

Luqya

App

Lost and Found Items in the Holy Mosque

Project ID : (501598-3)

Start Presentation

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Team Members..



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Supervised by: Dr. Maram Kurdi

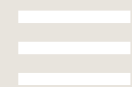


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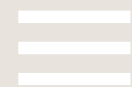
Introduction

Survey

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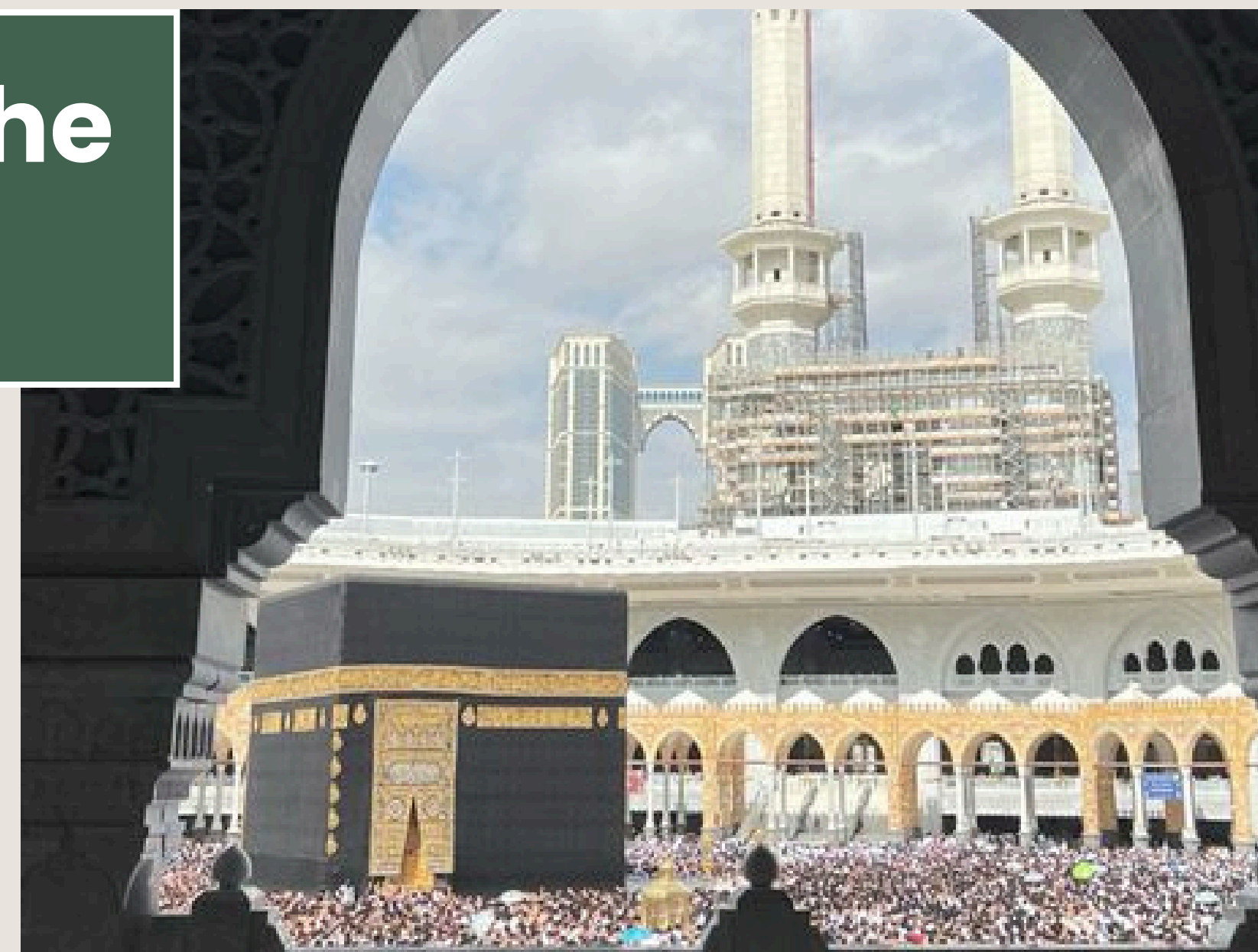
1. Introduction

Luqya is a mobile app developed to manage lost-and-found items in the Grand Mosque of Makkah, which welcomes millions of pilgrims each year. The app addresses the growing need for an efficient digital solution, enabling users to report and track lost items with real-time updates, multilingual support, and location-based features. By improving communication with the mosque's lost-and-found department, Luqya reduces stress, boosts efficiency, and enhances the overall pilgrimage experience.



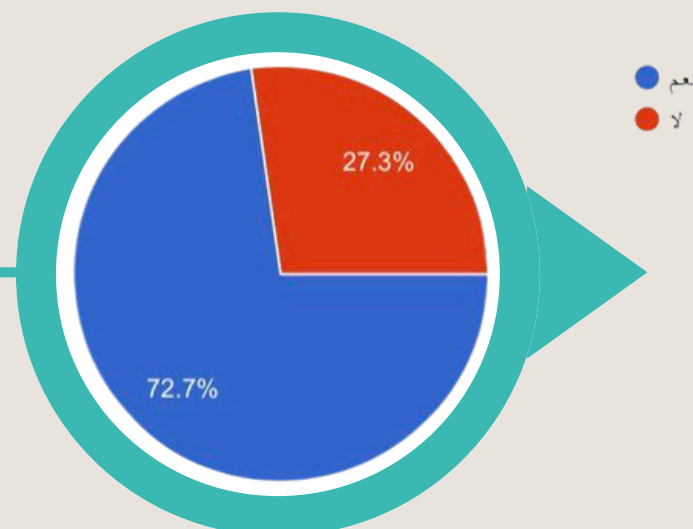
1.1 Survey on Lost Items in the Holy Mosque

- Conducted an online survey to understand challenges in locating lost items at the Holy Mosque.
- Aimed to gather data on:
 - Frequency of lost items.
 - Types of items commonly misplaced.
 - Difficulties during recovery.
- Analyzed responses from 55 participants to identify key issues.
- Insights informed the design and features of the **Luqya** app to address user needs effectively.





Start



Have you ever lost any belongings while performing Hajj or Umrah?

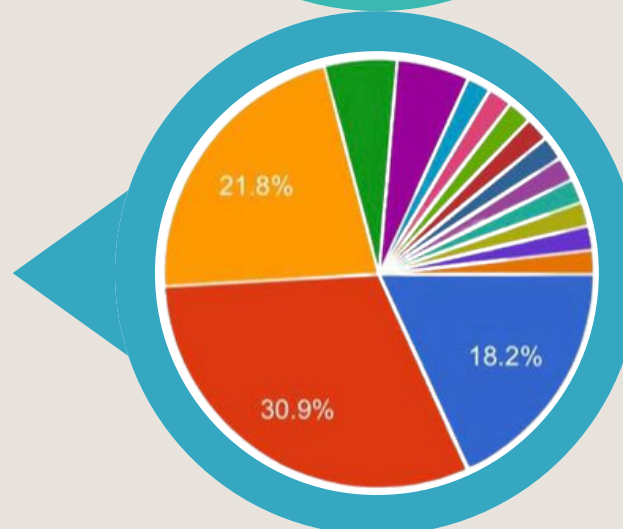
01

72.7% of respondents reported having lost items during their pilgrimage.

02 | If yes, what type of items did you lose?

The most commonly lost items were:

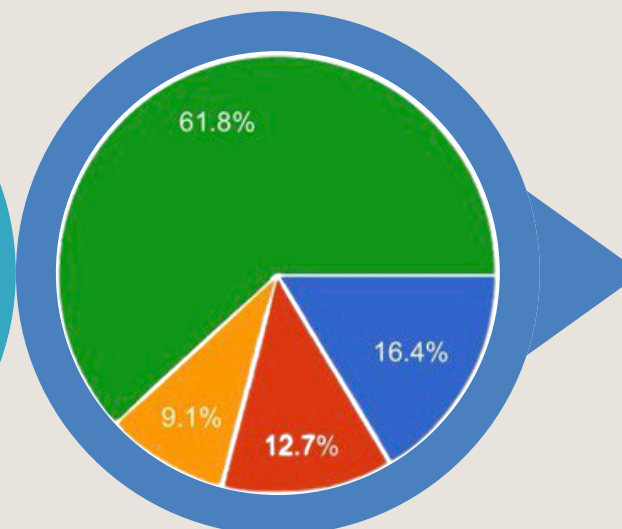
- **Wallets or money** (30.9%)
- **Mobile phones** (21.8%)
- **Personal documents** (18.2%)



How long did it take to recover your lost belongings?

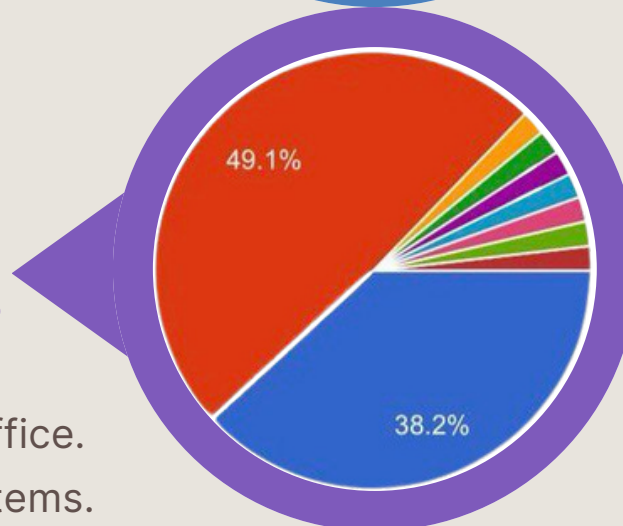
03

- **61.8%** of respondents said they were unable to recover their items.
- **16.4%** recovered them in less than an hour.
- **12.7%** took between 1 to 3 hours.
- **9.1%** took more than 3 hours.



04 | What challenges did you face in recovering lost belongings?

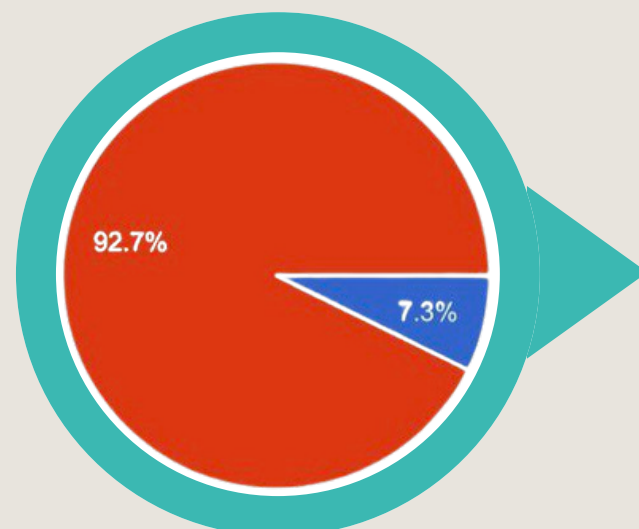
- **38.2%** reported difficulty locating the lost-and-found office.
- **49.1%** cited the lack of a mobile app for reporting lost items.





Have you used any other lost-and-found apps or services during Hajj or Umrah?

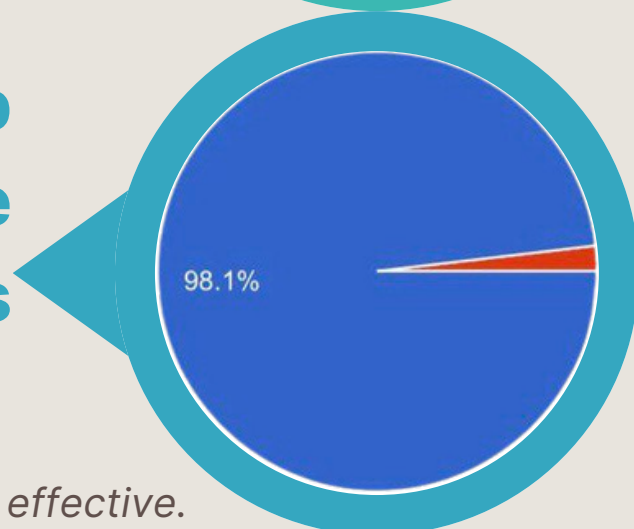
05



- 92.7% said **no**, they had not used such services.
- 7.3% said **yes**.

06 | Do you think a mobile app would be more effective than traditional methods for finding lost items?

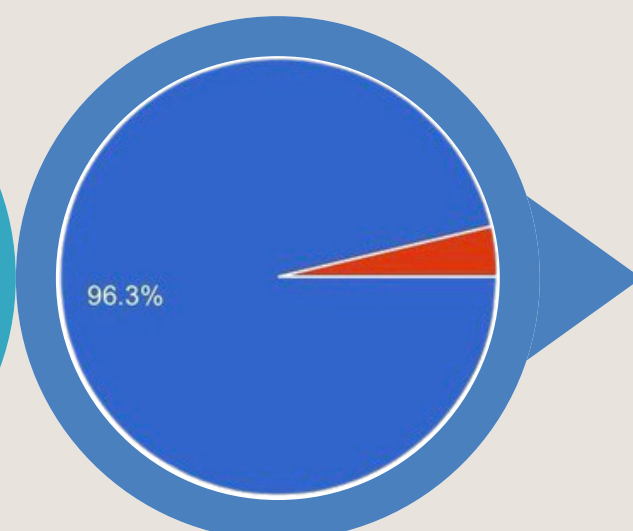
- 98.1% agreed that a mobile app would be more effective.



If you found an app to report lost items in the Holy Mosque, would you use it?

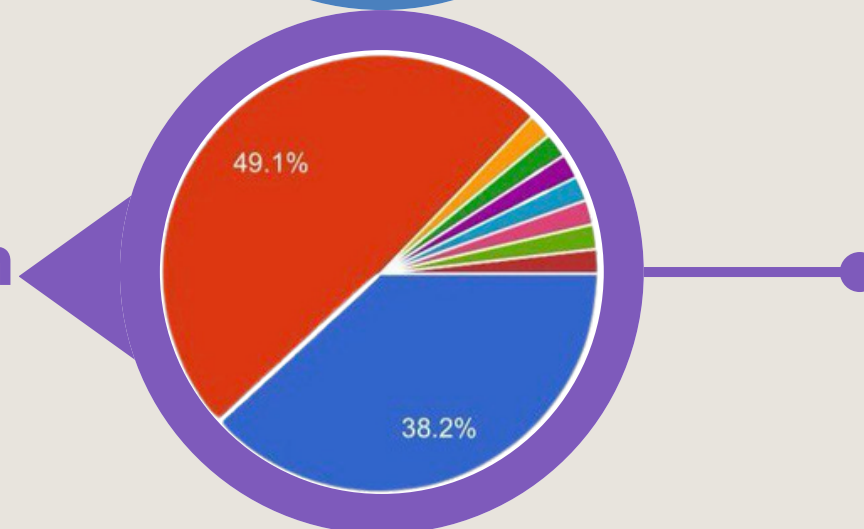
07

- 96.3% responded with **yes**.



08 | How important is having an app to help locate lost items in the Holy Mosque?

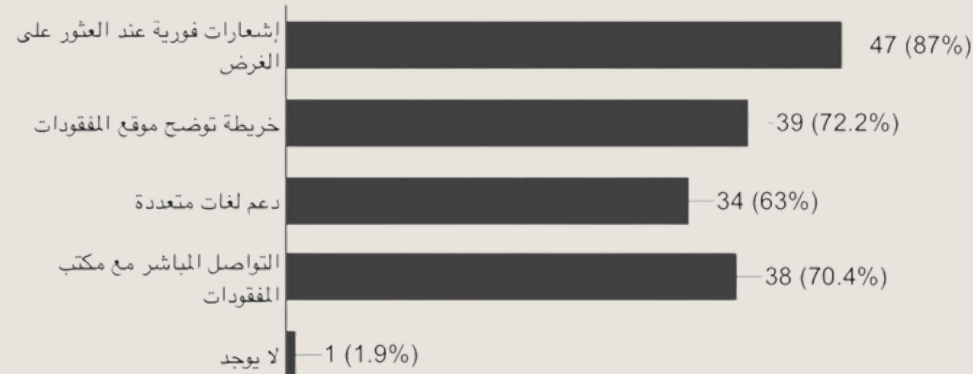
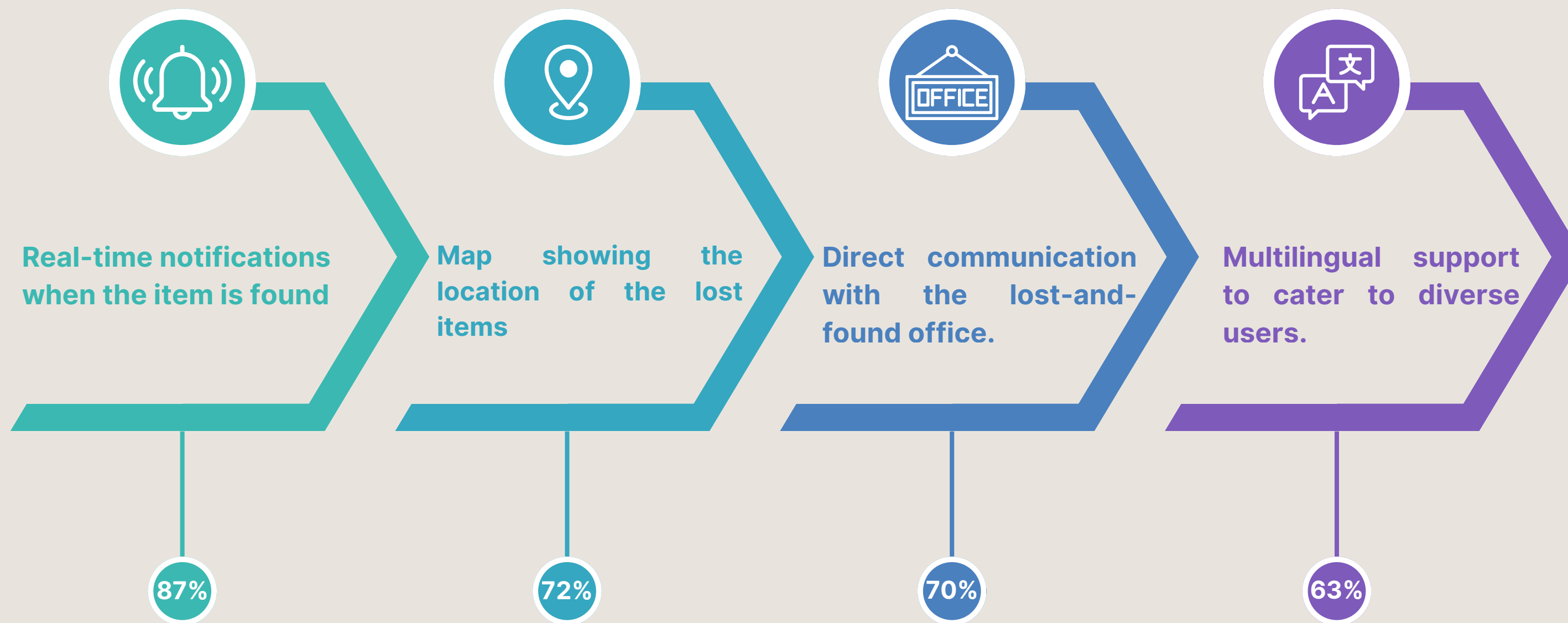
- 86.8% rated it as **very important**.
- 13.2% rated it as **important**.



Goals : The survey highlights a significant gap in the availability and effectiveness of lost-and-found solutions for pilgrims. The overwhelming support (98.1%) for a mobile app underscores the importance of developing the Luqya app to modernize and simplify the process of locating lost items, enhancing the overall pilgrimage experience.



What features do you expect in an app for managing lost items?





The Grand Mosque hosts millions of pilgrims annually, creating a spiritually significant yet challenging environment.



Frequent loss of personal belongings (e.g., phones, wallets, passports) adds stress and disrupts worship.



Traditional lost-and-found methods are inefficient and time-consuming.



With more pilgrims and mosque expansions, an innovative solution is needed to streamline lost-and-found processes and enhance the Hajj and Umrah experience.



Objectives of the Luqya App

01

Develop a User-Friendly App



02

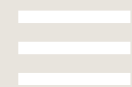
Real-Time Notifications



03

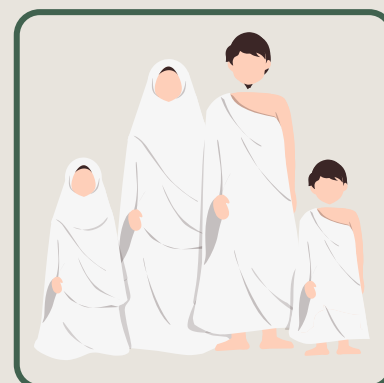
Item Tracking





The intended users of the system are:

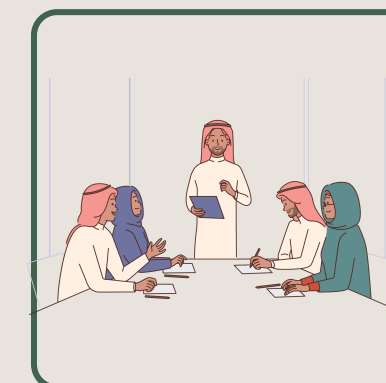
Pilgrims and Umrah performers who have lost items.



People who find lost items in the mosque.



Mosque staff and volunteers managing lost-and-found.





Centralized Reporting System | 01

Pilgrims can report lost items through a user-friendly interface, which logs the details into a centralized database.

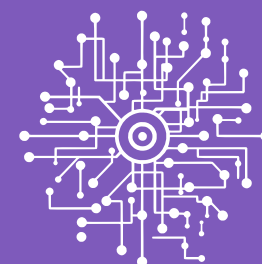
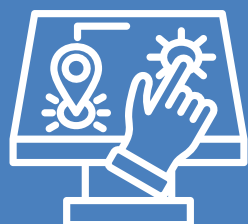


02 | Multilingual Support

The app provides language options to cater to the diverse global population of pilgrims.

Interactive Map | 03

A visual, interactive map guides users to designated lost-and-found locations within the Grand Mosque for item retrieval.



04 | Automated Matching System

Leveraging database matching algorithms, Luqya connects lost item reports with found items, reducing time and effort for users and mosque authorities.

BY THE END OF THIS PROJECT, WE EXPECT TO OBTAIN THE FOLLOWING BENEFITS:

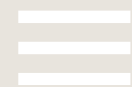


SUMMARY OF RELATED WORKS

Lost-and-found systems have advanced significantly thanks to AI and mobile technologies. Most existing platforms focus on narrow categories, like lost pets (e.g., FidoFinder for dogs and TabbyTracker for cats). Some broader platforms like Lost and Found.com exist, but they are not tailored to users in Saudi Arabia or suitable for the Grand Mosque context.

Recent innovations include companion robots for dementia patients and facial recognition for finding missing people, but these are specialized and not designed for crowded religious sites.

Luqya stands out as the first system designed specifically for the Grand Mosque. It supports Arabic, uses AI for image-to-description matching, and offers features like an interactive map and multilingual support—making it ideal for the needs of pilgrims and Umrah performers.



Scope

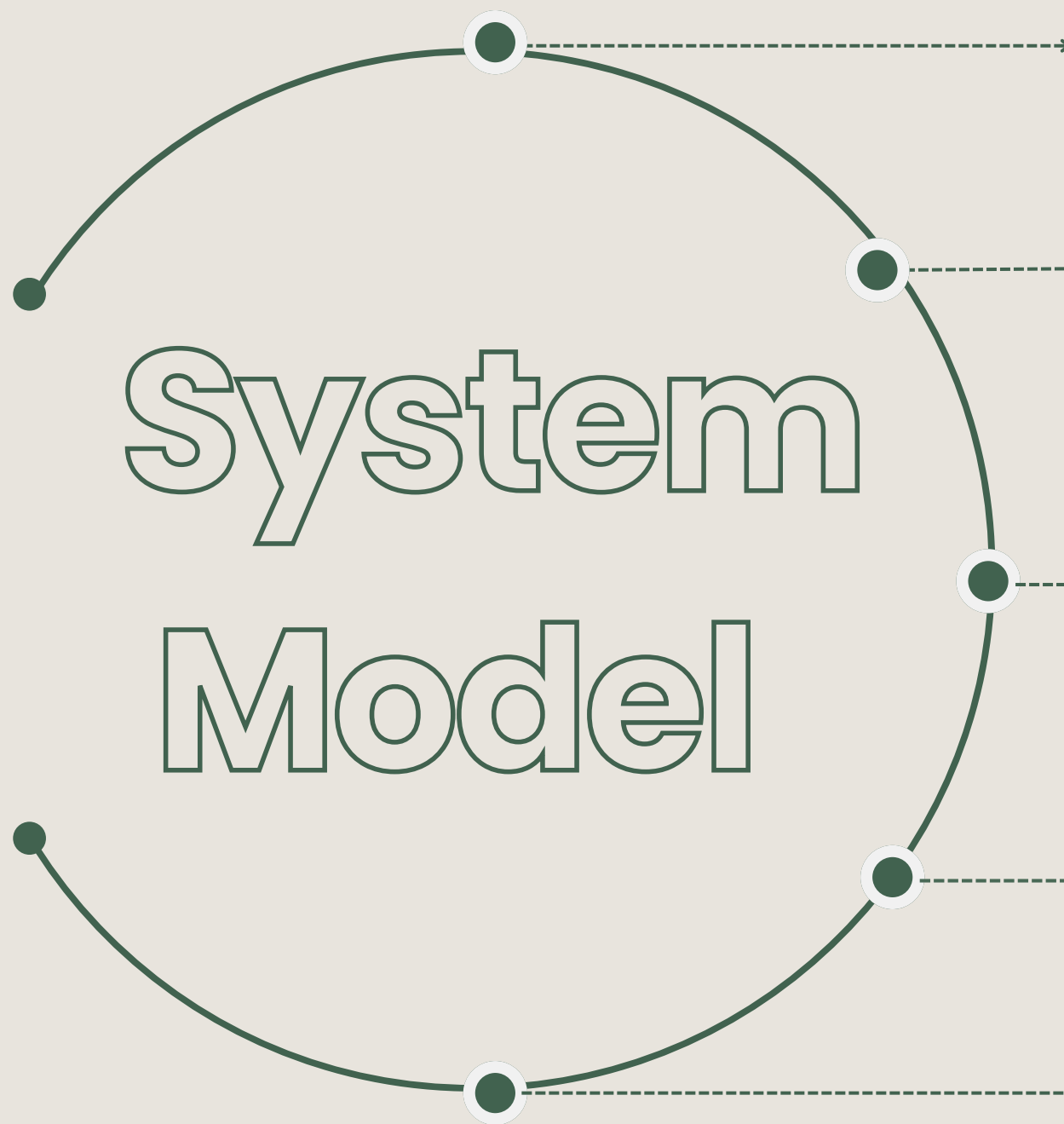
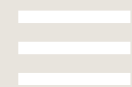
Proposed Solution

Literature review

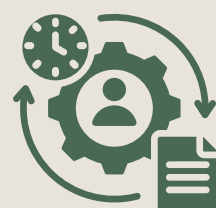


Features / Apps	The Fido Finder	Tabby Tracker	Lost and Found	Luqya
In Saudi Arabia	No	No	No	Yes
Support Arabic	No	No	No	Yes
Object Detection	No	No	Yes	Yes
Mobile Applications	No	No	No	Yes
Interactive map	No	No	No	Yes



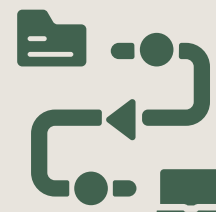


User Interface



- Sends requests for reporting and searching lost items.
- Receives status updates and notifications.
- Supports multiple languages for diverse users.

Application Logic



- Processes lost and found item reports.
- Manages item matching, notifications, and categorization.
- Handles user login and item location tagging.

Data Access Layer



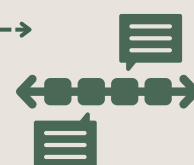
- Connects the app logic to the database.
- Ensures secure and fast data retrieval.

Database (Firebase)

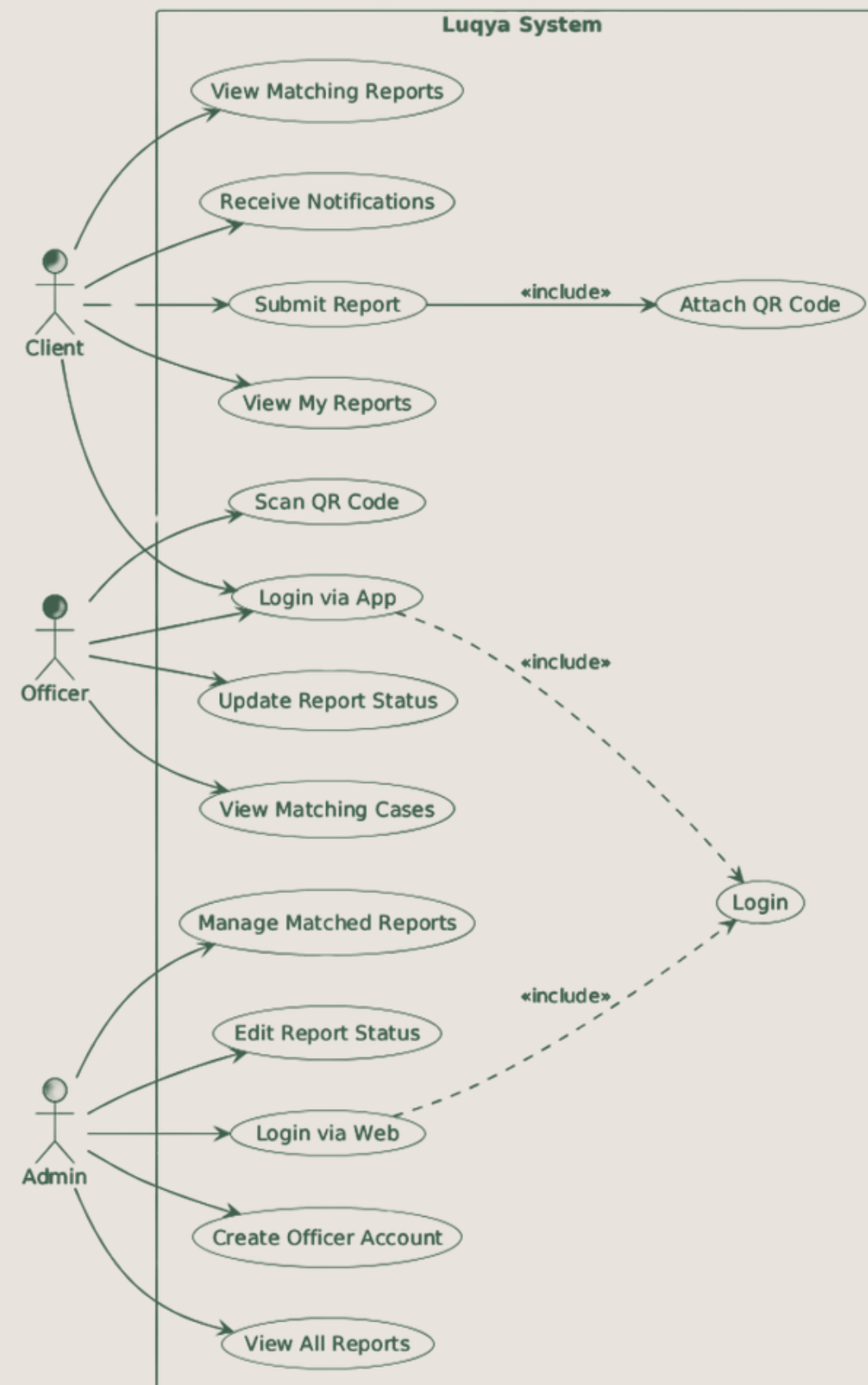


- Stores data in collections: Users, Items, Notifications.
- Supports real-time synchronization and scalability.

Outcome



- Simplifies lost item reporting and retrieval.
- Enhances the user experience and reduces admin workload.
- Provides secure, real-time, high-availability service.





System Block Diagrams

User Interaction :

Users report or search for lost items via the app.

Easy-to-use interface designed for pilgrims and visitors.

- Features include:

- Lost item report form
- Categorized browsing
- Real-time notifications
- Interactive map for office location

Mobile App :

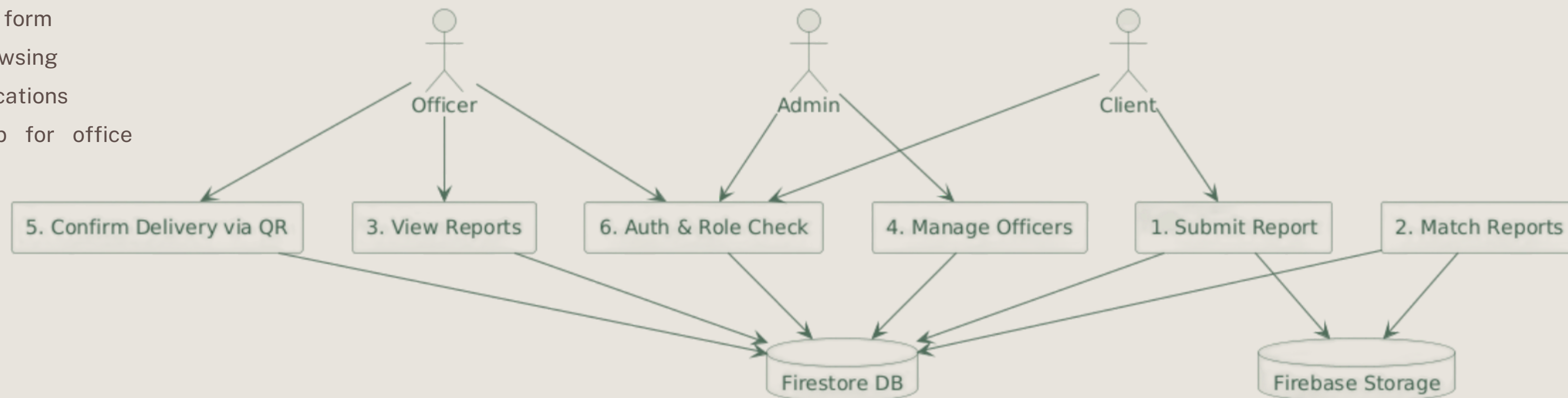
- Allows submission and tracking of reports
- Supports multilingual access
- Sends and receives real-time updates

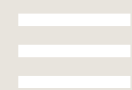
Backend

- Manages business logic and processing:
 - **Item Submission Module**
 - **Search & Match Module**
 - **Notification Module**
- Developed using Firebase for scalability and real-time response

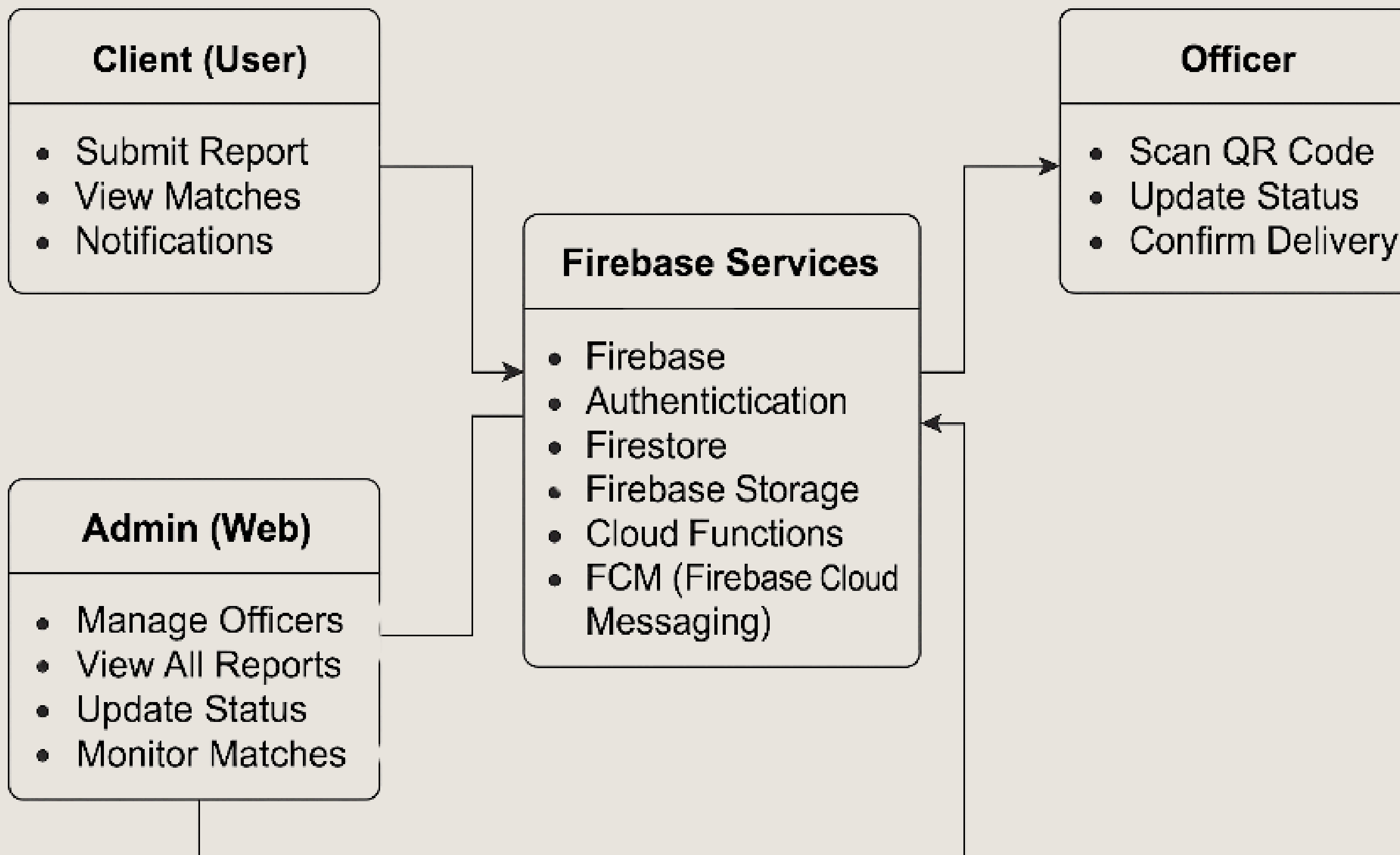
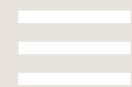
Database

- Uses Firebase (NoSQL) - Collections include:
 - **Users**
 - **Items**
 - **Notifications**
- Optimized for fast access and real-time sync





Tool / Technology	Purpose
Flutter	Cross-platform mobile and web app development.
Firebase Authentication	User login and authentication management.
Firebase Firestore	Real-time NoSQL database for storing reports and user data.
Firebase Cloud Functions	Backend logic for matching reports and sending notifications.
Firebase Storage	Upload and retrieve images and QR codes.
FCM (Firebase Cloud Messaging)	Push notifications to users and officers.
Lottie	Animations (e.g., loading screens).
PlantUML	Creating UML diagrams such as use case and activity diagrams.





Features and Functionalities

Client (User)

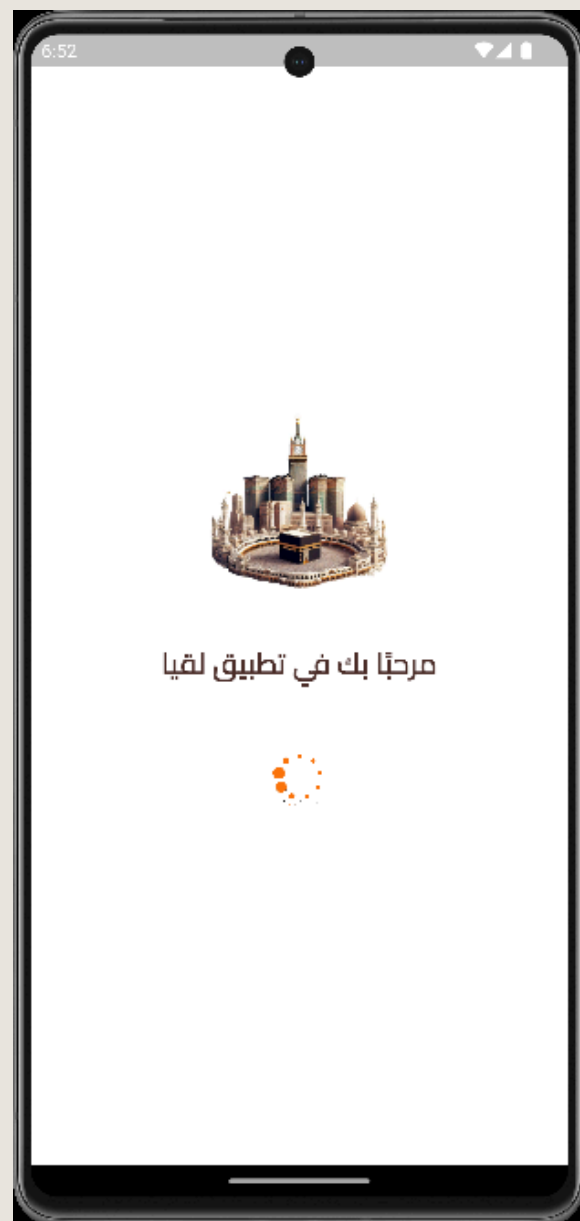
- Register/Login (via email and password).
- Submit Lost or Found reports.
- Upload images and receive a unique QR code.
- View matching reports automatically.
- Receive real-time notifications.
- Track the status of submitted reports.
- View and edit personal profile.

Officer

- Login via assigned credentials.
- View matched reports.
- Scan QR codes to confirm item receipt or delivery.
- View delivery instructions and item details.

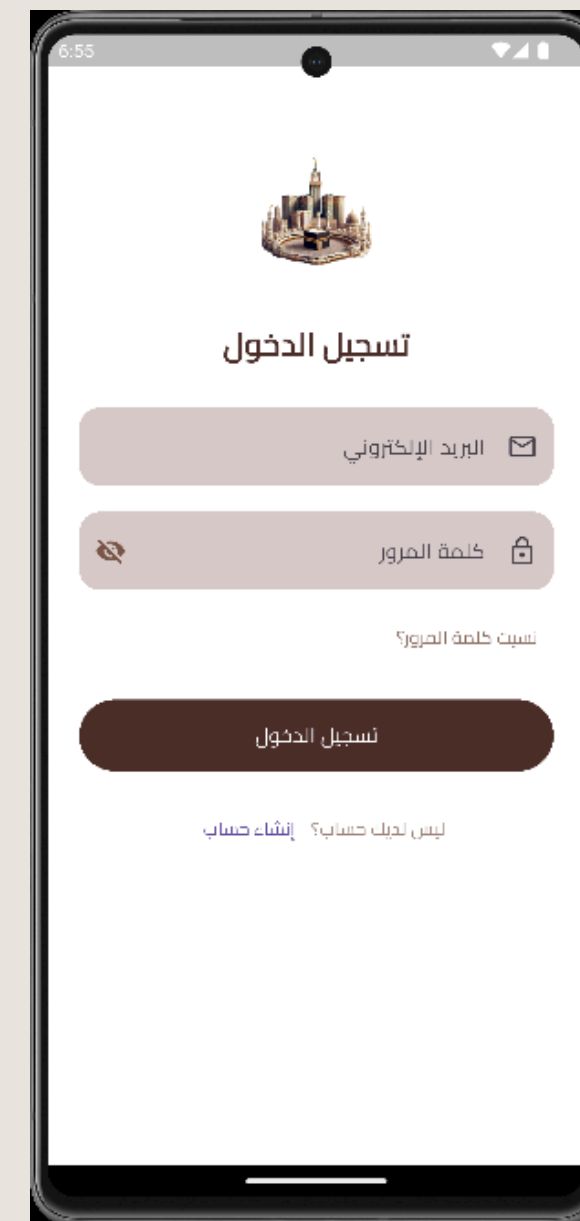
Admin

- Login via secure web interface.
- Create and manage officer accounts.
- View all reports and users.
- Update report statuses manually.
- Review matched reports and their details.

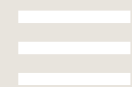


Splash Screen

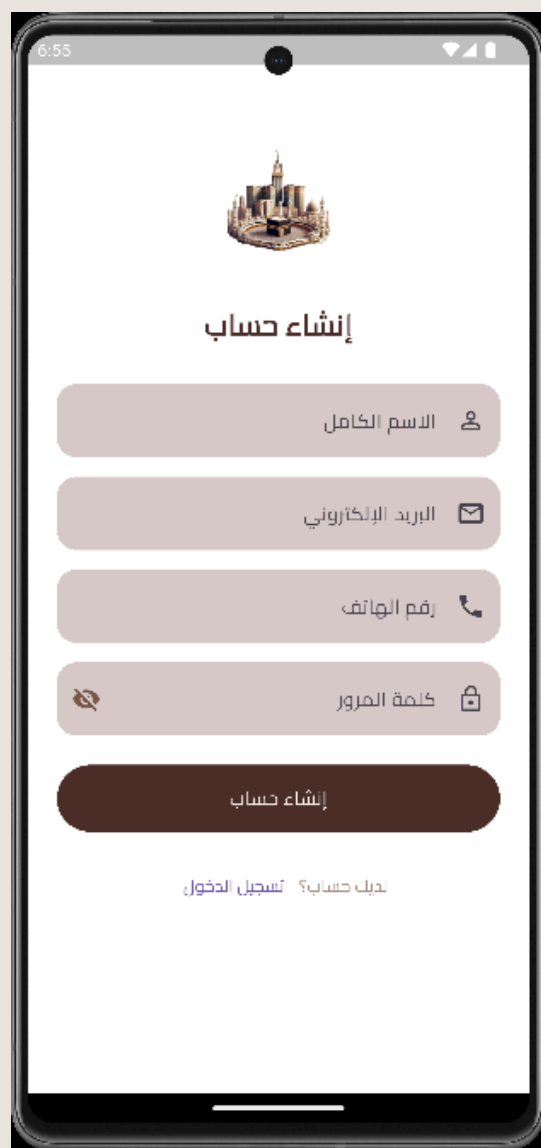
Welcome Screen



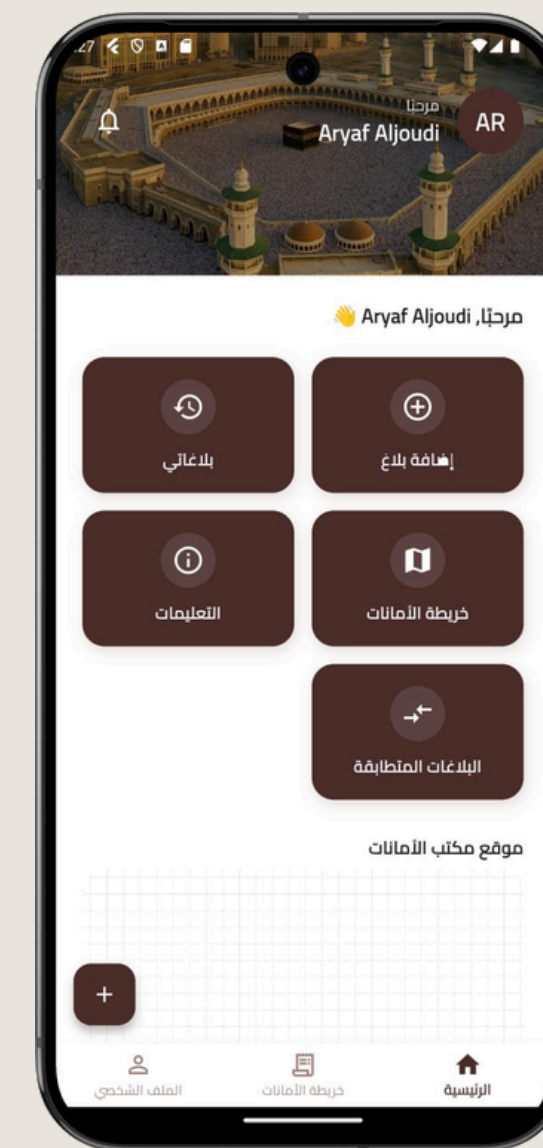
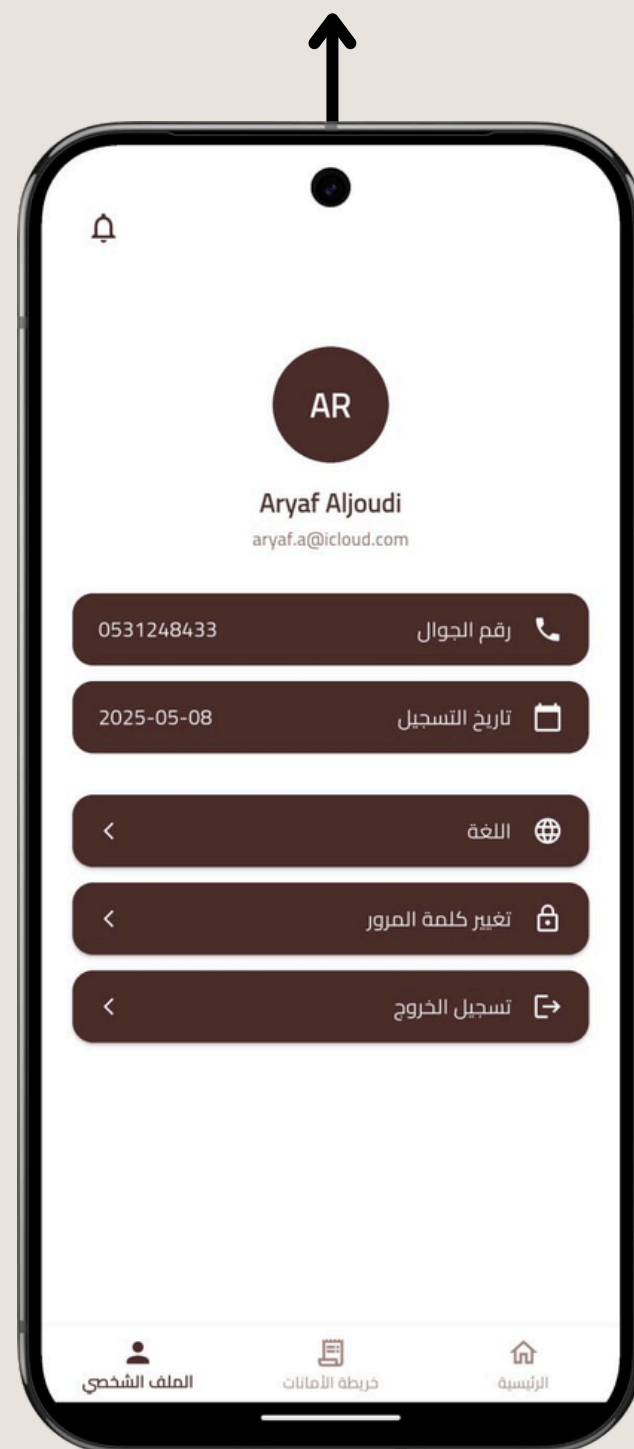
Log In Screen



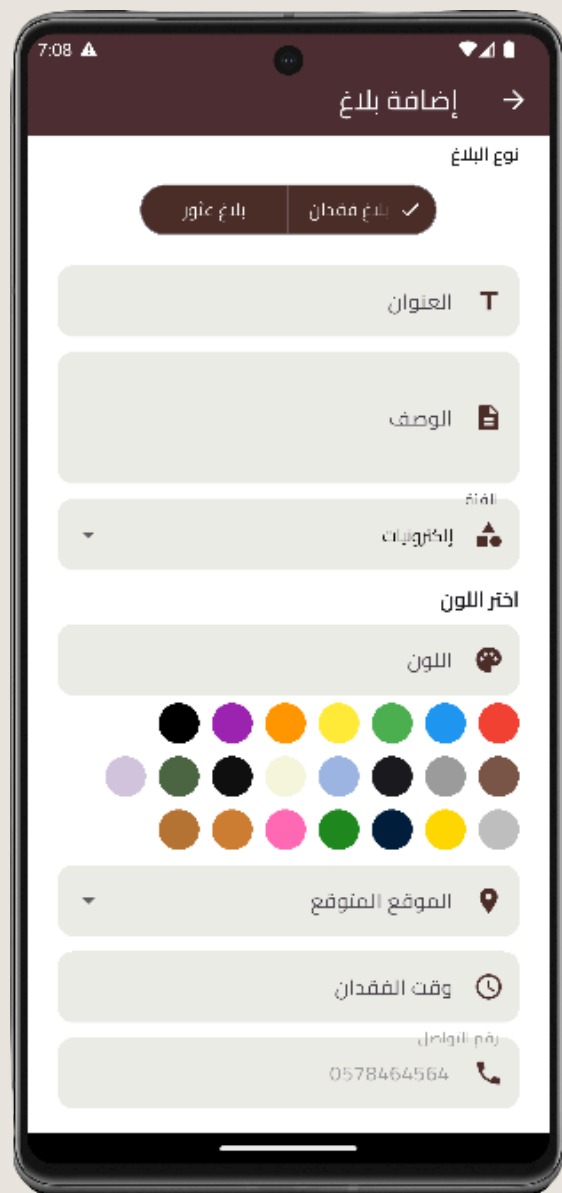
User Profile and Settings



Sign Up Screen



Home Screen

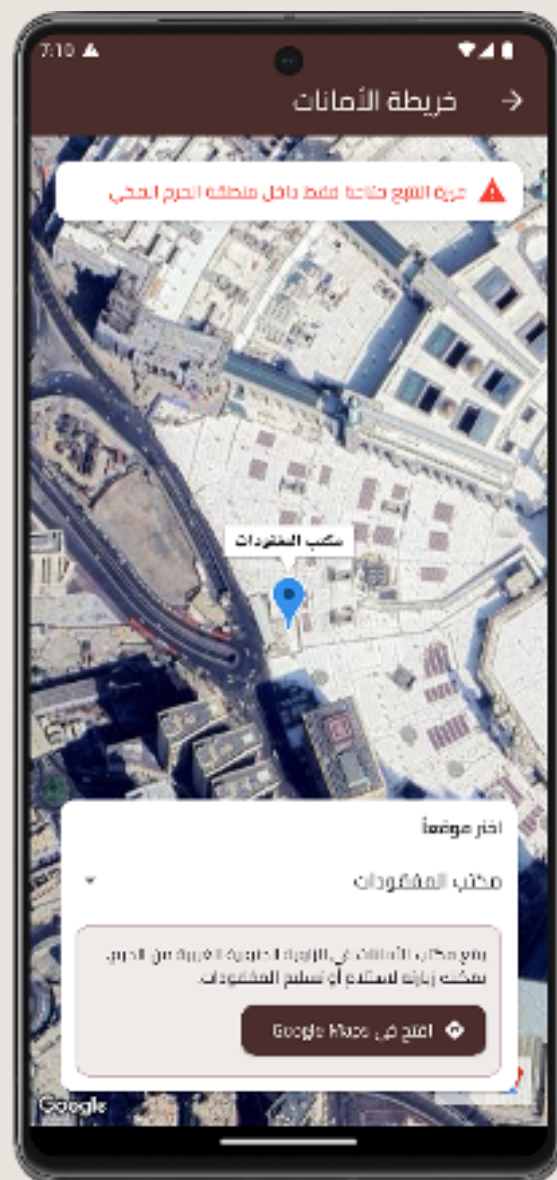
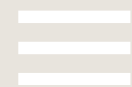


Add Report Screen

Report Confirmation Screen

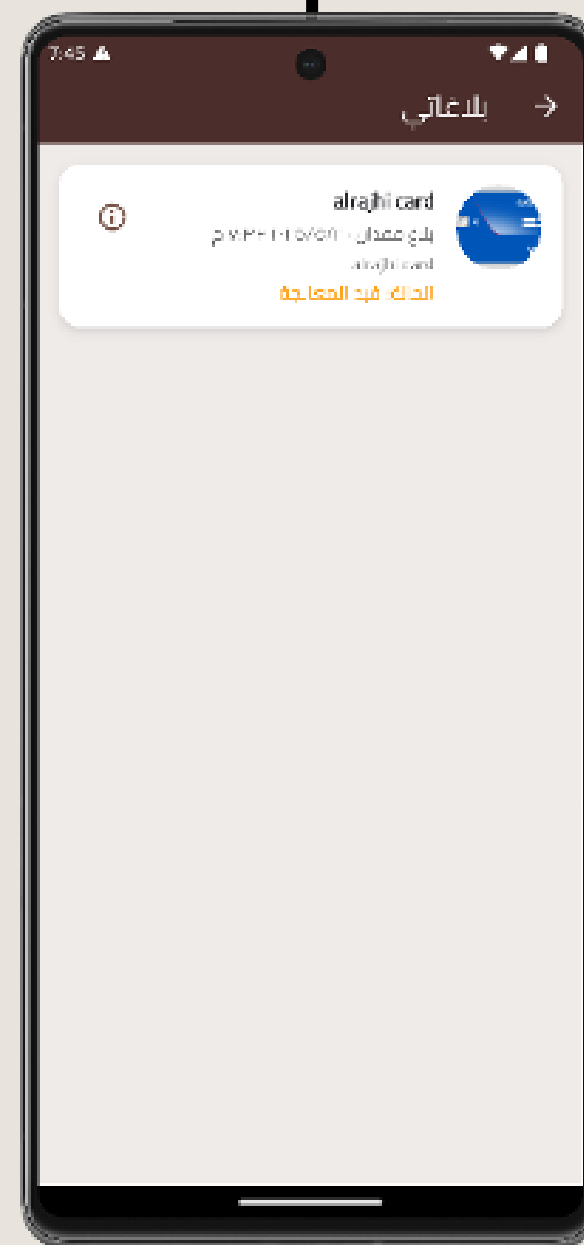


Instructions Screen



Lost & Found Map Screen

My Reports Screen



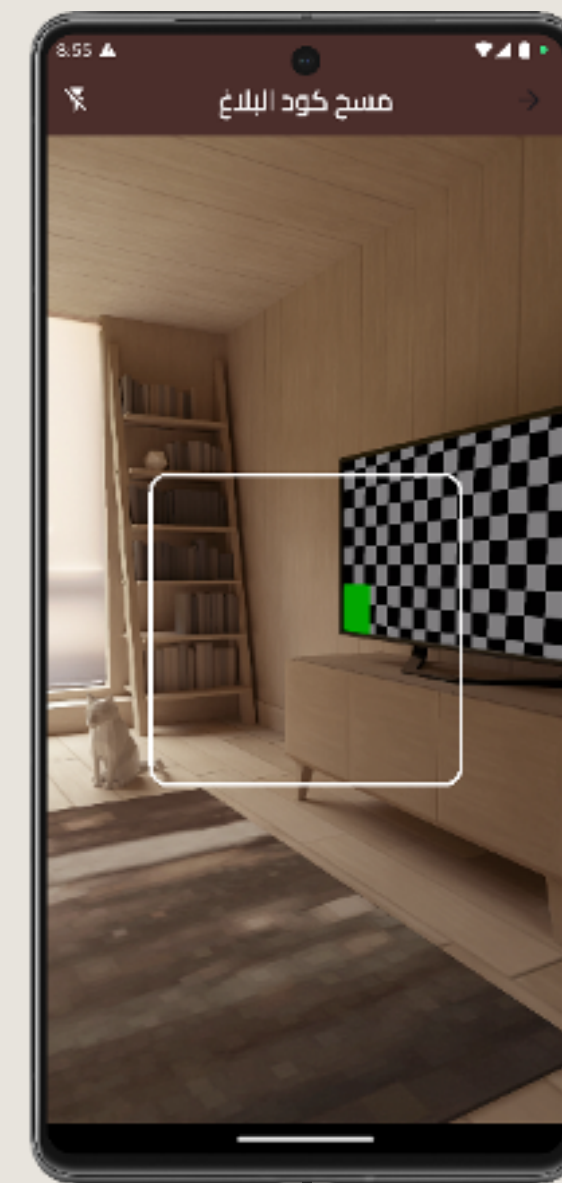
Report Details Screen



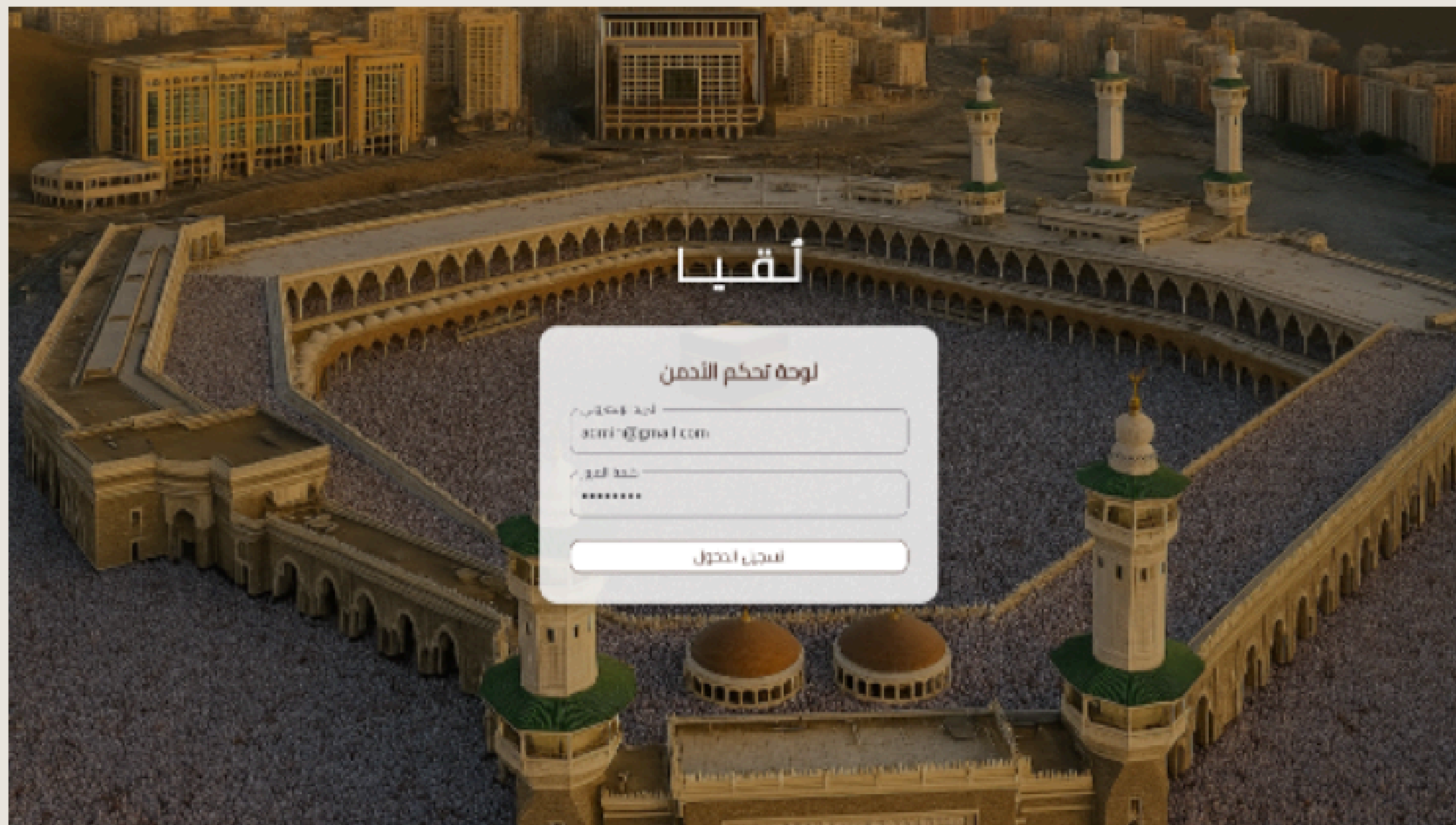
Officer Home Screen



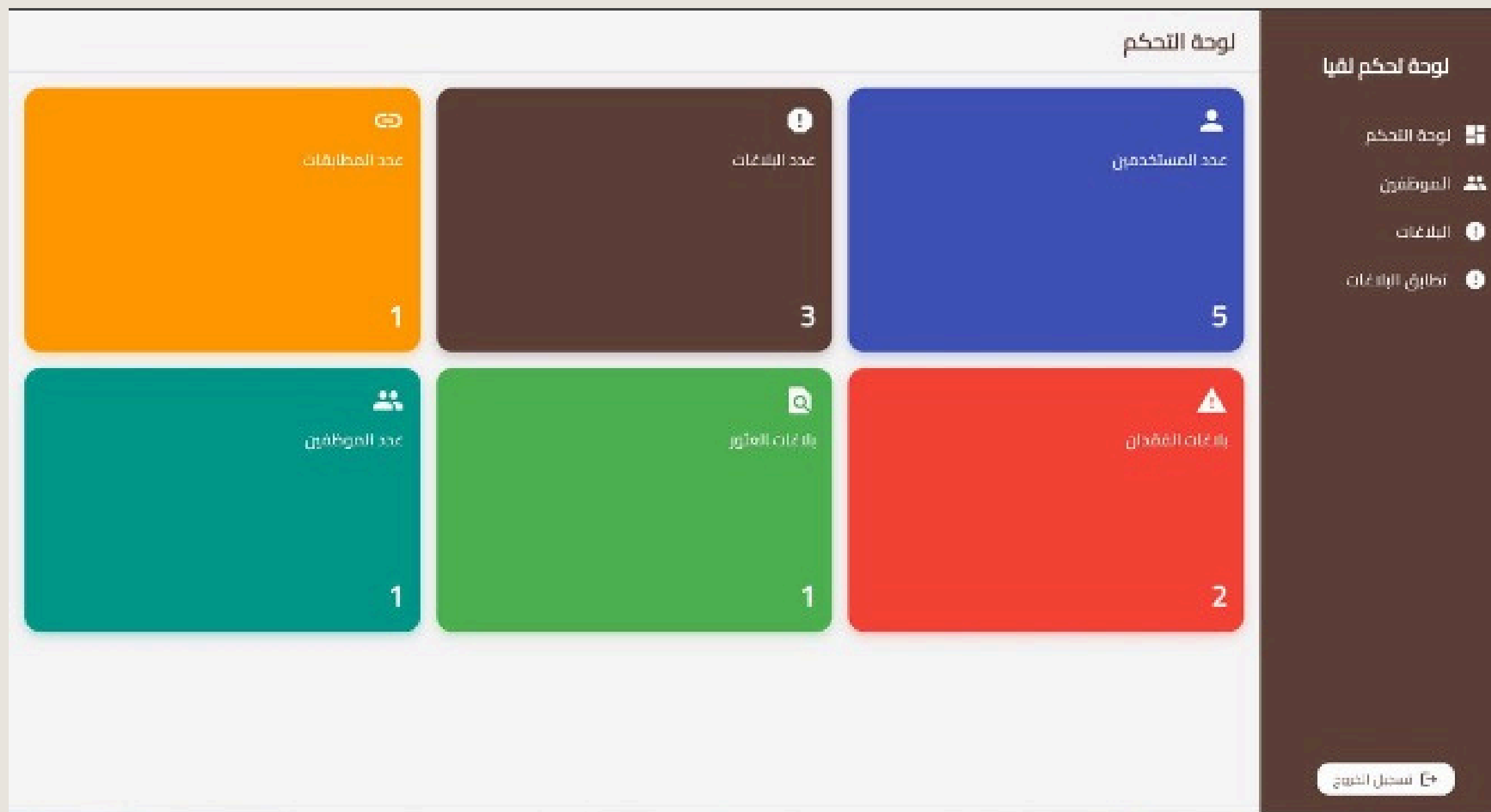
Notifications Screen



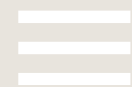
QR Code Scanner Screen



Admin Login Screen



Admin Dashboard Screen



إضافة موظف →

الاسم

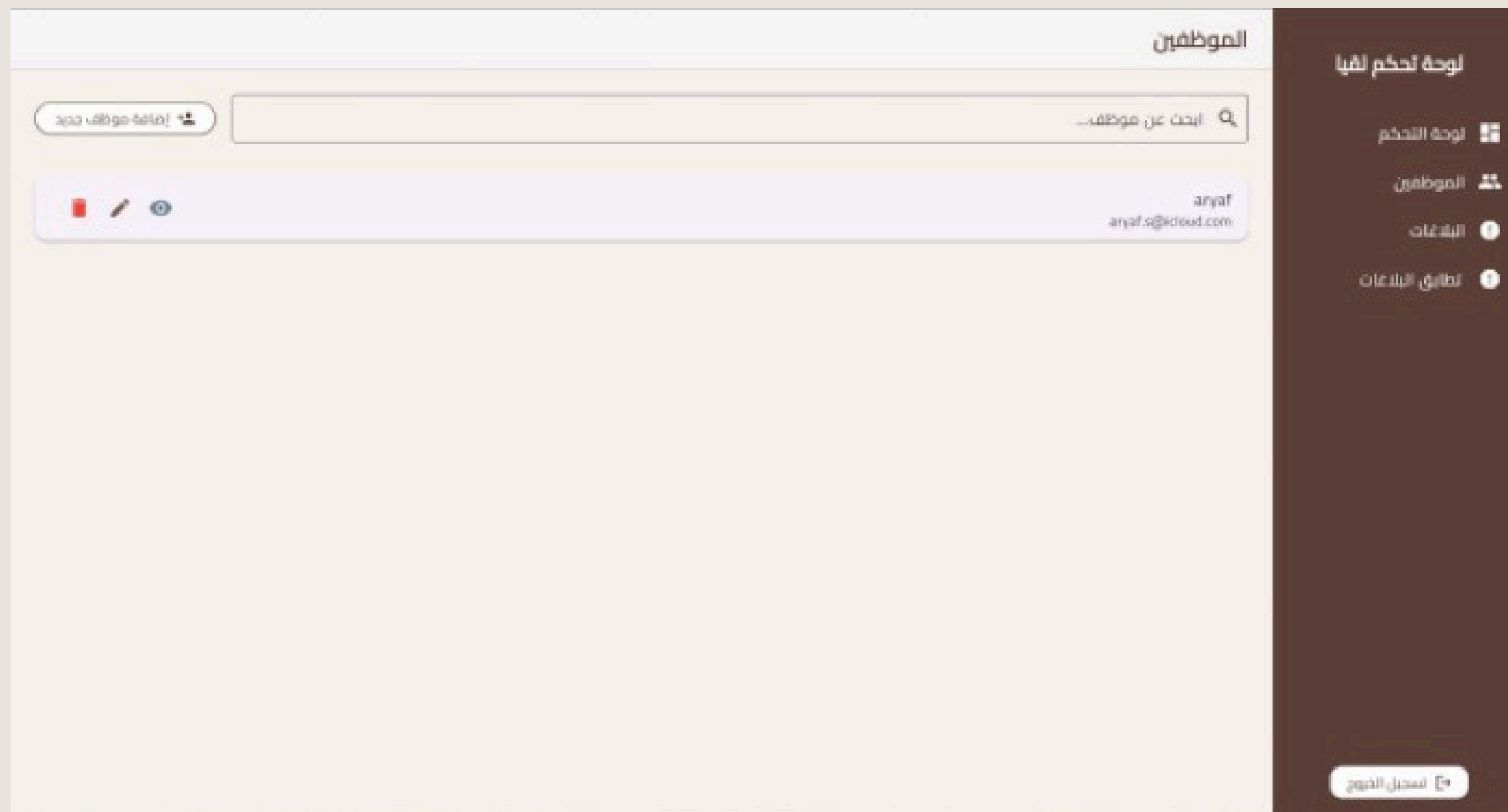
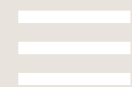
البريد الإلكتروني

كلمة المرور

حفظ الموظف



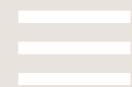
Add Employee Screen



Employee Management Screen



Reports Overview Screen



Matching Reports Screen



1. Build Compilation and Testing:

The complete Flutter app (mobile) and web dashboard were built and tested in both development and production environments to ensure compatibility across devices and browsers.

2. Firebase Deployment:

All backend services including Firestore, Firebase Storage, Authentication, and Cloud Functions were deployed using Firebase's secure and scalable infrastructure.

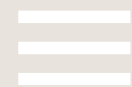
3. App Distribution:

The Luqya mobile app was compiled into APK format for Android and prepared for deployment through internal channels (or Google Play for future versions). Web deployment was hosted via Firebase Hosting or alternative platforms.

4. Final Testing:

End-to-end testing was conducted covering:

- Report submission and QR generation
- Officer QR scanning and status updates
- Admin report management and matched reports
- Notification flow and multilingual UI verification



5. Bug Fixes and Optimization:

Minor UI/UX bugs, text overflow, and permission-related issues on Android 13/14 were resolved. QR scanning and image saving features were optimized for performance and reliability.

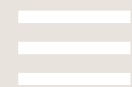
6. User Roles and Permissions:

Final Firebase rules and logic ensured that:

- Users can only access their own reports.
- Officers have controlled access to update report statuses.
- Admins can manage all data and accounts via the web dashboard.

7. Finalization:

The system was finalized with clean code, organized folder structure, and fully bilingual (Arabic + English) support. All source code, assets, and documentation were reviewed and archived for submission.



The successful implementation of the "Luqya" application demonstrates the feasibility of utilizing technology to improve the lost-and-found process within the Holy Mosque. Through structured development, rigorous testing, and efficient system design, the application was developed to enhance accessibility, efficiency, and convenience for pilgrims and Umrah performers. This phase has ensured that all core functionalities, including item reporting, tracking, and retrieval, are operational and user-friendly. The completion of this stage paves the way for further improvements and potential real-world deployment.

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Thank

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