Archetype Expo 2024

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Technology Enabling Centre

e-sadaksuraksha app

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Abstract:

Around the world, there are more than 1.3 million fatal car collisions each year. The total includes vulnerable road users such as cyclists, pedestrians and motorcyclists.IEEE Member Bilin Aksun-Guvenc believes that these numbers can be significantly reduced, and pedestrian safety increased, with a device that most people carry in their pockets: the smartphone.This project is aimed at developing a mobile app useful for drivers and pedestrians to help keep safe in traffic using smartphone sensor data of pedestrians to track user motion and broadcast it to the vehicles.
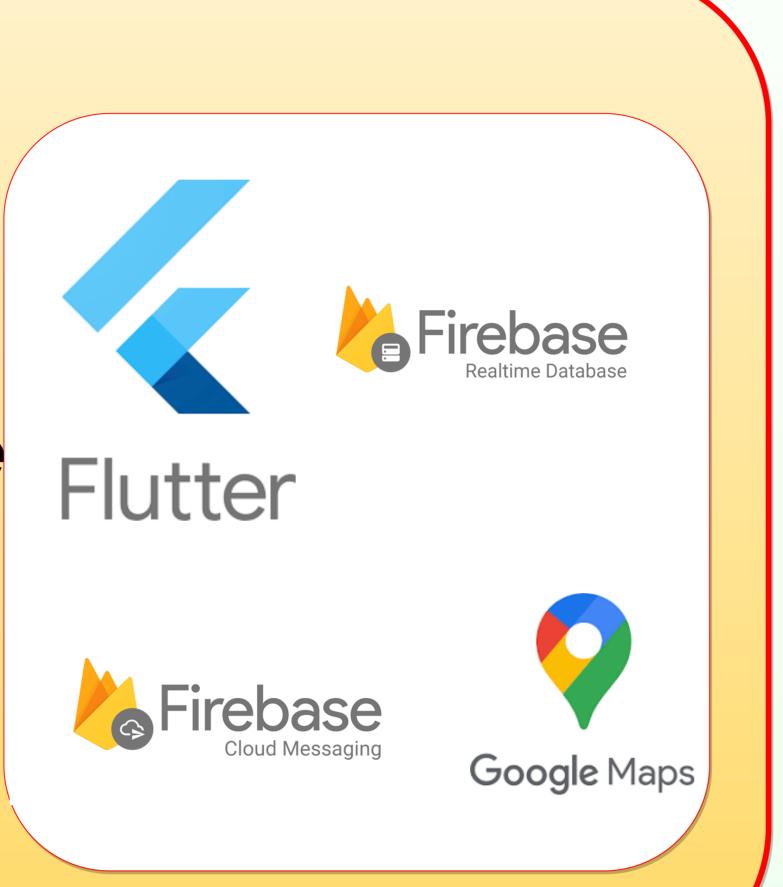
Problem Statement
To provide safety for drivers and pedestrians on the road using smartphone carried to prevent accidents.
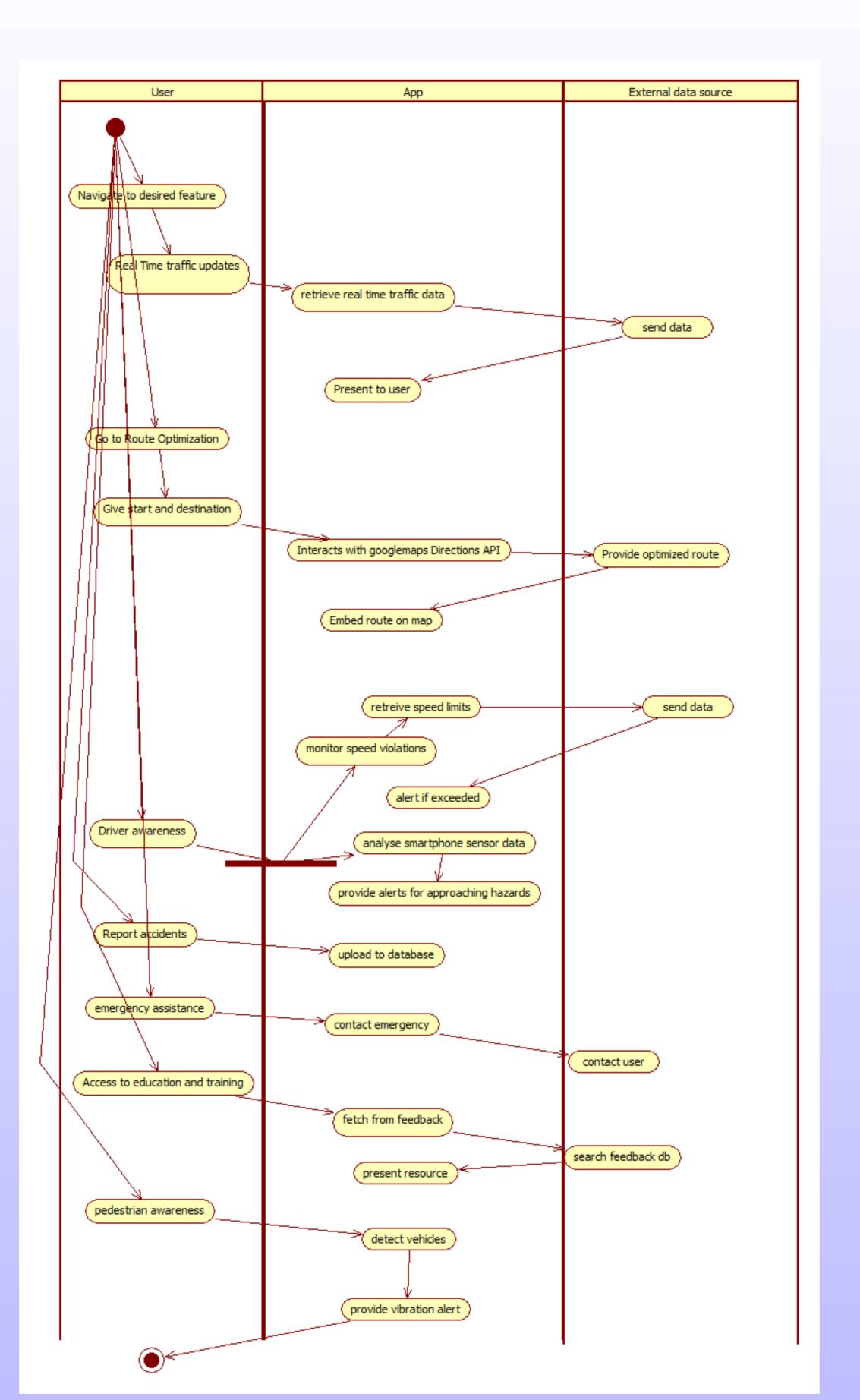
System Design-

Tools used for app
1) Flutter UI framework
2) Firebase Realtime Database
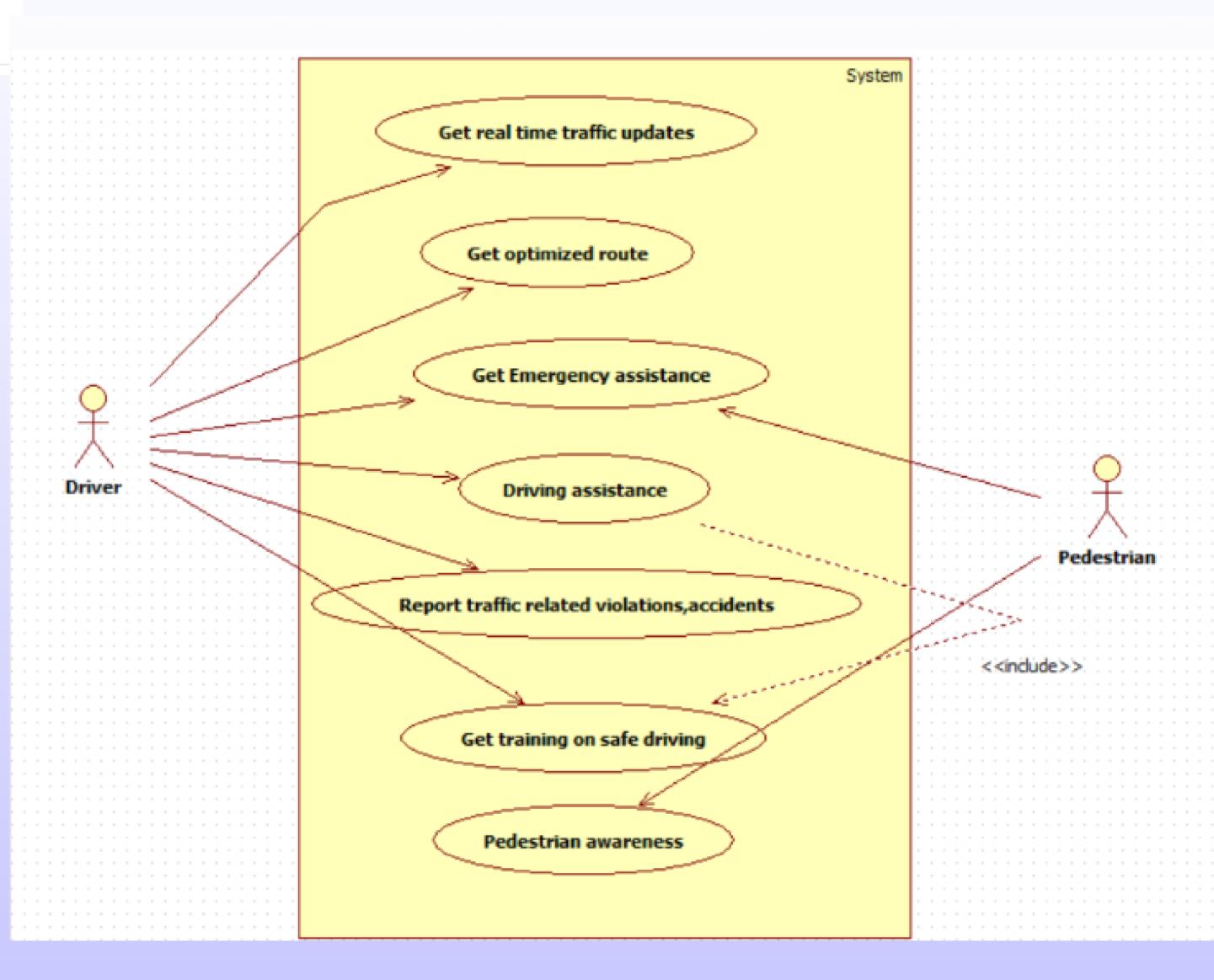3) Google maps API
4) Telephony package for SMS
5) Dart programming

Swimlane diagram

Usecase-diagram

Conclusion:

This design when implemented with the given future enhancements will provide enhanced safety for pedestrians and drivers just through a smartphone.

Future Enhancements:
1) Including machine learning models to analyse driver behavior can improve the prediction to assist the driver.

2) This app only works on android devices, to make it handy, it can be customized to run on smart watches.

3) This app should be extended such that without login the safety should be provided.

App Workflow

Driver

Pedestrian

References
1)https://flutterawesome.com/emergency-response-mobile-application-with-flutter/
2)https://pub.dev/packages/geolocator
3) https://transmitter.ieee.org/your-smartphone-may-keep-you-safe-in-traffic/

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