

# VFS Micro Vehicle Challenge

Future Features and Stretch Goals



# Features by priority

- Collision avoidance
- Remote sensor display
- Guidance
- Package pickup assist

# Collision Avoidance

- Two modes
  - Obstacle alarm warning: Signals the operator that an object is close to the vehicle
  - Operator override (?): Prevents the operator from running into objects
- Required implemented features
  - Transmission of sensor data
  - Remote digital flight control (?)

# Remote Sensor Display

- Provides operator the following sensor data
  - Camera feeds
  - Rangefinders
  - Gyroscope
  - Accelerometer
  - GPS
- Organized for operator ease
- Required implemented features
  - Transmission of sensor data

# Guidance

- Provides visual guidance to aid operator in safe operation
  - Uses both rangefinders and stereographic infrared cameras
  - Lets operator know where is “good” to fly and where is “bad”
- Required implemented features
  - Transmission of sensor data
  - Possibly a steady camera rig for Intel Realsense camera

# Package Pickup Assist

- Two modes of operation
  - Positioning assist
  - Fully autonomous pickup
- Required implemented features
  - Transmission of sensor data
  - Remote digital flight control

# Desired Additions

- Steady camera rig
  - Keeps Intel Realsense camera perpendicular to the horizontal plane
- LED lights
  - Provide visual confirmation of received commands
  - Adds to “cool” factor of vehicle
- Speaker
  - Could play music to LED light show as vehicle zips through the air
  - Gives flat multiplier to final “cool” factor