

A decorative graphic on the left side of the slide, consisting of white lines and circles on a blue gradient background, resembling a circuit board or a stylized tree structure.

SMART PARKING SYSTEM

INTRODUCTION

- The project is a website that links existing parking lots in a specific area, governorate, or country. By specifying his location, the user can know the distance between him and any parking lot, the estimated time to reach it, and the number of parking spaces available in this parking lot and the services it provides in terms of car charging. Electrical, car wash, or car maintenance, and he can book at the time he wants .

FUNCTIONAL REQUIREMENTS

1. User Registration and Authentication:
2. User Location Input.
3. Parking Search and Navigation.
4. Parking Details Information.
5. Booking System.
6. Booking Management.

FUNCTIONAL REQUIREMENTS CONTINUE

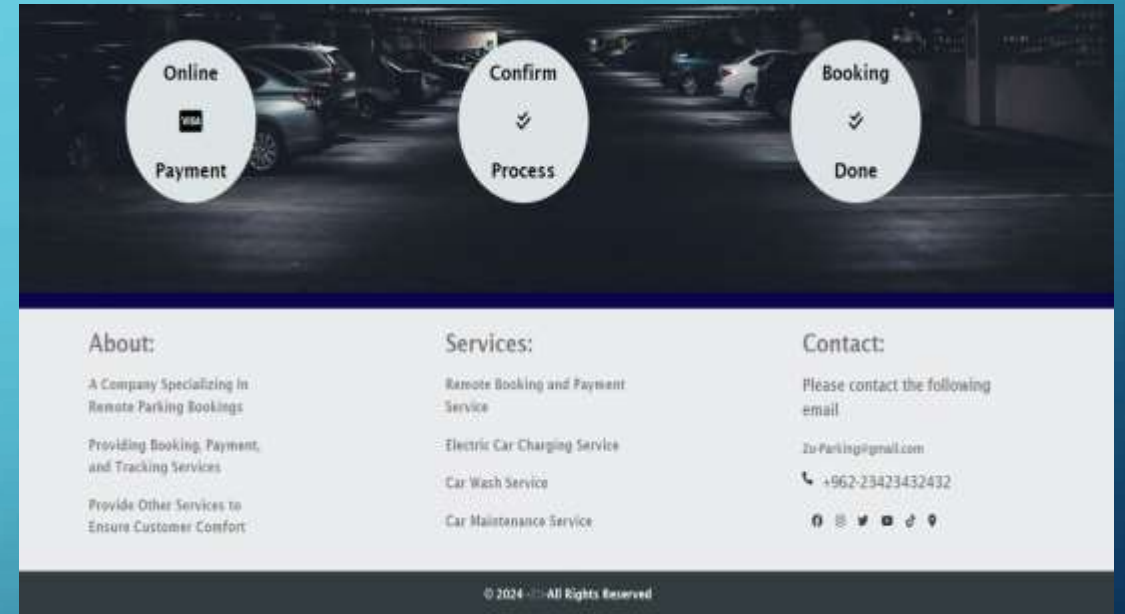
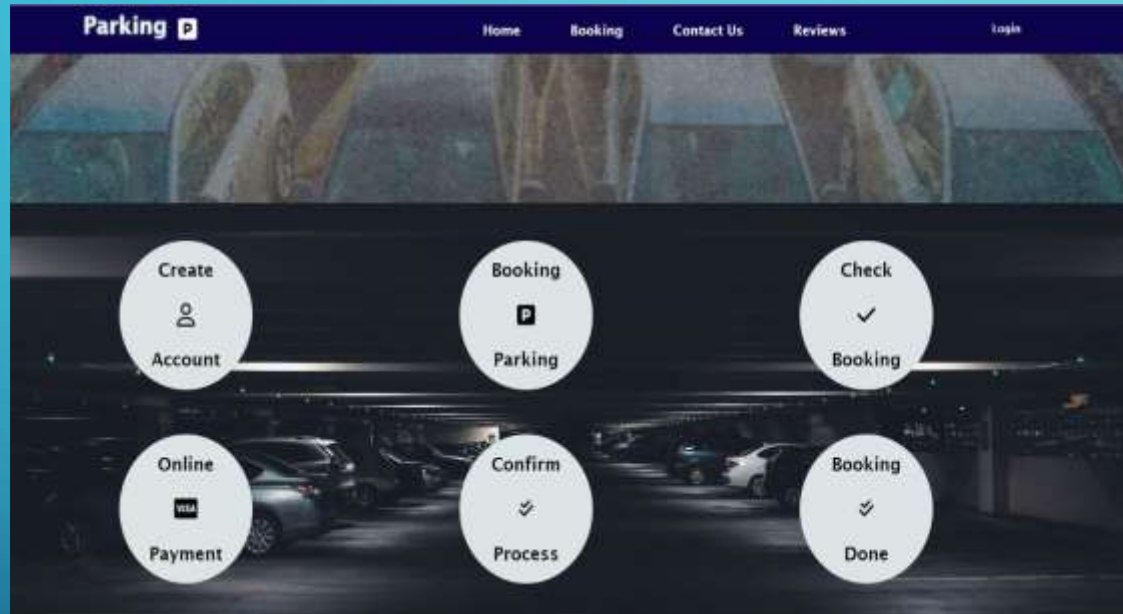
- 7. Payment Integration.
- 8. User Profile Management.
- 9. Feedback and Rating System.
- 10. Admin Panel.

NON-FUNCTIONAL REQUIREMENTS

- 1. Performance: Response Time , Scalability .
- 2. Reliability: Availability .
- 3. Usability: User Interface (UI) Design , Mobile Responsiveness .
- 4. Security: Secure Communication , Authentication and Authorization.

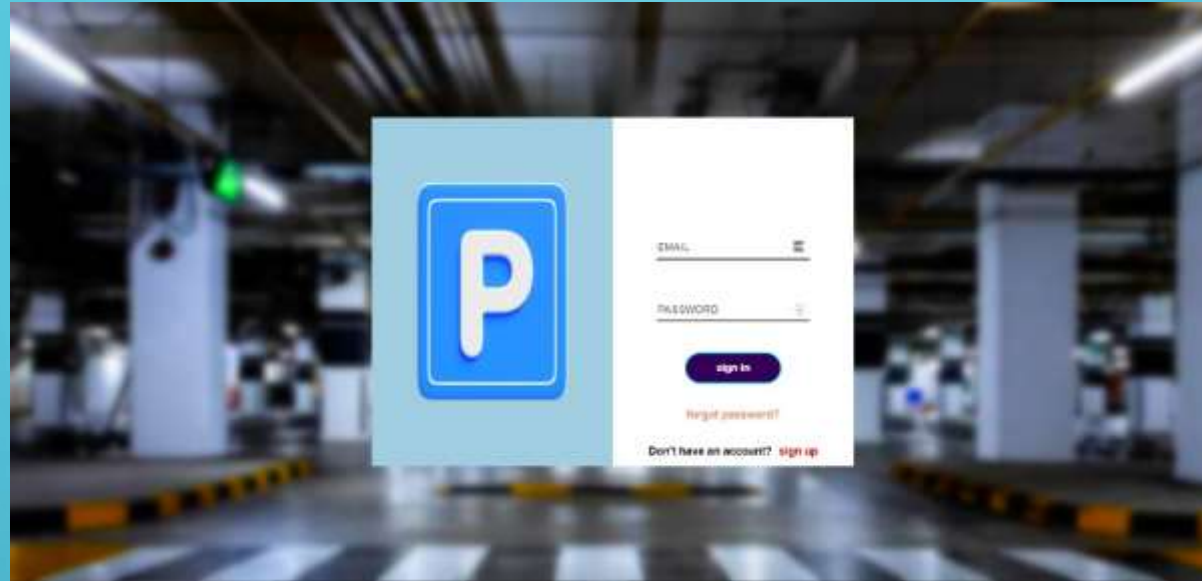
GRAPHICAL USER INTERFACE

Home Page Before Login

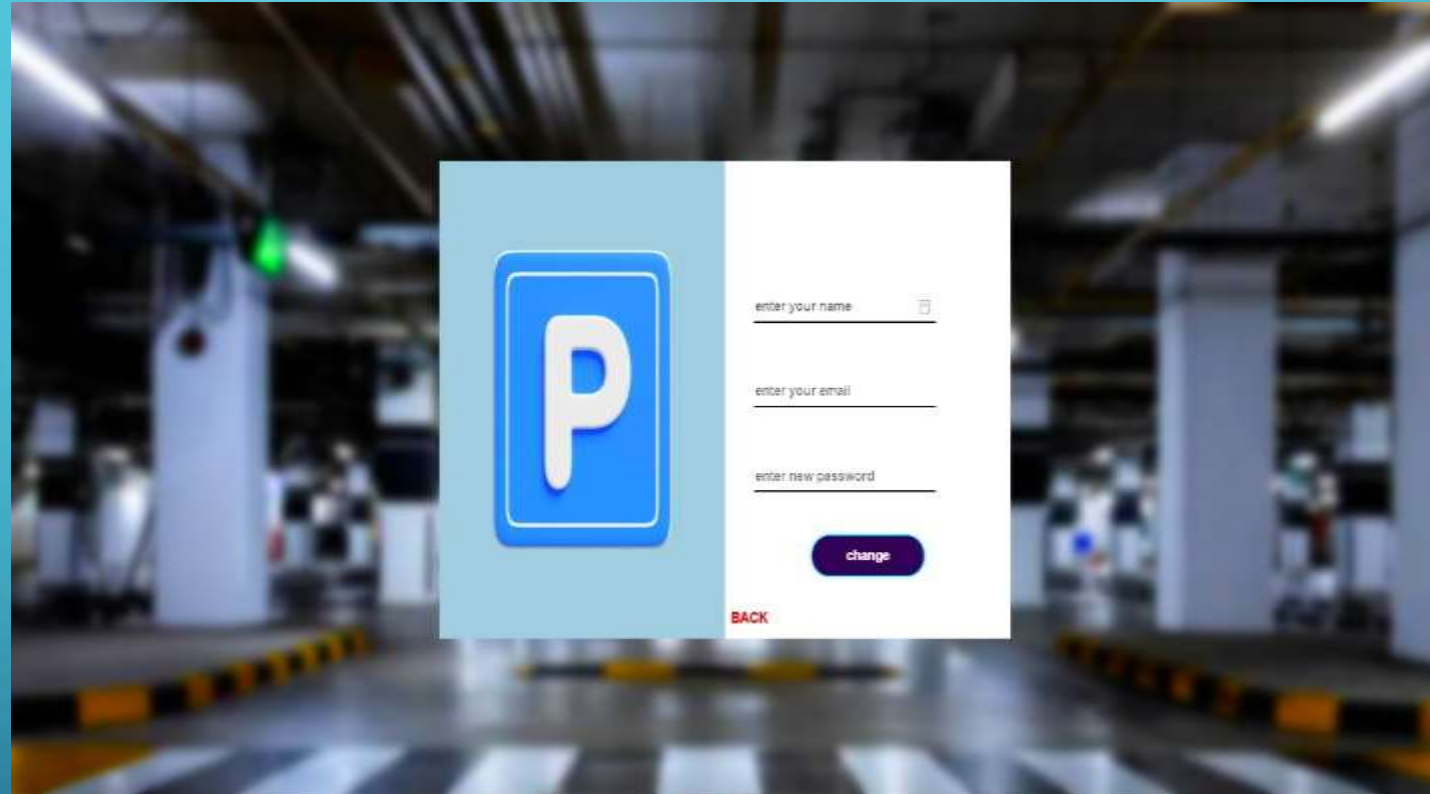


Login Page

Sign up Page



Forgot Password Page



A screenshot of a 'Forgot Password' page overlay. The overlay is a white rectangle with a light blue left half and a white right half. On the left, there is a large blue square with a white 'P' inside. On the right, there are three input fields with labels 'enter your name', 'enter your email', and 'enter new password'. Below the input fields is a purple 'change' button. At the bottom right of the overlay is a red 'BACK' link. The background is a blurred image of a parking garage with white pillars and yellow and black striped curbs.

enter your name

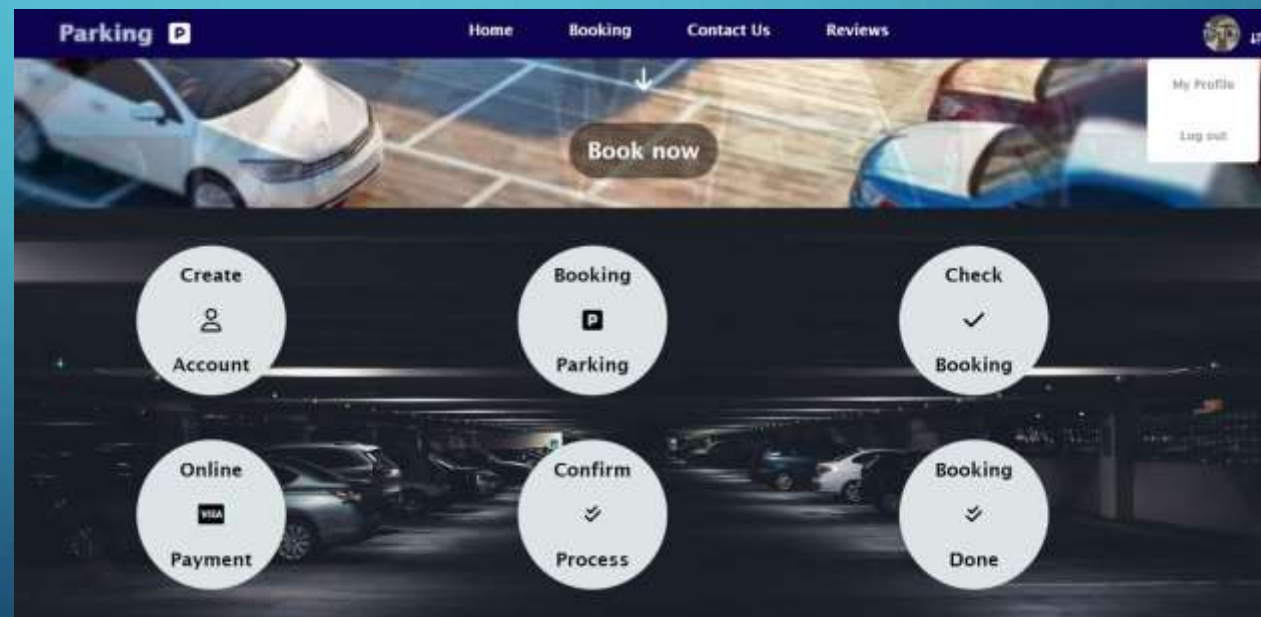
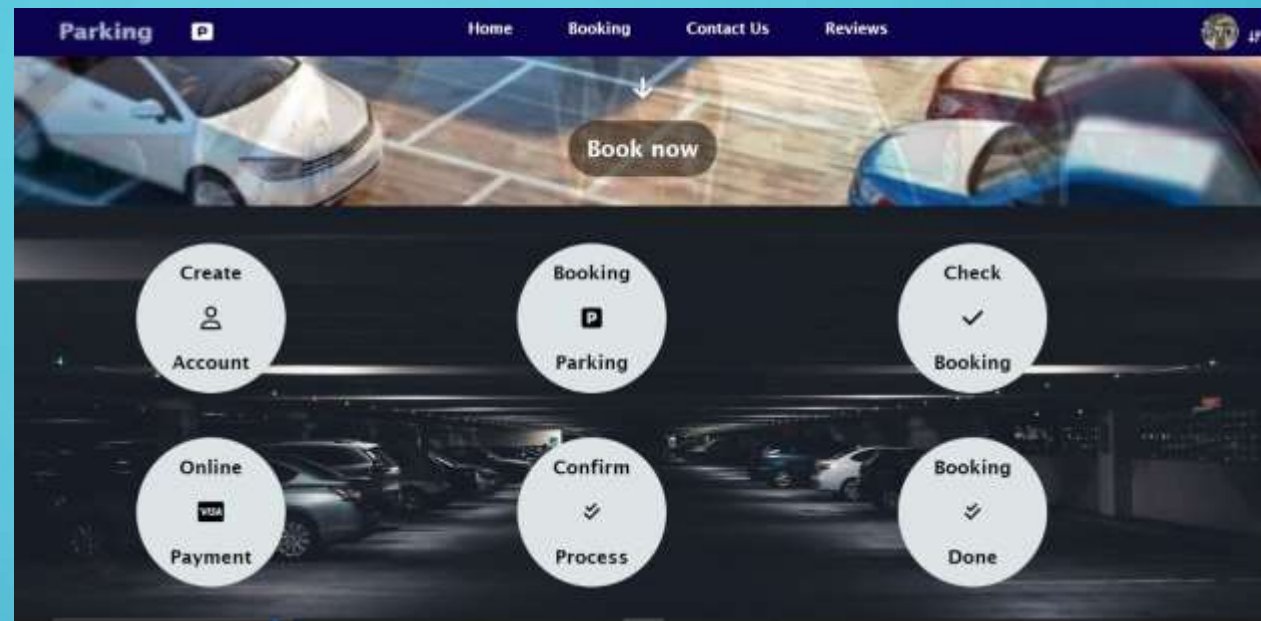
enter your email

enter new password



change





BACK

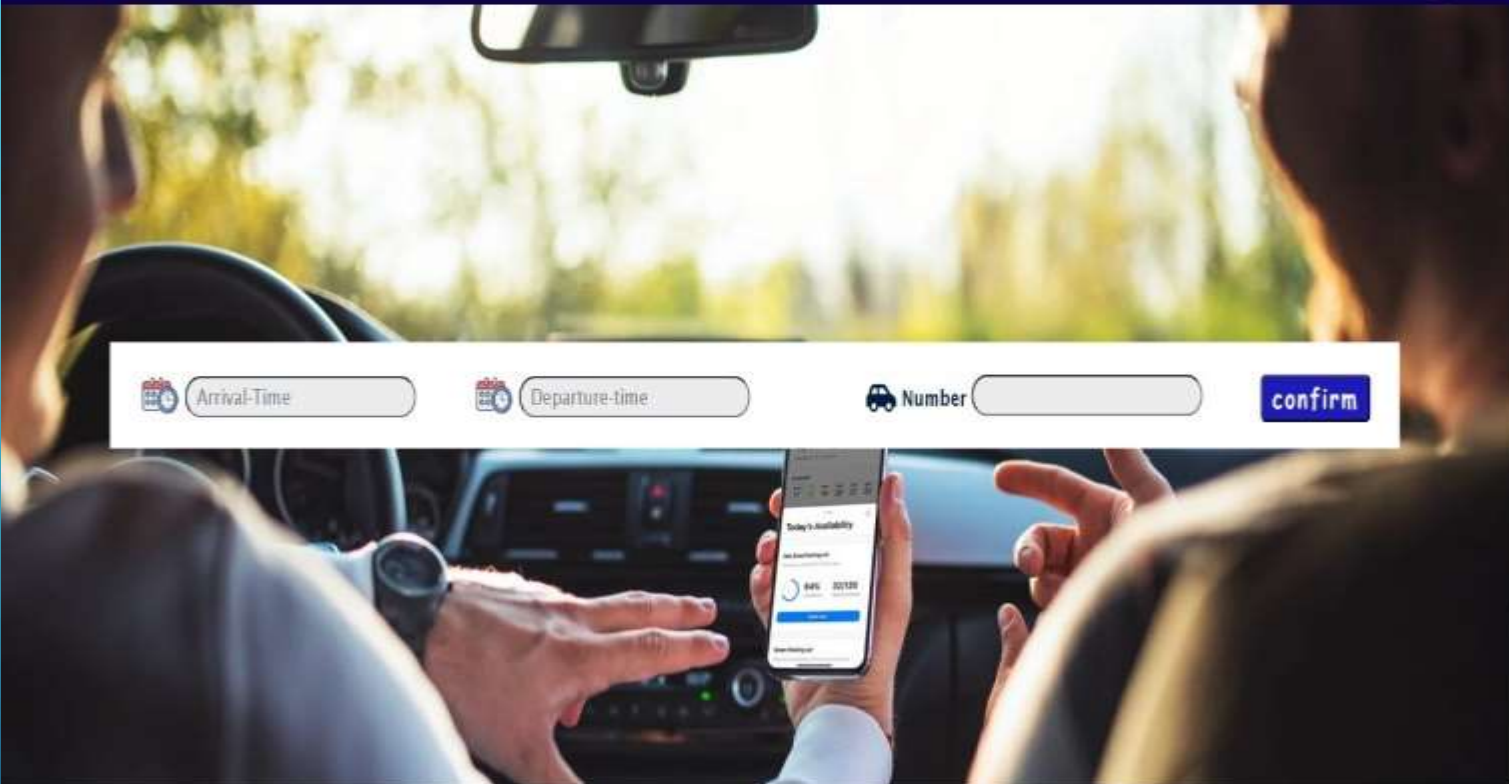
Home Page After Login



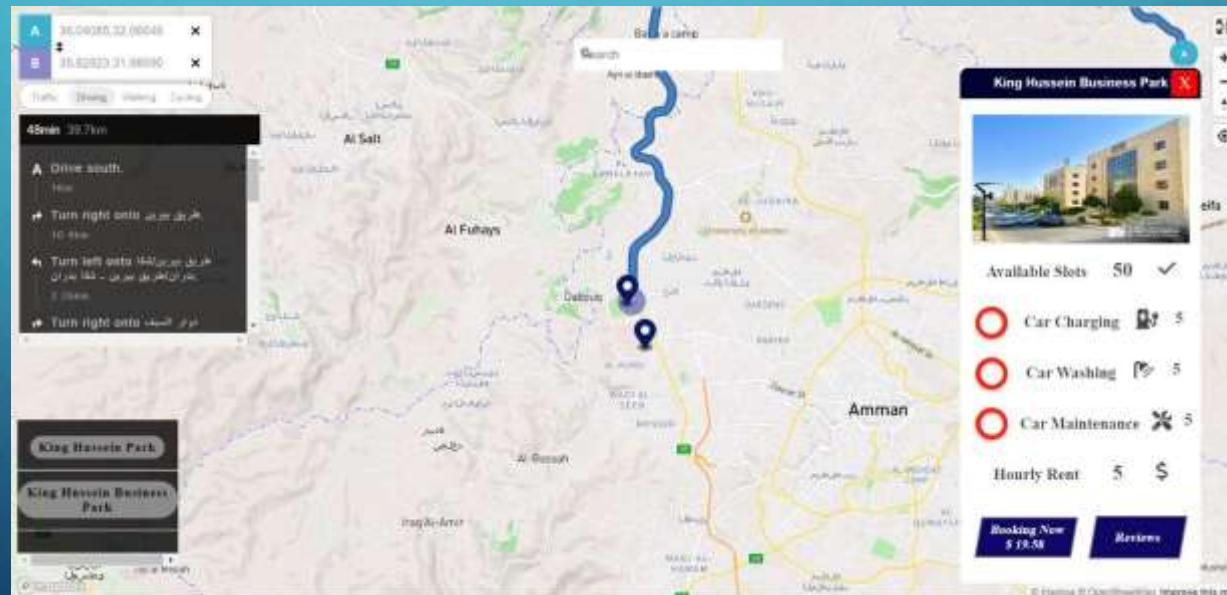
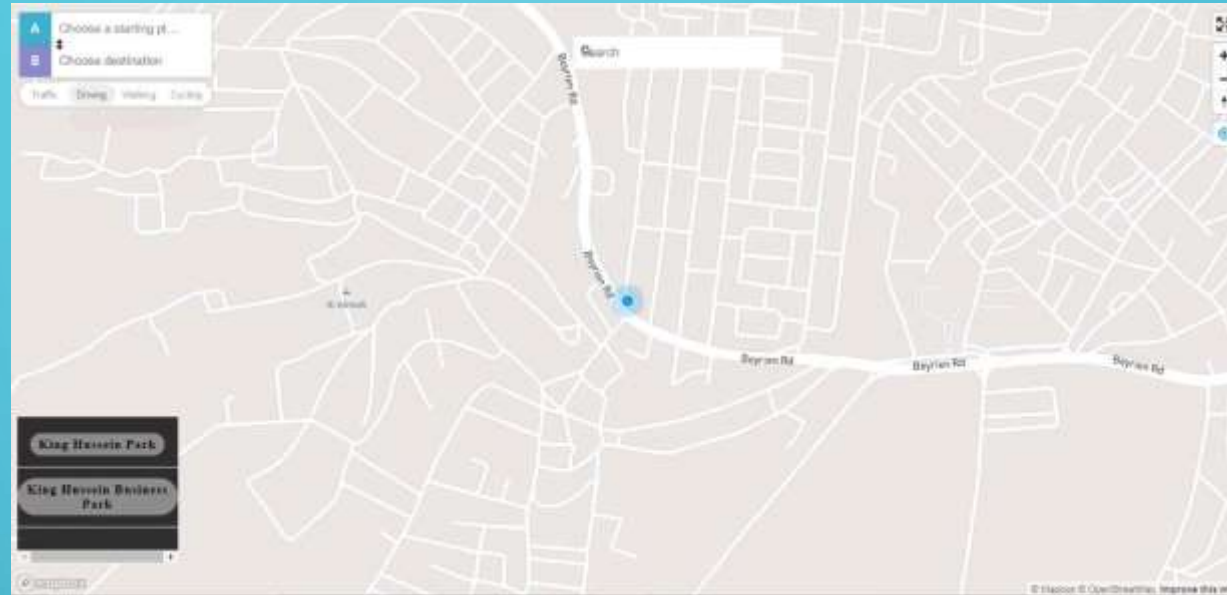
Parking Booking Page

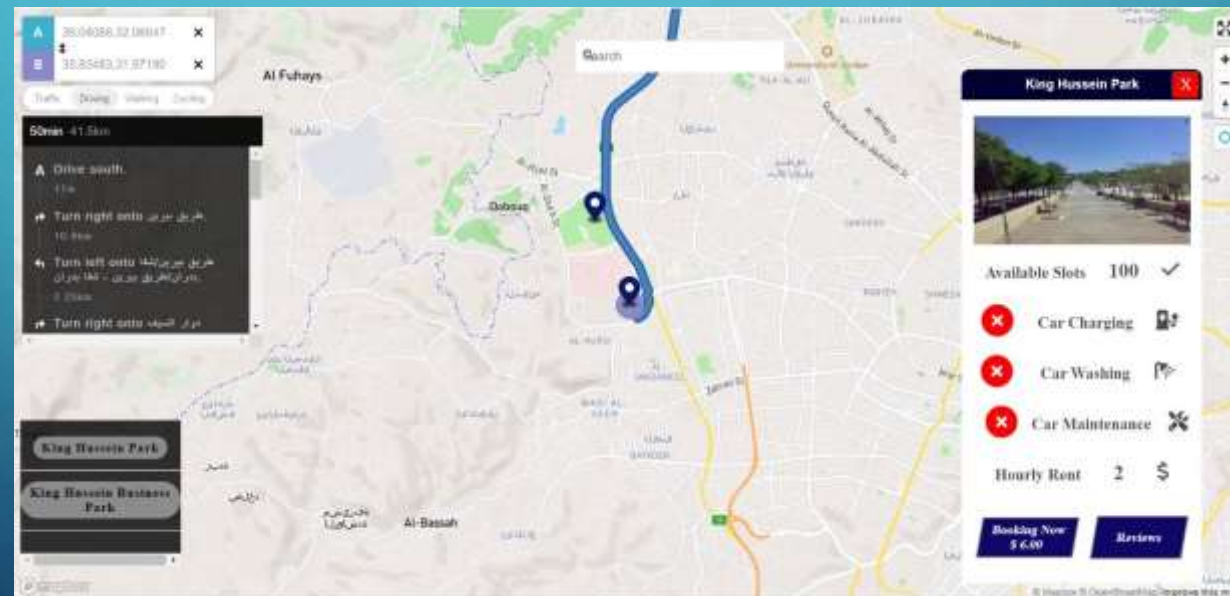
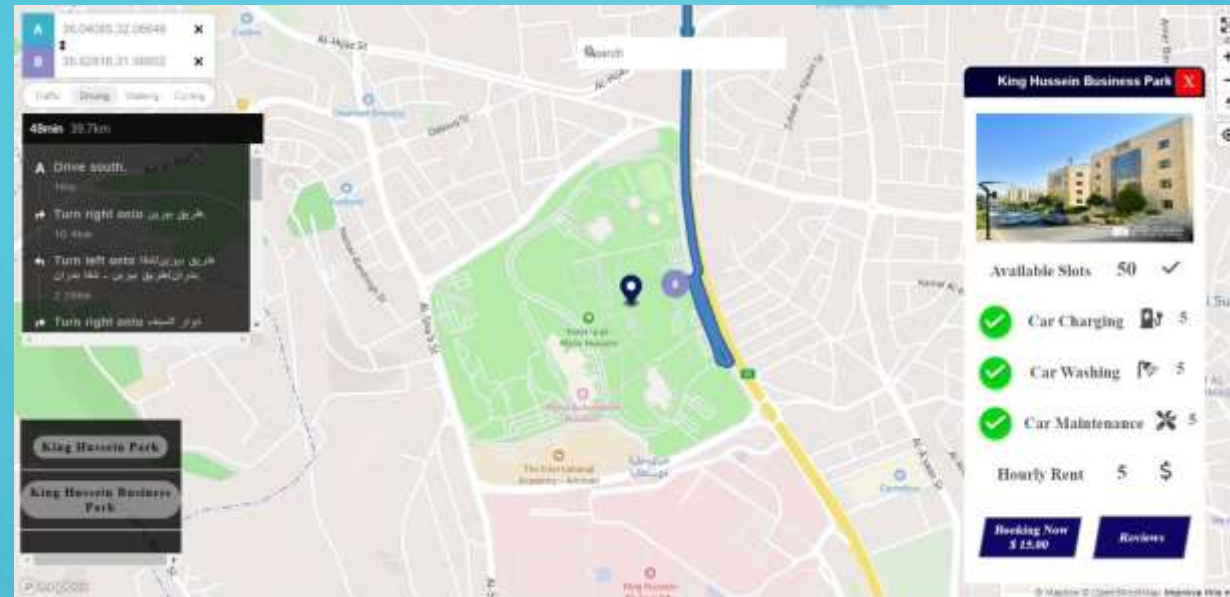
Parking  Home Booking Contact Us Reviews 

 Arrival-Time  Departure-time  Number 





Map Page






Payment Page

Cards page

Parking  Home Booking Contact Us Reviews  4F



0000 0000 0000 0000

CARDHOLDER
Mrs. Kate Smith

VALID THRU
MM/YY

Payment Details

Cardholder Name

Card Number

Exp Date

CVV

Confirm

Show cards



My Booking Page

Parking

Home

Booking

Contact Us

Reviews

Information Booking

PARKING NAME	Prices	More
King Hussein Business Park	15.58	Details
Total Prices		15.58 JD

Parking

Home

Map

Reviews

Contact us

Parking Name

Petra

P

Slot Number

1

Card Number

1234 3464 3634 6345

Cost Booking

6

\$

Time Stamp

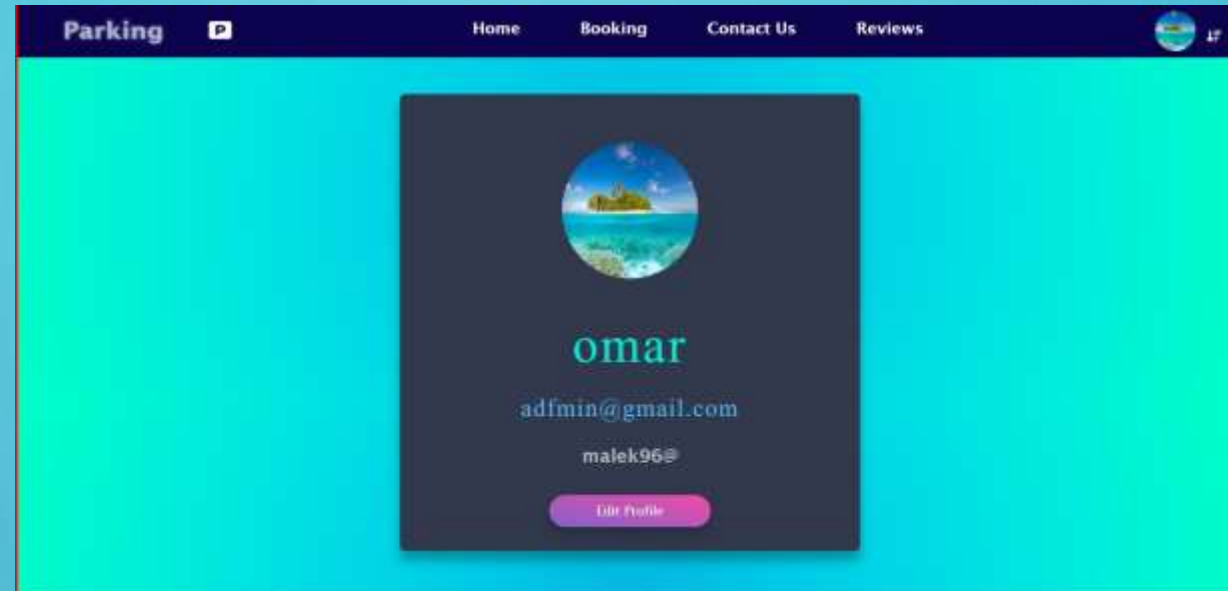
2024-06-04 14:30:34

Services Of Parking:

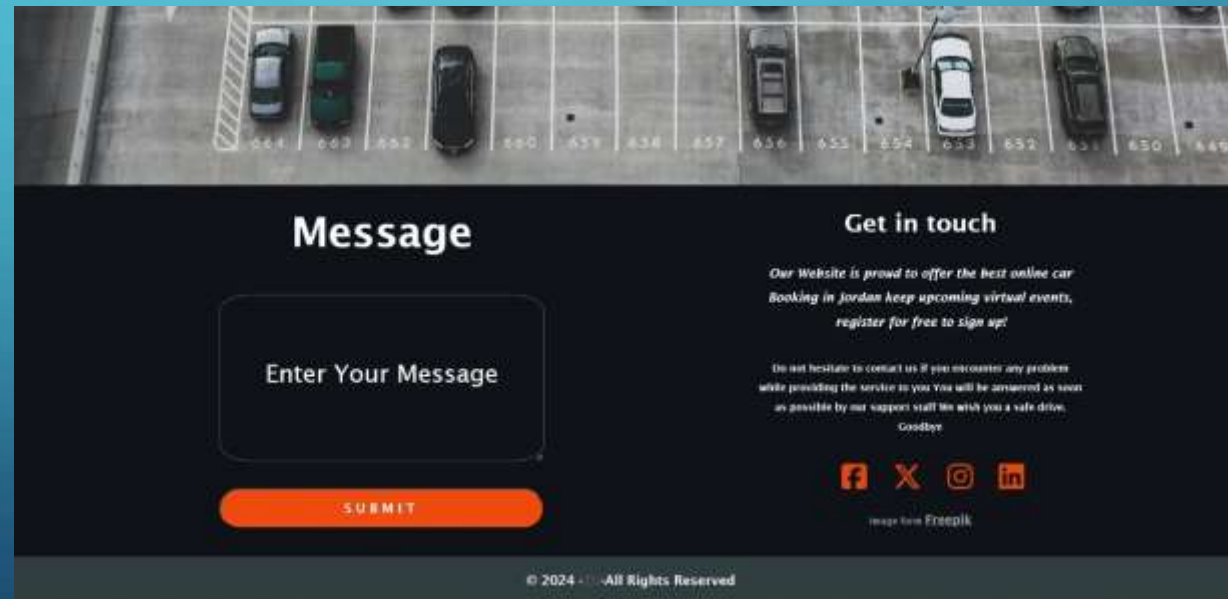
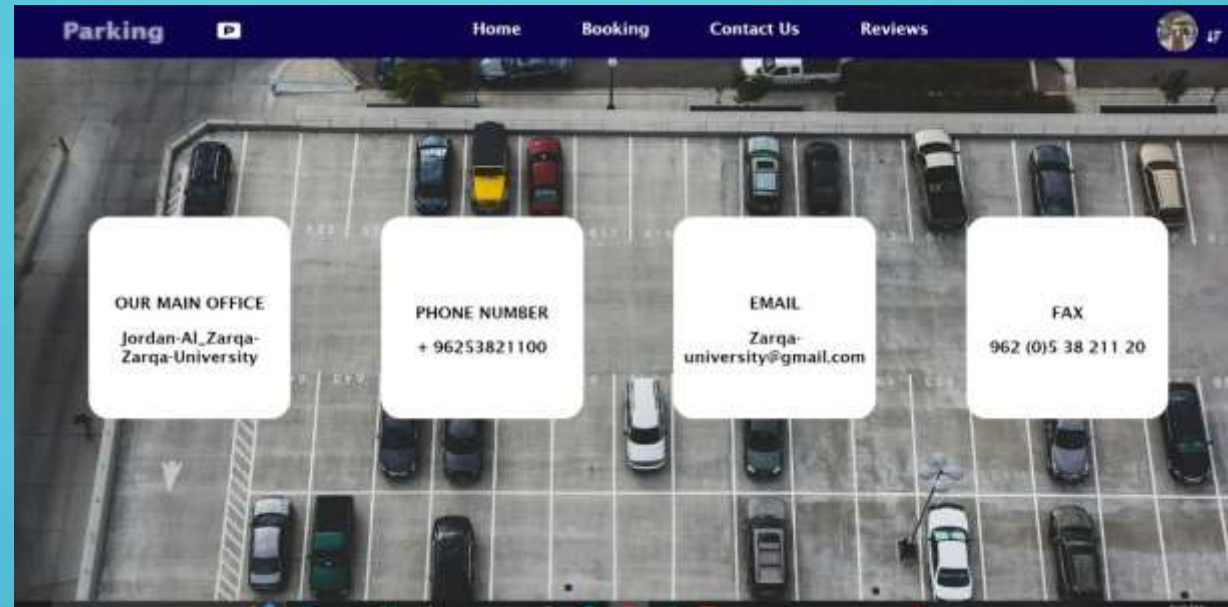
Cancel

User Profile Page

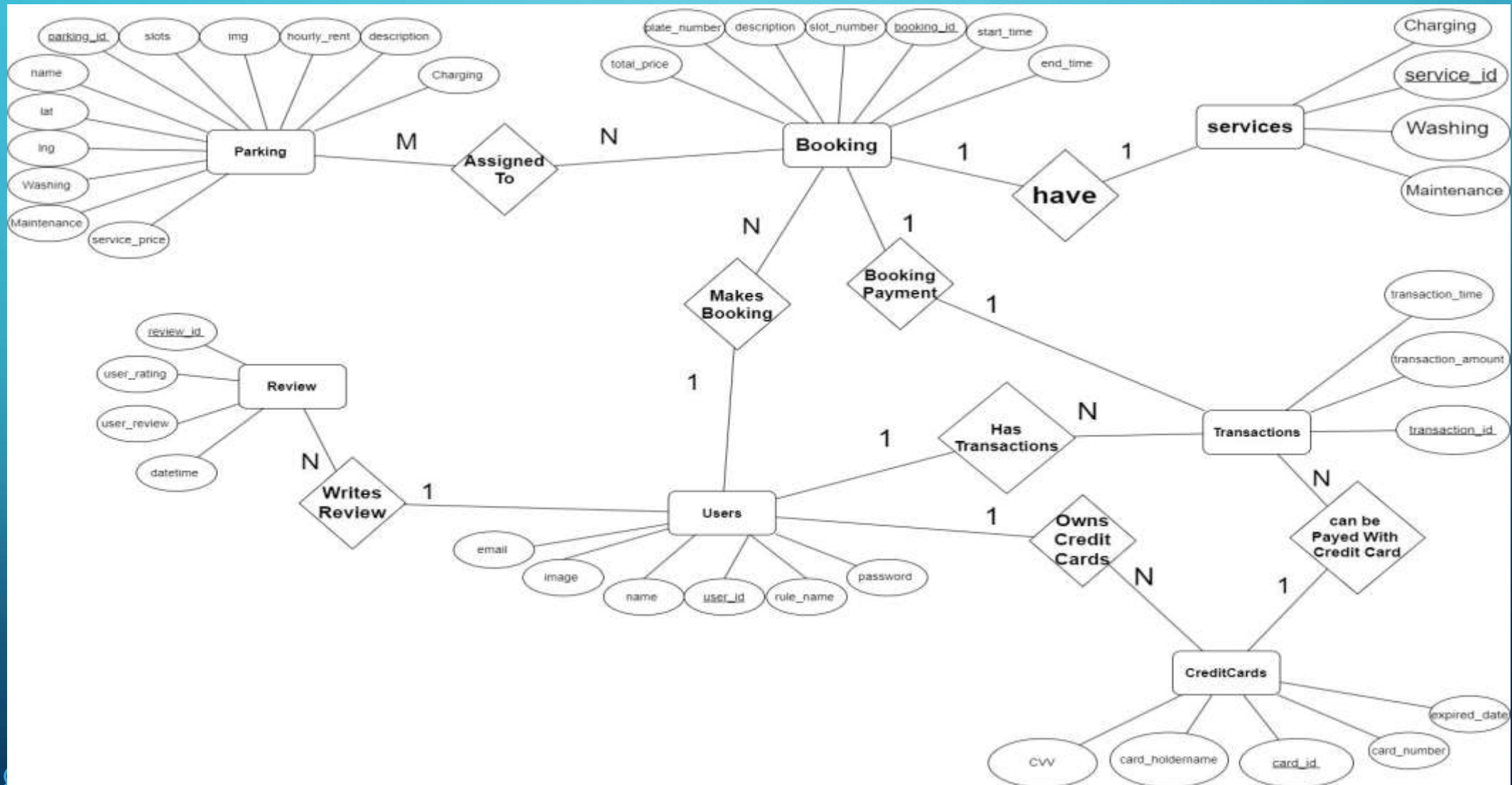
Reviews Page



Contact Us Page



DATABASE ERD DIAGRAM



DATABASE IMPLEMENTATION

1. Booking Table

booking
booking_id (PK)
start_time
end_time
total_price
plate_number
description
slot_number
user_ID (FK)
parking_ID (FK)


2. Parking Table

parking
parking_id (PK)
name (UQ)
slots
img
hourly_rent
description
Charging
Washing
Maintenance
Ing
lat
service_price


3. Transactions Table

transactions
transaction_id (PK)
amount
transaction_time
card_id (FK)
user_id (FK)
booking_id (FK)

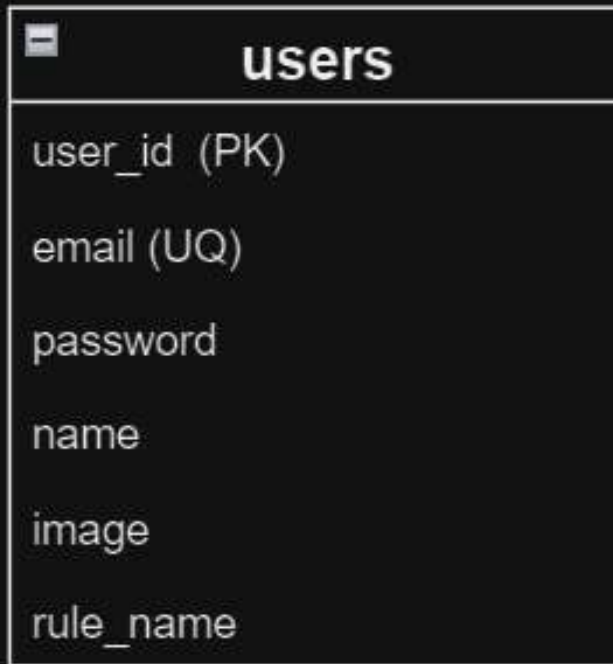
4. Credit Cards table

 creditcards
card_id (PK)
card_holdername
expired_date
CVV
card_number (UQ)
user_id (FK)

5. Review Table

 review
review_id (PK)
user_id
user_rating
user_review
datetime

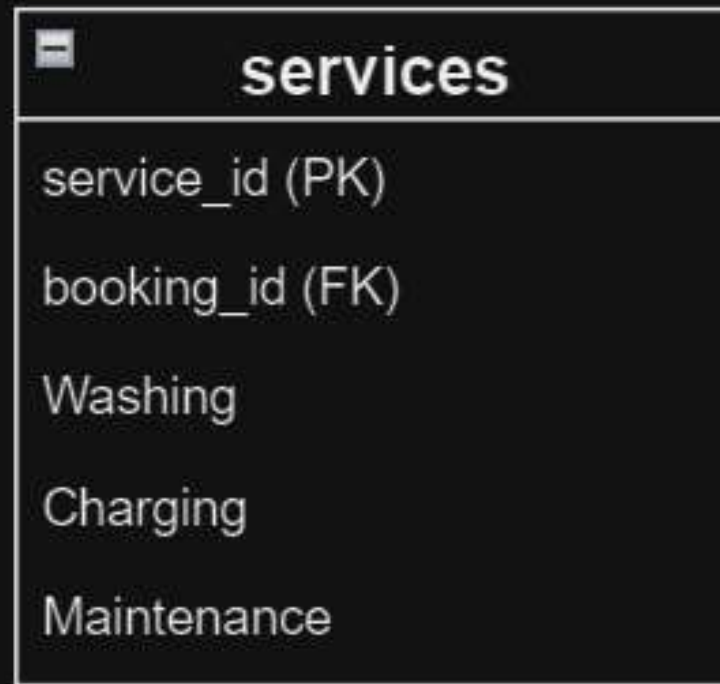
6. Users Table



The diagram shows a database table named "users". It has a title bar with a minus icon and the name "users". Below the title bar, the columns are listed: "user_id (PK)", "email (UQ)", "password", "name", "image", and "rule_name".

users	
user_id	(PK)
email	(UQ)
password	
name	
image	
rule_name	

7. Services Table

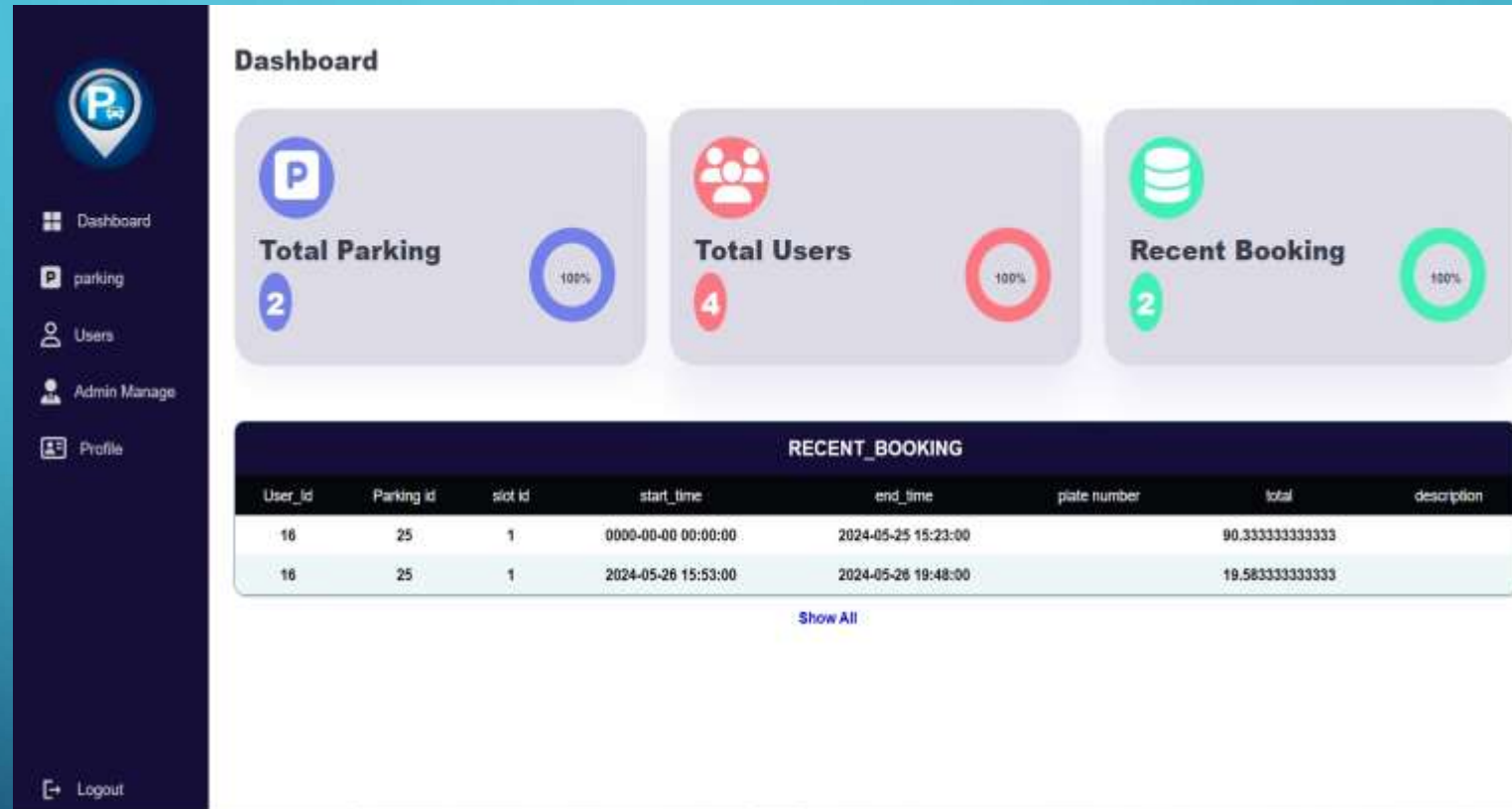


The diagram shows a table named 'services' with a header row and four data rows. The header row contains the table name 'services' and a small icon. The data rows contain the following text: 'service_id (PK)', 'booking_id (FK)', 'Washing', 'Charging', and 'Maintenance'.


services
service_id (PK)
booking_id (FK)
Washing
Charging
Maintenance

Other Components Implementation

Admin Dashboard Page



Admin Parking Page



Dashboard

parking

Users

Admin Manage

Profile


Logout

VIEW PARKINGS

Parking Name	Slots Number	Hourly Rent	Car Charging	Car Washing	Car Maintenance	price services	Description	Long	Lat	edit	delete
King Hussein Business Park	50	5	1	1	1	5	يوفر خدمة وقود مميزة في مجمع الأحياء	35.83489	31.97192	Edit	Delete
King Hussein Park	100	2	0	0	0	1	يوفر اصطحاب مريح للمركبات	35.82817	31.98601	Edit	Delete

+ Add New Parking




Admin Users



- Dashboard
- parking
- Users
- Admin Manage
- Profile


[Logout](#)

ADMINS

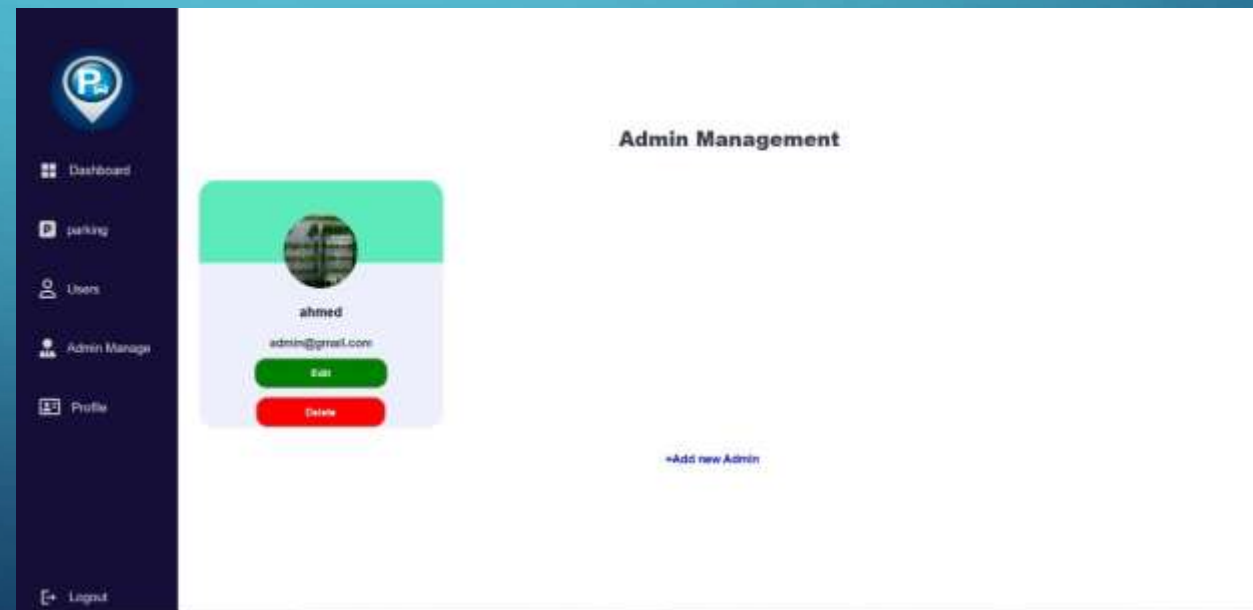
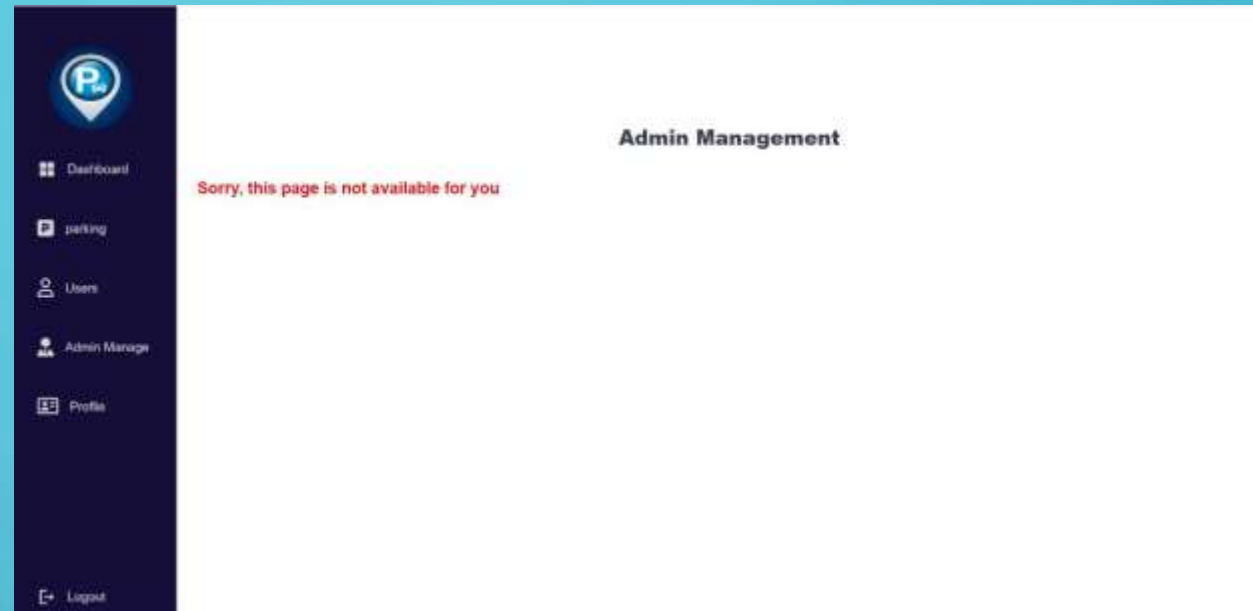
Picture	user_name	Email	user_type	password
	malek	malek@gmail.com	admin	*****
	ali	ali@gmail.com	admin	*****
	hamza	hamza@gmail.com	admin	*****

[Show Users](#)

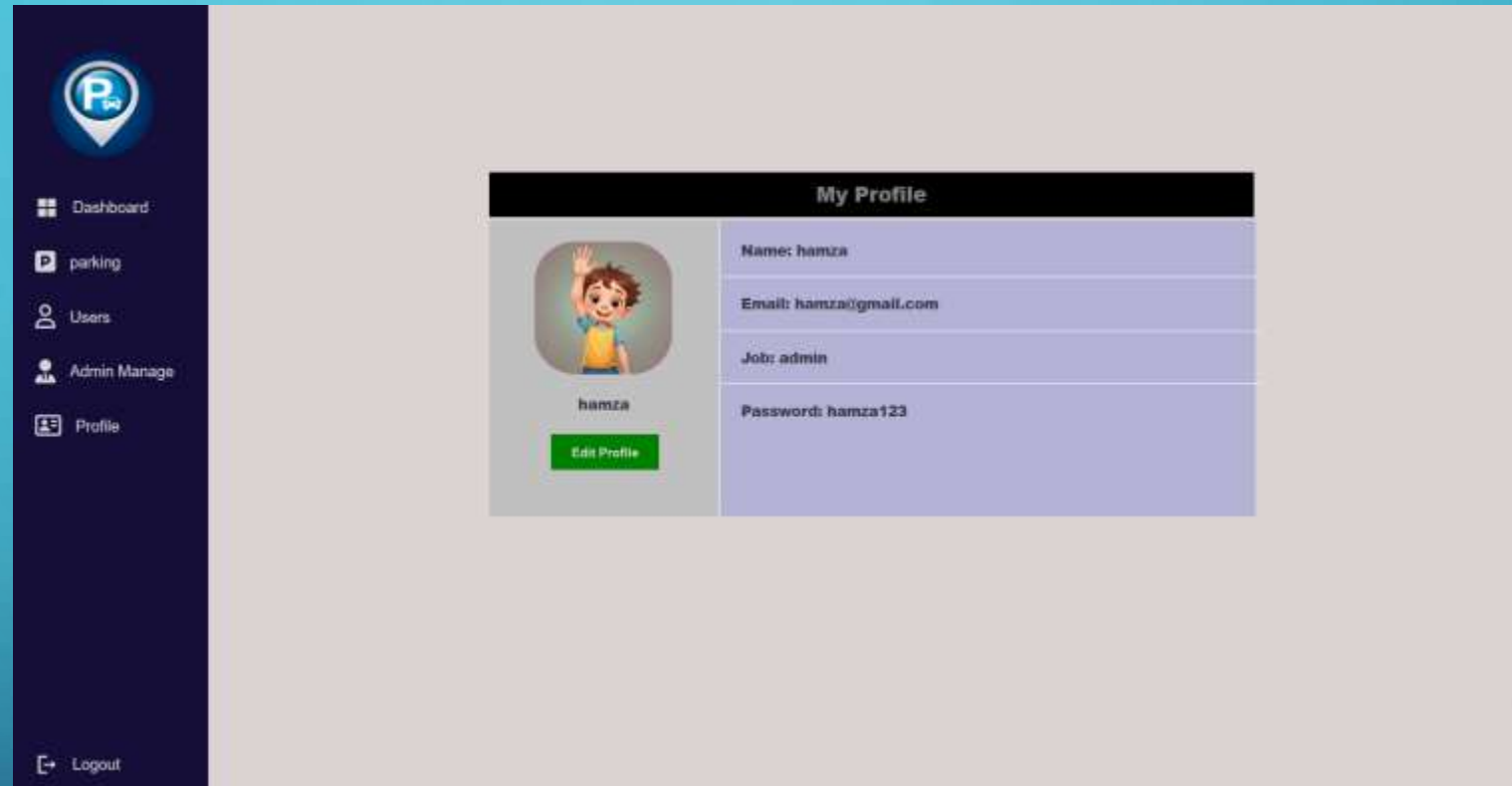
USERS

Picture	user_name	Email	user_type	password	edit_user	delete_user
	Ali	ali@gmail.com	user	*****	Edit	Delete

Admin Manage Page



Admin Profile Page



OVERALL STRENGTHS

- 1. User-Friendly Interface:** The platform is designed to be simple and easy to navigate, allowing users to quickly find and book parking spaces.
- 2. Comprehensive Service Offerings:** The website offers a wide range of services that go further than basic parking space availability. It includes additional services such as electric car charging stations, car washing, and maintenance services.
- 3. Real-Time Data Integration :** The platform provides real-time updates on parking space availability
- 4. Booking Flexibility:** The website allows users to book parking spaces in advance for their desired time and duration.

OVERALL STRENGTHS

CONTINUE

5. Location-Based Services: By specifying their location, users can easily find nearby parking areas, making the process of locating parking more efficient and convenient. This location-based service is particularly useful in urban areas with high traffic and parking demand.

6. Potential for Scalability: The project is designed with scalability in mind, allowing for the integration of additional parking areas and services as the user base grows.

7. Enhanced Convenience: The website combines information from multiple parking areas into a single, accessible platform. This centralization simplifies the process of finding and booking parking spaces, as users no longer need to visit multiple websites or make several phone calls.

OVERALL WEAKNESSES

- 1. System Reliability:** during high usage periods, Users experienced slower response times especially at peak hours.
- 2. Inconsistent Service Offerings:** When expected services are unavailable, down or under maintenance.
- 3. Dependency on parking areas Data:** The accuracy and reliability of the system heavily depends on data provided by the parking areas. Inconsistent or delayed data updates from these parking areas can affect the performance and reliability of the platform.
- 4. Dependency on Internet Connectivity.**

FUTURE WORK

- 1. Offline Capabilities:** allowing users to download information about parking lots in specific areas for offline use, and (SMS-Based Booking) .
- 2. Advanced Load Handling:** Improving the system's ability to handle high traffic volumes.
- 3. Enhance Data Accuracy and Real-Time Updates:** Future enhancements could include developing automated systems for real-time data updates from parking area operators, using machine learning to predict parking space availability based on historical data and trends.
- 4. Expanded Geographic Coverage:** This can be achieved by forming new partnerships with parking area operators in additional regions

FUTURE WORK CONTINUE

5. User Interface and Experience Enhancements: Improving the user interface and overall user experience by regularly collecting and analyzing user feedback to identify pain points and areas for improvement, refinement UI/UX.

6. Additional Service Integration: exploring and integrating new services, such as valet parking, car rental, and ride-sharing options, and allowing users to rate and review services to provide feedback and help others make informed decisions.

7. Enhanced Security Measures: Future work should include Implementing advanced encryption methods for all user data and enhancing user authentication processes to prevent unauthorized access.