**PROBLEM STATEMENT**

**PROJECT ABSTRACT:**

The aim of this project is to develop AR vehicle showcase android app using Unity 3D and Vuforia. A voice controlled cloud based machine learning AI bot is integrated with wit.ai API. This app will project 3D model of vehicle in the real world, which makes the user to experience the view of real car showcase. Then by using our voice commands, the integrated bot will react to perform particular operation like open the car doors, change the colours, and start the engine.

**PROBLEM DEFINITION:**

In existing application it is used to view the 3D model of the car using 2D Object recognition were in 2D Object recognition App ground plane detection is not possible. AR is all about superimposing computer-generated images on top of your view of reality, thus creating a composite view that augments the real world. In previous versions of AR, applications 2D Object recognition were used which won’t give complete user experience. To overcome this we have implemented 3D Object recognition with Ground plane detection. In our App, we are implementing 3D Object recognition and Ground plane detection is also possible. The advantages over existing methods is that AR car showroom app allows user to view the car in the manner they want and can alter the parts in imaginary that will project in real world.

**TECHNOLOGIES:**

**1. Unity 3D**

We use this Unity 3D to create the augmented 3D model of the vehicle. It is used for creating the 3D model of the car and to make the functionalities. The UI of the android app is also done in the Unity. The communication code is integrated in the Unity to interact with the vehicle.

**2. Android SDK**

We used Android SDK to build the AR app. It is build according to the specifications of the Android or iPhone. Through the Android app, we will be projecting the AR app into the real world.

**3. Wit.ai**

We have used wit.ai for the bot integration. When the user gives voice commands it will be sent from Unity to the wit.ai and the bot will understand the command and execute the action. From wit.ai the API key will be generated and it is used by the Unity.