



Palestine Technical University – Kadoorie

ROADS App

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Explore Now





Welcome To ROADS

Your Smart Road Companion

ROADS is a mobile application designed to help users stay informed about road conditions .

About Our Application

ROADS is a smart road monitoring app that helps users stay updated with live traffic alerts and roadblocks. It combines map-based navigation with real-time data to improve road safety and reduce travel time. Designed with a clean and intuitive interface, ROADS makes road awareness easier for everyone.

Problem & Objectives

01

Problem: Roadblocks, prohibited zones.

02

Objective: Provide real-time, safe navigation routes.

03

Enable dual-language support.

Key Features

01

Live Road Updates and Interactive Map

02

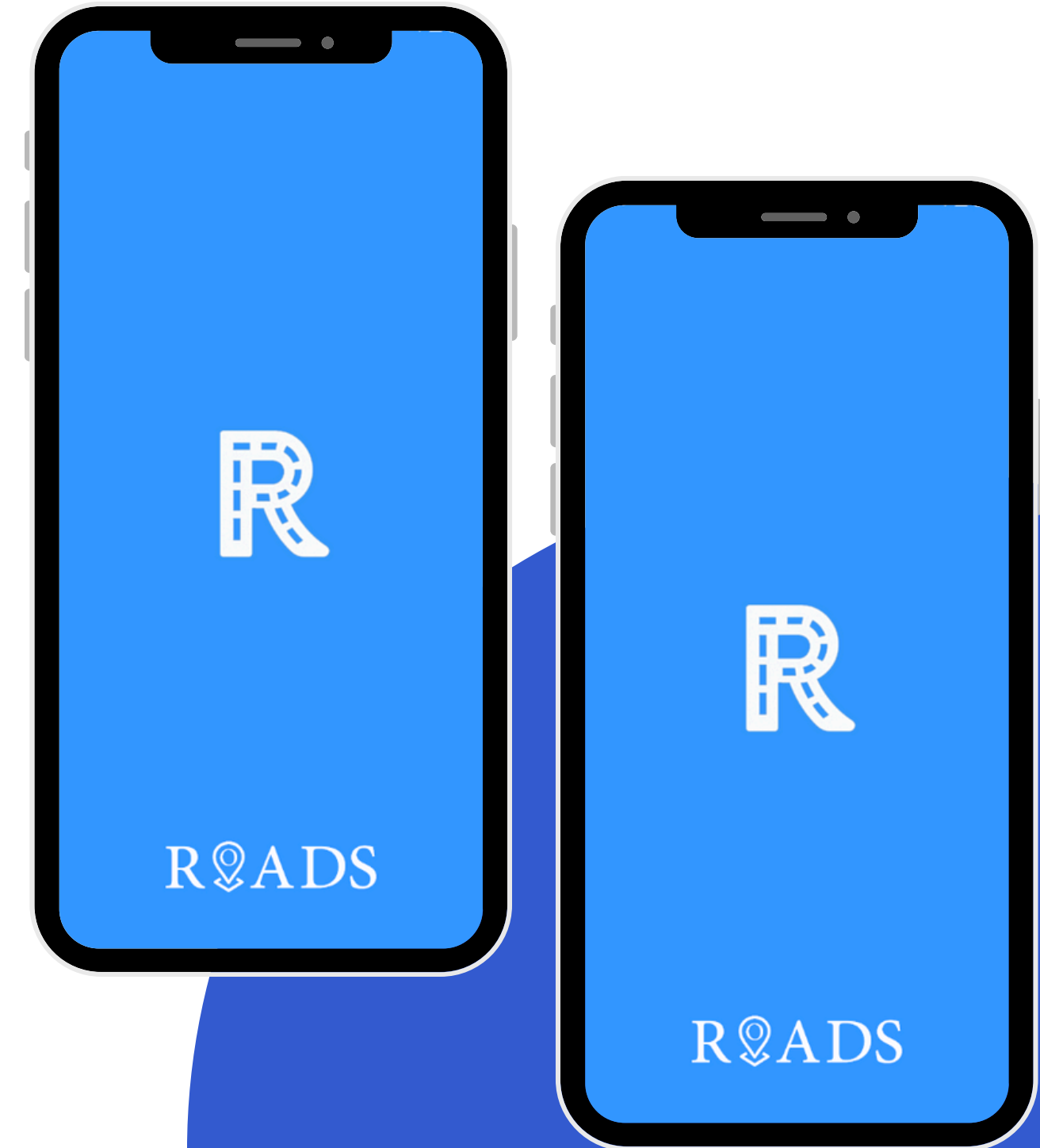
Telegram Bot Integration with AI

03

Arabic & English Support

04

User Authentication and Notifications





Technical Stack

01

Frontend: Flutter (Dart)



03

Database: Google Firestore



Firestore

02

Backend: Flask (Python) + Dart



python™



Dart

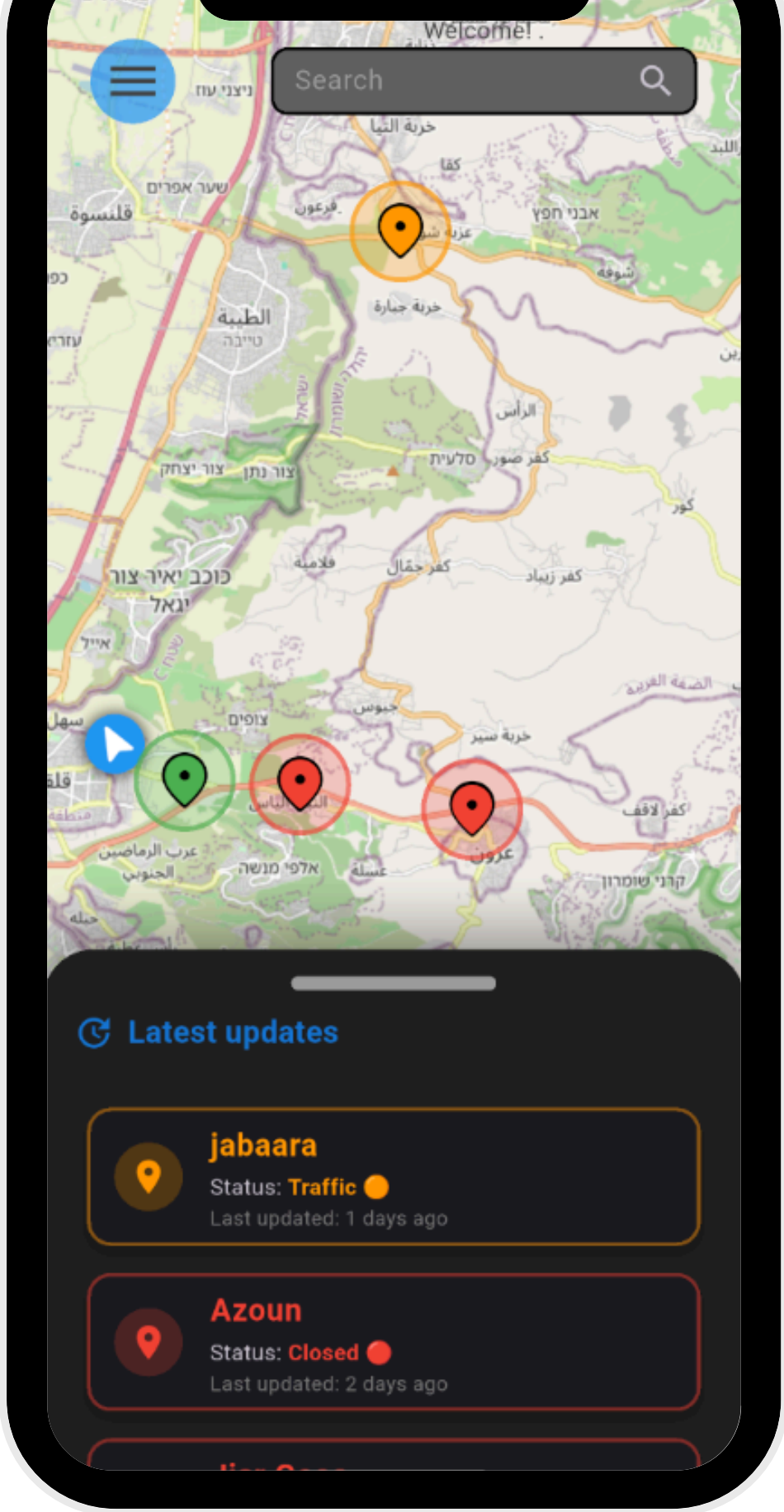
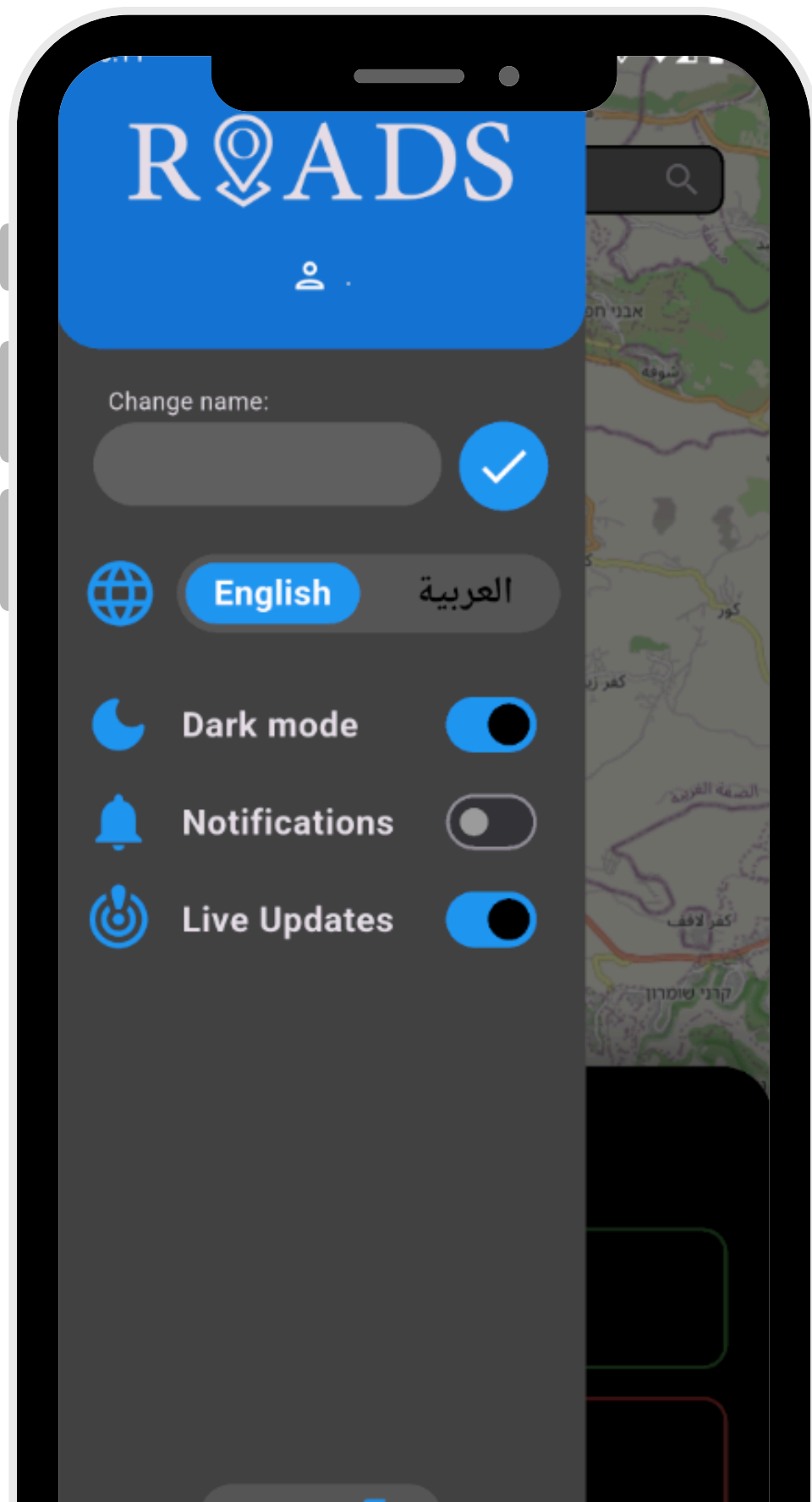
04

AI + Bot: Telegram API + HuggingFace



Hugging Face

Our application is built using this combination of frontend, backend, database, and AI tools to ensure functionality, performance, and smart automation.



Implementation

- 01

Account Management
(Signup, Login, Logout)
- 02

Map with Real-Time
Status Feed
- 03

AI for Arabic Road Status
Extraction
- 04

Telegram Bot for
Updates & Queries

Application Testing



Functional Testing
(Map, Profile, AI, etc.)



API
API Testing with Postman
and Telegram



Firestore
Firestore DB Consistency
Check



Flutter UI
RTL, Multi-device
support





Future works For project

- 01 Upgrade AI with advanced models (GPT-4, Mistral)
- 02 Deploy Bot + AI on cloud for 24/7 uptime
- 03 GPS-based alerts and auto location reporting
- 04 Community-verified road status markers

Conclusion

- Fills a gap in safe navigation for Palestinian drivers.
- Provides real-time updates and community input.
- Future: AI-powered GPS and advanced planning.



About Us



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Thank You

