Team 36: Project Charter CS 30700

Team members:

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Problem Statement:

With natural disasters and catastrophes like earthquakes, fires and tornadoes becoming something we hear about everyday, we believe that a cost-efficient solution to measure damage and prevent loss of life is needed. This is where our idea of a live-feed remote controlled car came about. This vehicle will store and transmit live video to a mobile app. Moreover, the core of the car, being a Raspberry Pi, will be able to connect to wifi and receive signals and instructions from the app itself.

Project Objectives:

- Develop an Android based mobile app that controls an RC car and displays relevant data
- Include a user authentication system so that the car is secure against unauthorized users/hackers/etc.
- Install a camera on top of the RC car supplying a live feed to the application.
- Equip more sensors (such as temperature and CO2) if time permits

Stakeholders:

- Users: Anyone who has a need for the capabilities of the car: Fire department, Rescue teams, Photographers, Wildlife Enthusiasts
- Developers: Rahul Balla, Dominic Miller, Krishna Kumar, Rishabh Ramsisaria, Shaurya Sinha, Xu He
- Project Manager: Rishabh Ramsisaria

- Project Owners: Rahul Balla, Dominic Miller, Krishna Kumar, Rishabh Ramsisaria, Shaurya Sinha, Xu He
- Purdue University: Providing resources for us as students to develop and work on this project

Project Deliverables:

- A prototype for a custom built remote controlled car with a camera powered by a Raspberry Pi 3B.
- An Android application built in Android Studio using Java and XML for managing the user interface, issuing action event instructions to the car and providing live video data to the user.
- A Python backend that serves network requests, manages user data, and controls the motors of the car.
- A NoSQL database to manage user information for authentication.