PROBLEM STATEMENTS

ENSURE SAFE DRIVING DISTANCE IN ADVERSE CONDITIONS

ORGANIZATION
ARAI

TEAM NAME
DREAM SLAYERS

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Our anti-collision system “AlertMe” aims to prevent vehicular-collision on road during adverse weather conditions.
It can be used for all kinds of vehicles
It consists of a mobile app , Infrared camera and adaptive headlight system.
The adaptive headlight system consists of an electronic sensor which sends data to the system through the rotation angle of the steering wheel and the speed of the vehicle and the headlight gets rotated according to that..
The mobile app will be used to display the video output of the Infrared sensor. The Infrared sensor will be activated manually. The Infrared display will help by improving the visibility during fog,rain,smoke etc.
The app will also alert the driver whether the road is accident prone or not (through previous accident records) using machine learning.

TECHNOLOGY STACK

- Frontend:XML
- Backend:Java, Kotlin
- Firebase
- Arduino
- Python
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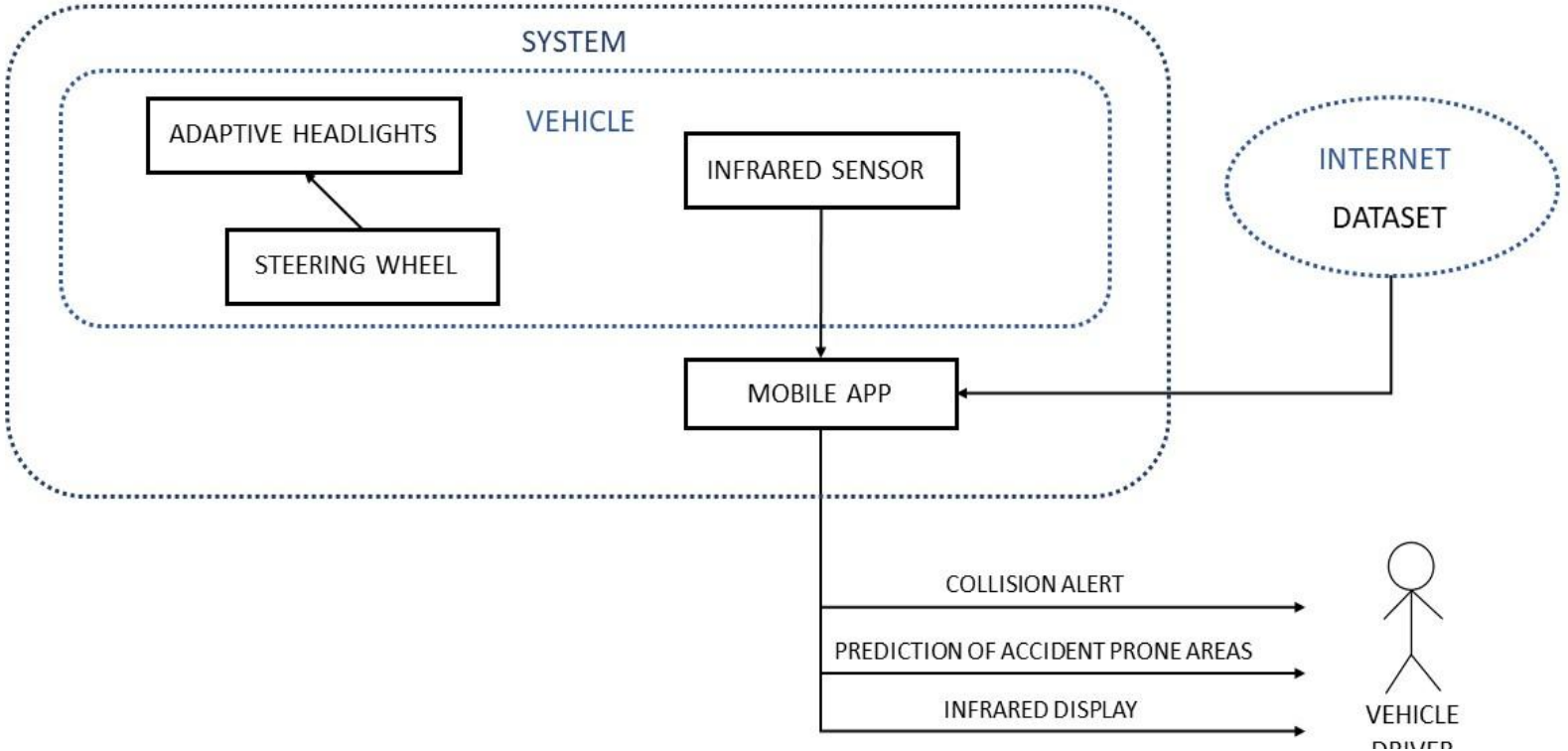
WORKING MODEL



_ DEPENDENCIES

SOFTWARE

- AndroidX : to override Android AppCompat
- Material Design(UI/UX)
- Picasso : Displaying pictures
- Firebase : Database, Authenticity
- Android Requirements : minSdkVersion 14, targetSdkVersion 28
- Android Debug Bridge
- Firebase MLKIT
- ConsumerIrManager
- PyTorch , TensorFlow

HARDWARE

- Infrared Sensor
- Arduino
- GSM module(SIM 901)
- Ultrasonic sensor + receiver