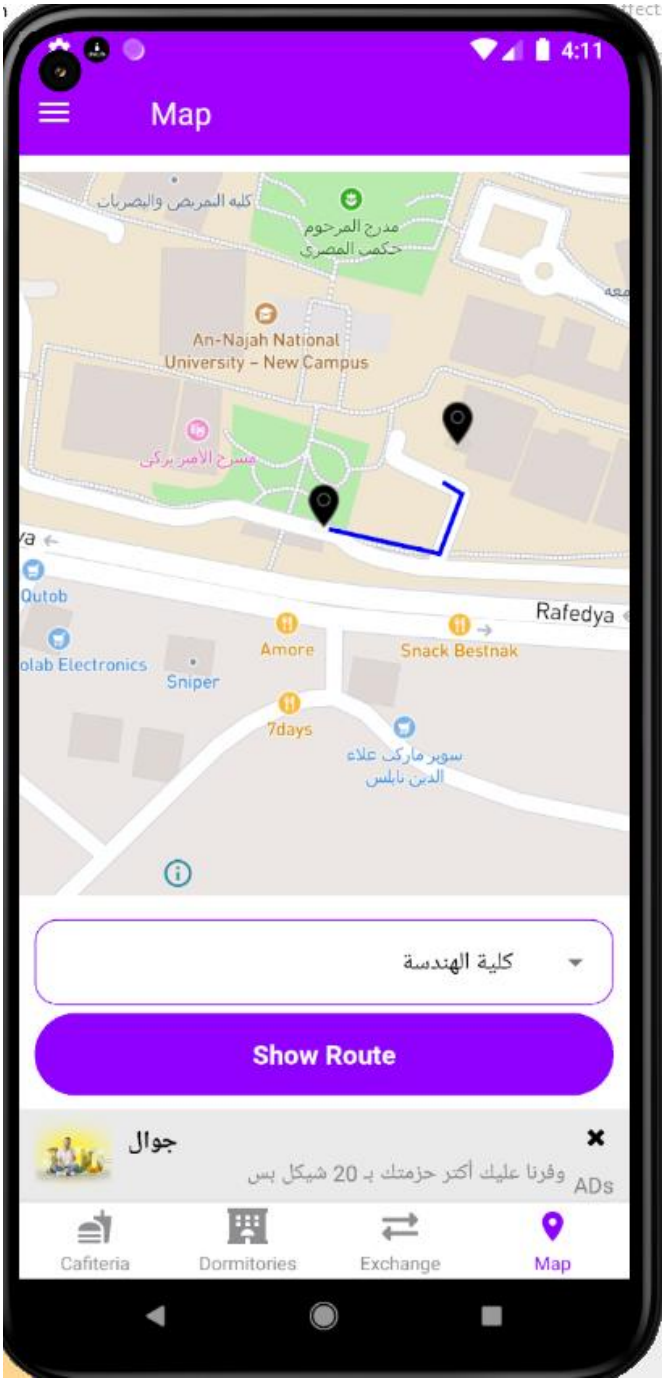

User Admin
Reset password
Log Out
Dashboard
Dashboard
University Information
Faculties
Add Faculty
Majors
Students
Students
Posts
Post Categories
Restaurants
Restaurants
Add Restaurant
Dormitories
Dormitory Owners
Add an Owner
Major Name
1 Computer Engineering REMOVE
7 Computer Science REMOVE
3 Electrical Engineering REMOVE
6 Law REMOVE
4 Medicine REMOVE
5 Pharmacy REMOVE
8 Physics REMOVE
ADD MAJOR


90's Burger
open
Reset password
Log Out
Dashboard
Dashboard
Menu
Menu
Menu
Orders
Orders
Ratings
Ratings
Classic Burger
EDIT DELETE 28₪
Mashroom Burger
EDIT DELETE 33₪
Mix Cheese
EDIT DELETE 33₪
Green Salad
EDIT DELETE 15₪
Sezar Salad
EDIT DELETE 17₪
Curly Fries
EDIT DELETE 7₪
frise
EDIT DELETE 5₪
onion rings
EDIT DELETE 8₪


90's Burger
open
Reset password
Log Out
NINETIES
Dashboard
Dashboard
Menu
Menu
Menu
Orders
Orders
Ratings
Ratings
title
Water
Description
مياه معدنية عذبة للشرب
Price ₪
2
Category
Drinks
UPLOAD IMAGE
Water.png
ADD


User Admin
Reset password
Log Out
Dashboard
Dashboard
University Information
Faculties
Add Faculty
Majors
Students
Students
Posts
Post Categories
Restaurants
Restaurants
Add Restaurant
Dormitories
Dormitory Owners
Add an Owner
Faculty Name
الكهرباء
Faculty Number
12
Longitude 1
35.22259
Latitude 1
32.22809
ADD COORDINATES
ADD FACULTY


User Admin
Reset password
Log Out
Dashboard
Dashboard
University Information
Faculties
Add Faculty
Majors
Students
Students
Posts
Post Categories
Restaurants
Restaurants
Add Restaurant
Dormitories
Dormitory Owners
Add an Owner
4
Users Joined Last 7 days
(4 Total)
8
Today's Exchange Posts
(8 Total)
2
Reported Posts Today
5
Dormitory Posts Last 7 Days
(5 Total)
Top Restaurants
Quantity
Sa7eet
90's Burger
Top Order Count For Restaurants Last 7 Days
Restaurants Rating
90's Burger
Sa7eet
Trio
Al-Malaky
Snip saved to clipboard
Select here to mark up and share the image


4:11
Map
An-Najah National University – New Campus
Qutob
Amore
Snack Bestnak
Rafedya
Sniper
7days
كلية الهندسة
Show Route
جوال
وفرنا عليك أكتر حزمتك بـ 20 شيكل بس
ADs
Cafiteria
Dormitories
Exchange
Map

Chapter 5

Results & Analysis

5.1 Final Application

The proposed application addresses several key challenges faced by students in Palestine, offering practical solutions to enhance their university experience. Here is the final product:

Outdoor and Indoor Navigation System:

Result: The implementation of GPS for outdoor navigation and QR Codes for indoor guidance is likely to significantly reduce the time and energy wasted by students trying to find their classes or locations within a large university.
Analysis: This feature can enhance the overall efficiency of students, especially freshmen or those unfamiliar with certain areas, contributing to a smoother and more productive academic experience.
Cafeteria Order System:

Result: The introduction of an app-based ordering system for cafeteria food can save students considerable time, allowing them to order in advance and receive notifications when their orders are ready.
Analysis: This feature not only addresses the inconvenience of waiting in line but also aligns with the fast-paced nature of student life, providing a more flexible dining option for those with tight schedules.

Dormitory Search and Information:

Result: Allowing dormitory owners to post information about their facilities creates a centralized platform for students searching for accommodation. This can simplify the process and help students find suitable dormitories more efficiently.
Analysis: This feature streamlines the dormitory search process, making it easier for students to access relevant information and make informed decisions about their living arrangements.
Trading and Exchange Platform:

Result: The inclusion of a section for trading and exchanging items among students fosters a sense of community and resource-sharing on campus.
Analysis: This feature encourages sustainability, cost-effectiveness, and a sense of community by facilitating the exchange of goods and services among students, contributing to a more collaborative campus environment.

Overall, the combination of these features in the application has the potential to significantly improve the daily lives of students in Palestine. The focus on practical solutions, efficiency, and community-building aligns with the needs and challenges faced by students, making the application a valuable tool for enhancing their university experience. The success of the project will depend on effective implementation, user engagement, and continuous adaptation based on user feedback.

Chapter 6

Discussion

6.1 uniLife outcomes

The uniLife app aims to:

Try to help as much as it can to prevent students from wasting extra time and effort.

Improve Restaurants revenue, because even students that don’t have time, will have a chance to order online.

Give dormitory owners more accessability to students, and make students task of searching a dormitory much easier

Provide users a good navigation experience indoor and outdoor.

Summary & Future Work

7.1 Summary

The proposed application for Palestinian students aims to address various challenges they face, such as navigating the university, dealing with cafeteria queues, finding suitable dormitories, and facilitating student-to-student item exchanges. The app features an Outdoor and Indoor GPS system for efficient navigation, a cafeteria order system allowing pre-ordering through the app, a platform for dormitory owners to post information, and a section for students to trade and exchange items. Overall, the application seeks to enhance students' university experience by providing practical solutions and saving valuable time.

7.2 Future Work

Expanding the cafeteria system to be more universal, and accept all kinds of business, not only restaurants.

Add Academic part for students to have full sources for their studying experience.

Improve Dormitory algorithms and integrate Ai and machine learning methods.

Allow for transaction between students, controlled by admin.

Enhance user experience, and have better interface.

Use Hardware to achieve GPS navigation inside buildings.

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Note: Some of these links may not work because the URLs are incorrect, but these are the names of the technologies and libraries that are commonly used in the development of web and mobile applications and are related to the unilife app.