**First Year Internship 2022**

12 July 2022

Problem Statement 2

Automatic Parking

* You know people are always in a hurry to catch their flights.
* I don’t have time to search for a parking space in the parking lot.
* You know I am paranoid of someone else driving the car.
* Design an automatic parking system for our Mercedes. You know it is a drive by wire car.

Solution

1. Sensors in each parking space to know if parking space is free or not (Date gathered in cloud for program to access)
2. Sensors to detect obstacles close to the car.
3. Predefined map of the parking lot.
4. An analyser to calculate the shortest route to the parking spot.
5. Camera to analyse obstacles far away.
6. Analyser to analyse if some other car is occupying the free parking space and reroute to the next free spot.
7. Authentication of the car owner.
8. GPS tracker on the car.
9. Alarm to alert in case of break-in.
10. Alert if no parking space is available.
11. Autonomous driving technology can be implemented to park into empty spaces (for example: Tesla Autopilot is a certified level 2 system, while Mercedes has developed a certified level 3 autonomous driving system).

Problem Statement 3

Automatic Medicine dispenser

* You know Papa and Momma have amnesia.
* They keep forgetting to take their pills regularly.
* Sometimes they get confused and interchange each other’s medicines.
* They need to get prescriptions for refill automatically from the doctor and the doctor also needs to know if they are taking their medicines properly.
* I also need to be kept updated on their consumption of medicines

Solution

1. Sensor to check if medicine is there or not and order new batch if less than a certain amount.
2. Clock dispenses medicine at accurate times.
3. Analyse date of expiration of prescription and contact doctor for new prescription.
4. Scanner to see if medicine has expired or not and replace them.
5. Camera to monitor the patient.
6. Analyser to dispense accurate dosage.
7. Remote access to the doctor to enter updated dosage.
8. Connection to wearables that monitor patient’s health and alert the doctor or caretaker if any problems.
9. Speaker to alert patient to take their medicines.
10. Battery indicator.
11. Image recognition to check if patient consumed the medicine or not and notify caretaker if necessary.
12. Facial recognition to register if correct person is taking medicine and activate alarm if not.

Group members

1. Ishaan Manjunath – 1NT21IS065
2. Rahul Acharya – 1NT21IS124