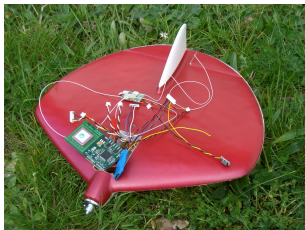


Yet Another Paparazzi

P. Brisset, M. Bronz, M. Gorraz and J. Tyler

ENAC

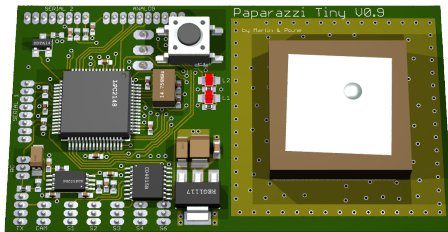
March 2008



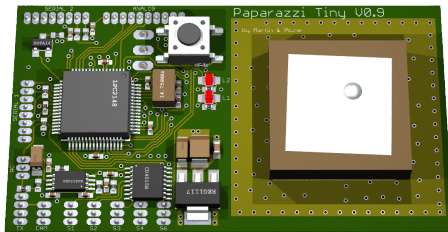
The Paparazzi System



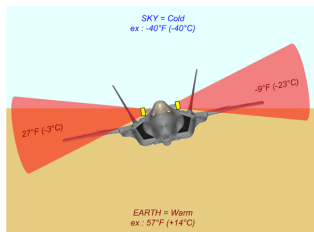
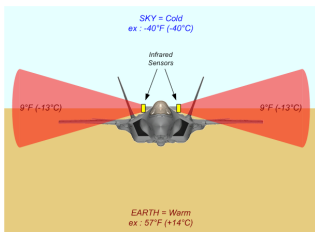
- Processor
- GPS
- Power supply
- 20g



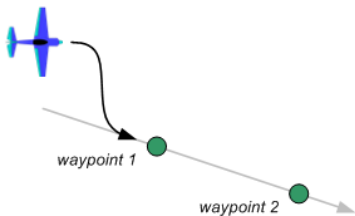
- Processor
- GPS
- Power supply
- 20g

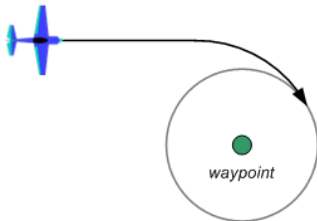
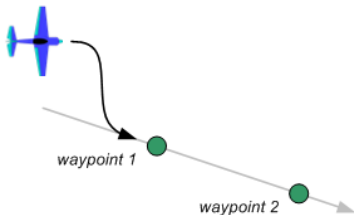


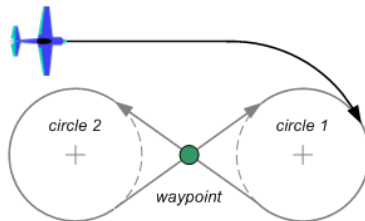
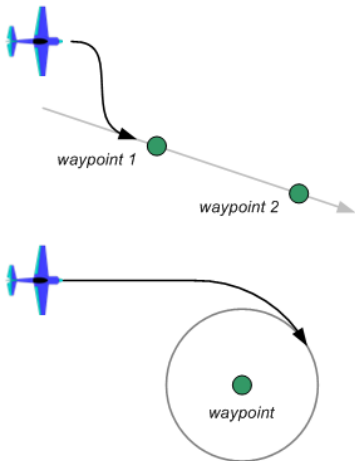
Attitude Estimation with Infrared

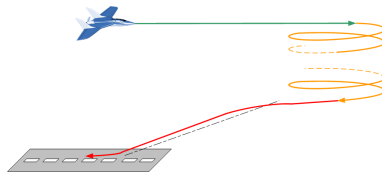
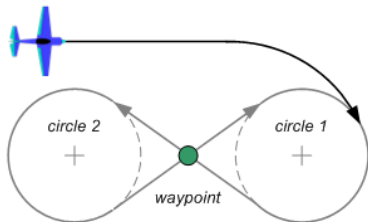
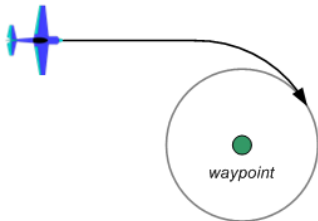
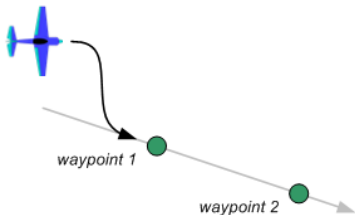


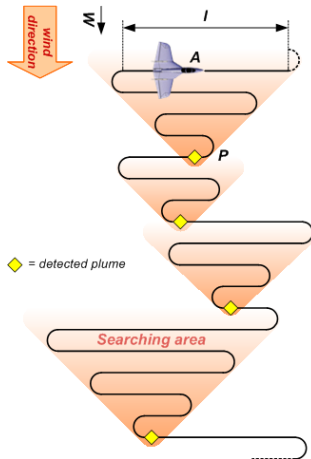




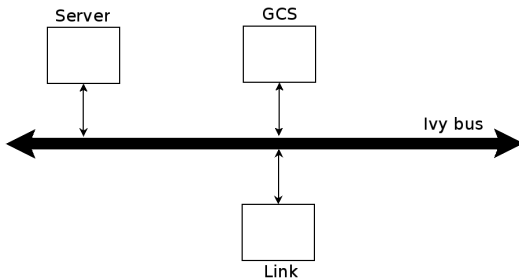




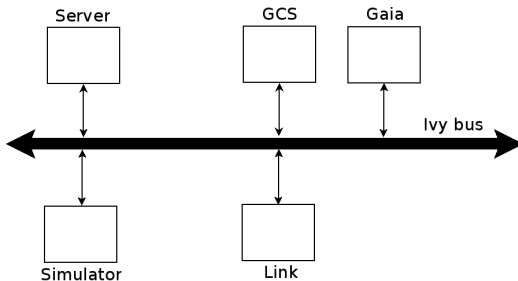




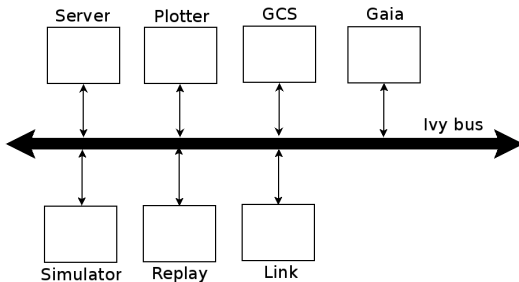
A Distributed System



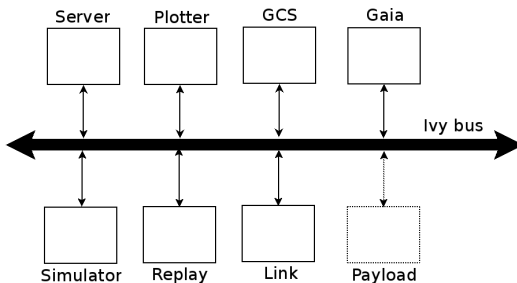
A Distributed System



A Distributed System



A Distributed System

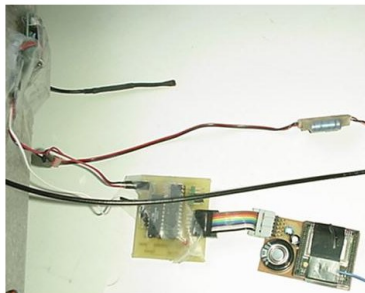




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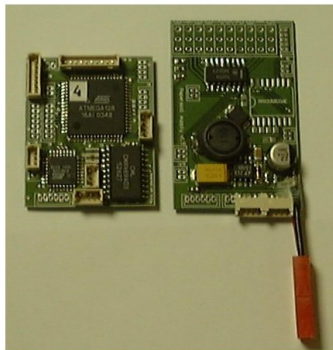


2003





2004





2005





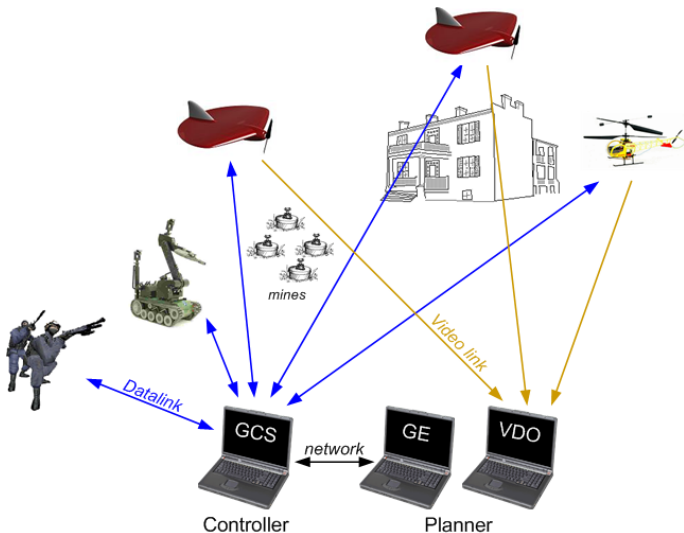
2006

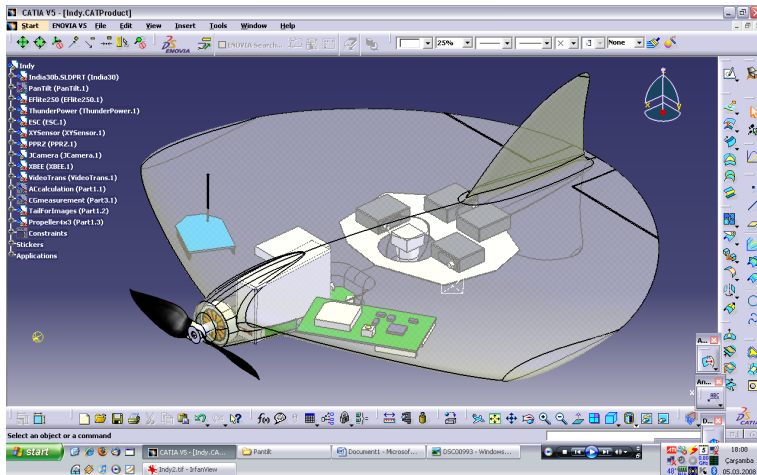


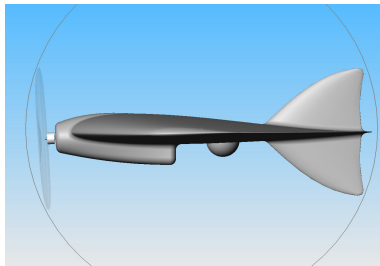
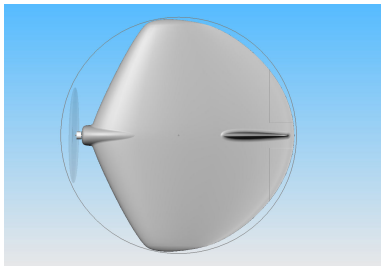
2007

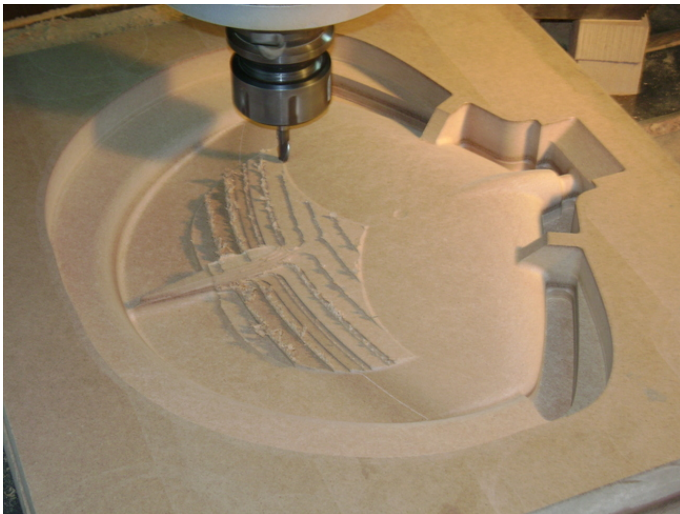


- JMD03, Toulouse, France: 1st place with the Twinstar
- EMAV04, Braunschweig, Germany: 1st place with the Microjet
- JMD04, Toulouse, France: 1st place with the Microjet
- MAV05, Garmisch, Germany: 4 Paparazzi teams at the first 4 places
- EMAV06, Braunschweig, Germany : all the teams were equipped with Paparazzi
- MAV06, Sandestin, Florida: 2nd and 3rd places
- MAV07, Toulouse, France: 1st place (tie), 3rd, 4th and 5th places

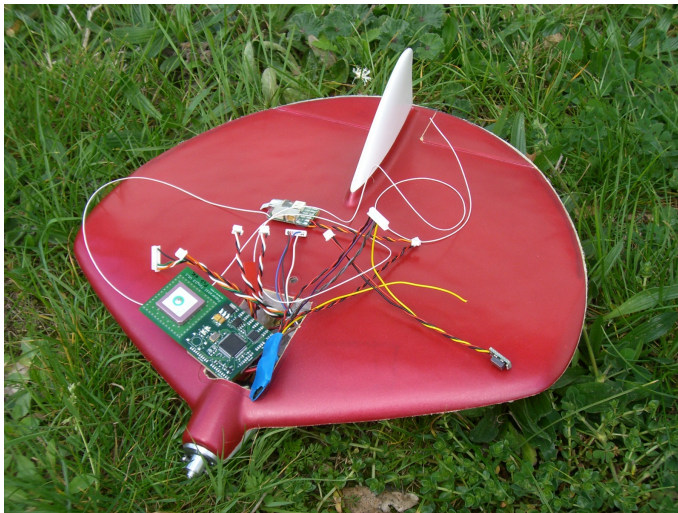








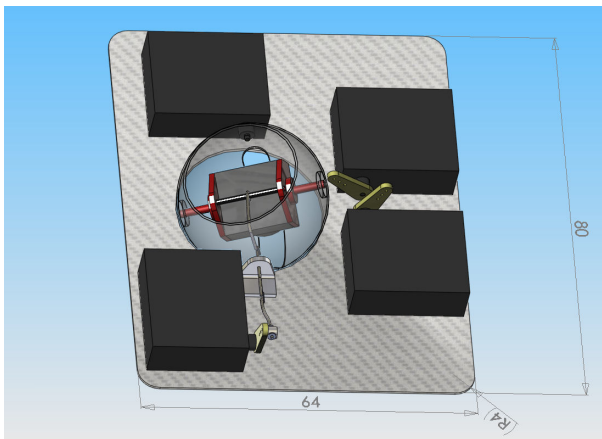
The Slicer



Weight Breakdown

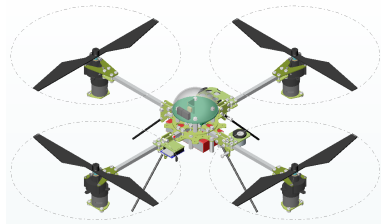


Part	Description	Grams
Airframe	Kevlar skins + EPP core	65
Propulsion	Brushless motor + Lipo battery + controller	85
Avionics	Autopilot + sensors + modems	45
Payload	Pan tilt camera + transmitter	30
Total		225

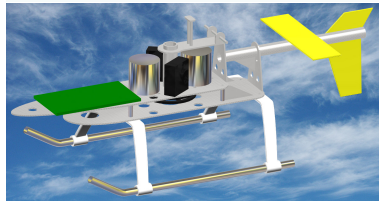
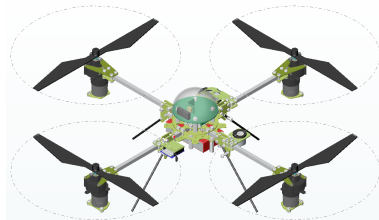




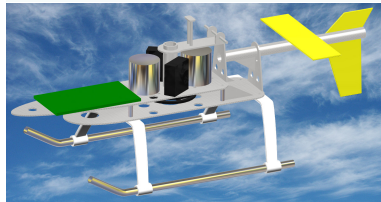
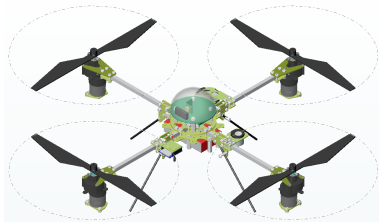
- Testbed



- Testbed
- 30cm Twisted Logic Coaxial Helicopter



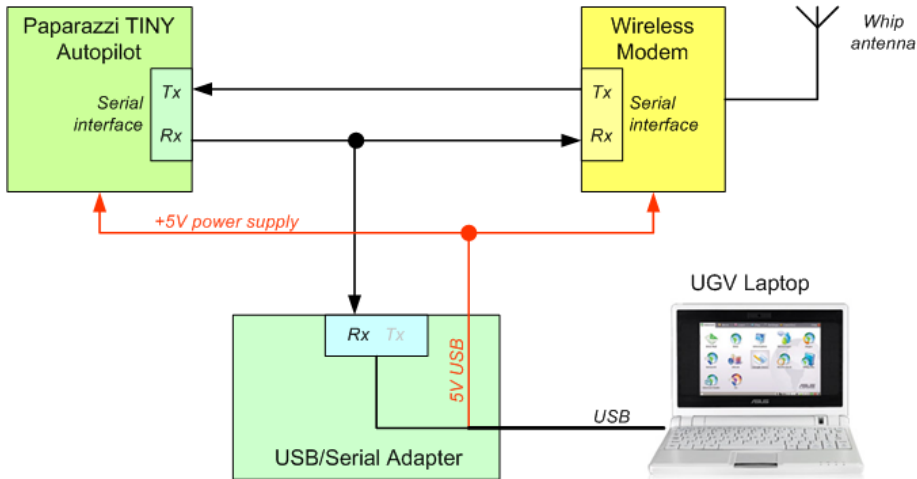
- Testbed
- 30cm Twisted Logic Coaxial Helicopter
- Control
 - Attitude from mechanics
 - Yaw stablization (gyro + magnetometer)
 - Vertical stabilization (accelerometer + barometer/rangemeter)
 - No navigation yet

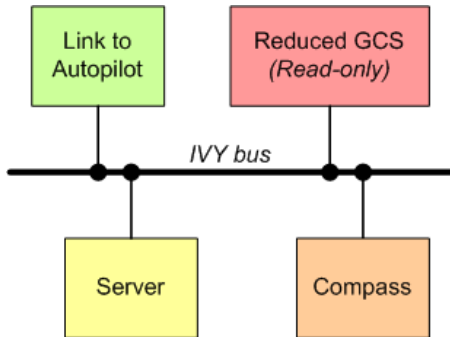


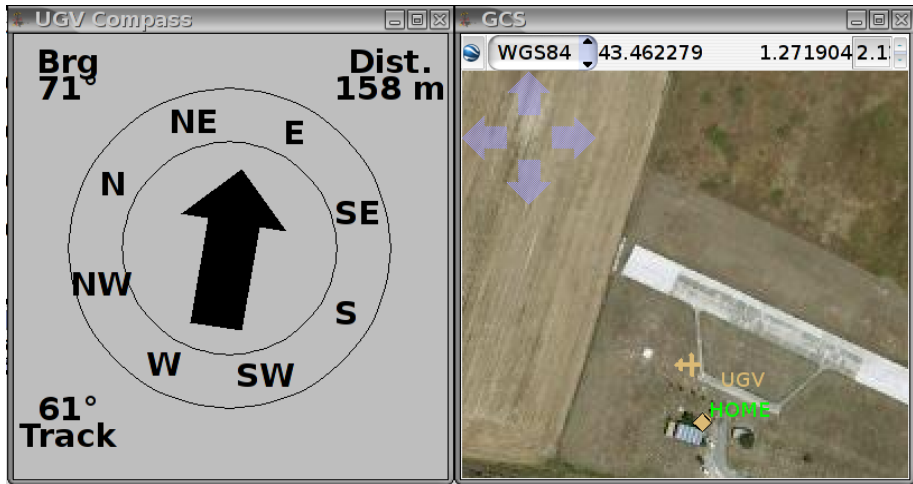
- Testbed
- 30cm Twisted Logic Coaxial Helicopter
- Control
 - Attitude from mechanics
 - Yaw stablization (gyro + magnetometer)
 - Vertical stabilization (accelerometer + barometer/rangemeter)
 - No navigation yet
- Not fast enough to safely fly outdoor



The UGV (Hardware)

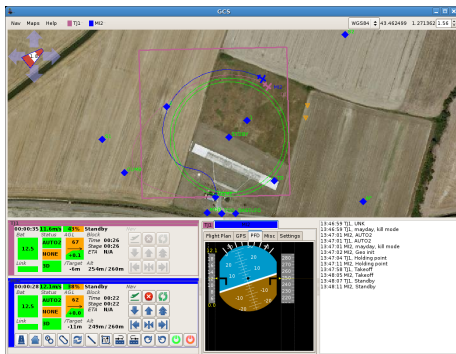




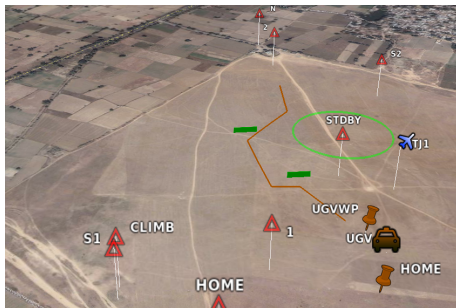




- GCS



- GCS
- Google Earth editor



- GCS
- Google Earth editor
- Video





- Two fixed wing vehicles



- Two fixed wing vehicles
- No autonomous rotorcraft



- Two fixed wing vehicles
- No autonomous rotorcraft
- Paparazzi equipped sim-UGV and Commando



- Two fixed wing vehicles
- No autonomous rotorcraft
- Paparazzi equipped sim-UGV and Commando
- One single GCS



Paparazzi: The Free Autopilot



`paparazzi.enac.fr`

