

Application purpose

The SPOTLOCATOR APPLICATION is an Android-based mobile application designed to optimize the parking experience at Jazan University by providing real-time information on available parking spaces across the campus. This application aims to assist students, faculty, and visitors in quickly locating, reserving, and navigating to available parking spots, reducing parking-related stress and improving campus space utilization.

Features of the SPOTLOCATOR APPLICATION

1. Real-Time Parking Availability

- Displays up-to-date information about vacant parking spots on campus.
- Refreshes automatically to ensure users always see the latest data.

2. Reservation System

- Allows users to reserve a parking space in advance for a specific time.
- Helps avoid last-minute stress and ensures guaranteed parking upon arrival.

3. User Profiles

- Supports different roles (e.g., **students, faculty, visitors**).
- Enables customized settings, notifications, and access levels for each user type.

4. Navigation and Directions

- Provides turn-by-turn guidance or a map interface to guide users directly to the reserved/available parking spot.
- Minimizes time spent searching for the correct lot or space.

5. Notifications and Alerts

- Sends push notifications about reservation confirmations, spot availability changes, or upcoming expirations.
- Keeps users informed in real-time.

6. Campus Map Integration

- Illustrates the campus layout, marking all parking lots and building entrances.
- Improves wayfinding for new students, visitors, or anyone unfamiliar with the area.

7. Waitlist / Queue Functionality

- Optionally allows users to join a queue if desired parking lots are full, notifying them when a spot is free.
- Reduces the need to repeatedly check for availability.

8. Favorites and History

- Users can save frequently used parking lots or spots for quicker reservations in the future.
- Past reservation logs and usage stats provide insights and help optimize parking behavior.

9. Feedback and Support

- In-app feedback system for reporting issues, bugs, or feature requests.
- Helps administrators gather user feedback and continuously improve the application.

10. Analytics (Admin Side)

- Administrative tools and dashboards to monitor overall parking utilization, peak usage times, and user behavior.
- Assists university management in optimizing parking strategies and infrastructure.

Target Users

1. Students

- Main users who regularly commute to campus and need reliable, quick parking solutions.
- Benefit from reserving spots around class schedules to reduce time spent searching for parking.

2. Faculty and Staff

- Require convenient parking options to maintain punctuality for lectures and administrative tasks.
- Can utilize the reservation system to secure priority spots or schedule specific time slots.

3. Campus Visitors

- Occasional users who might be unfamiliar with the campus layout.

- Rely on real-time availability and navigation features to avoid confusion and delays.

4. Parking Administrators / Security Staff

- Oversee parking lot capacities and user compliance.
- Use administrative tools to monitor usage, resolve disputes, and plan for expansions or maintenance.