

Linux (non-realtime OS), BeagleBone Black

Debugging

Debug peripherals

High-level Guidance

Waypoint Management

Waypoint List

Localization

Kalman Filter

Object Avoidance

Speed/Direction Control

PRU #1 (realtime), BeagleBone Black

IMU Polling/
Pre-Filtering

Localization Sensors

GPS

IMU

PRU #2 (realtime), BeagleBone Black

Object Avoidance
Sensor Polling

Object Avoidance Sensors

Ultrasonic
rangers

Bumpers
(optional)

Motors

Ackerman
Steering
Servo

MCU

