**Senior Design I, CIS4951/4961/4971/4981, Winter 2023 – DATE OF INTERVIEW: 1-13-23**

Remember, students will listen to your presentation to help decide which project they want to select, so please focus on those deciding factors.

Presentation Summary:

1. Client Name: Dr Zheng Song

Who did you interview

1. Reasons you chose this topic

* Drone can provide more safety
  + Can it be feasible for car-drone collaboration?
    - Accuracy, energy/time of flight, latency
  + Minimum requirement: get drone to capture and process data and send it to the car
    - Deeper analysis: look at the data and see if we can optimize the application: measure latency, accuracy.

1. Client background

* 2 PhD’s: first one in mobile and wireless comm, and the second in distributed systems/software engineering

1. Related or existing work on this product

* Popular concept a few years ago: limitation is the battery
* Second level goal of analysis is to see how well the drone-car collab works (get latency measurements, compare it to the drone battery consumption),

1. Project Name: **Sky Socket (possibly will change the official project name but this is a candidate)**
   1. Hardware Requirements

* Drone
* Car
* Sensors
  1. Software Requirements
* Simulation and programming environment

1. Primary steps for the project

* \*1) get drone to fly and follow car 🡪 get drone to tell car to stop when sees red object
* \*2)analyze the data during some trials and simulate a real collision.

1. challenges:

* image recognition and data analysis/collection (solution, try to find existing image processing libraries).
* \*control of the drone
* \*control of the car

1. Resource:

* \*we can purchase more modules/sensors to use on the raspberry pi