



Ground Station for Unmanned Aerial Vehicle Autopilot



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Motivation

- Low cost U.A.V. autopilot
- Performance as good as any commercial product
- Hardware and software built from the ground up
- Airplane controlled from ground station
- Simple ground station interface

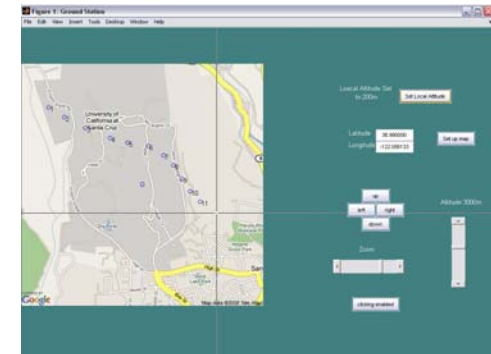
Prototype Autopilot



- Relatively inexpensive
- Hardware-in-the-loop simulations
- Information transferred to and from ground station through wireless serial

Ground Station

- Uses static Google maps
- Allows user to set waypoints by clicking on the map
- Converts pixels into degrees using Mercator cylindrical map projection equations
- Pixel units and zoom level are put into the equations for proper conversions



Applications



- Lower price, gas usage, and risk from flying large manned aircrafts
- Monitor various places such as: forest fires, riots, crop fields
- Suitable for commercial use