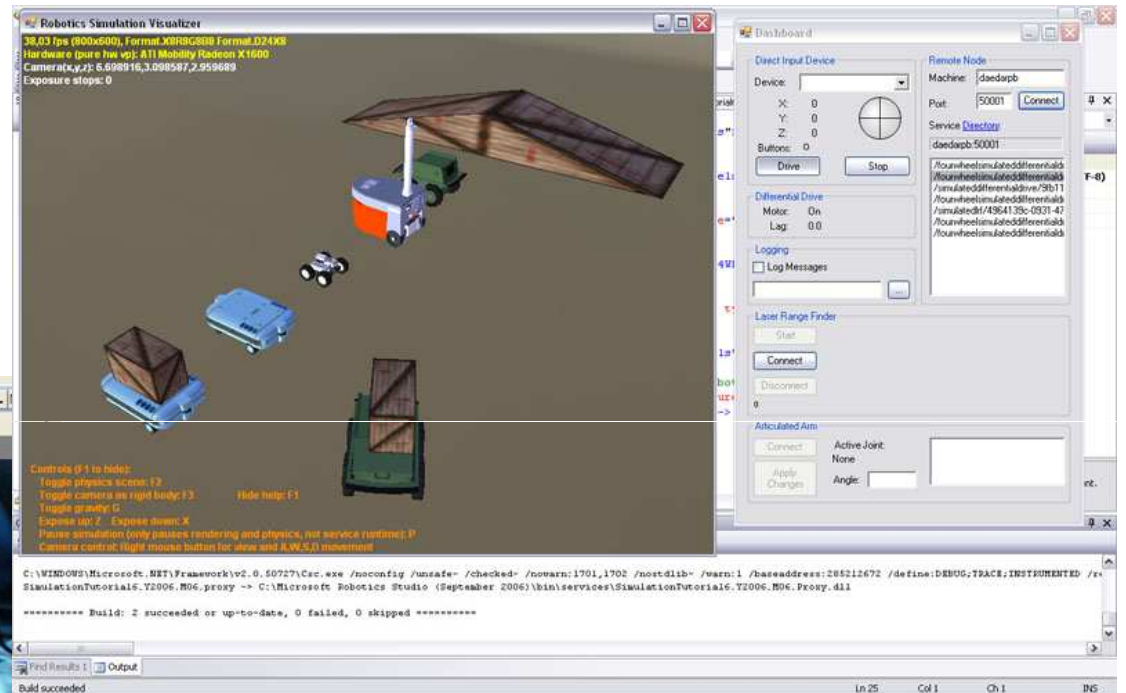
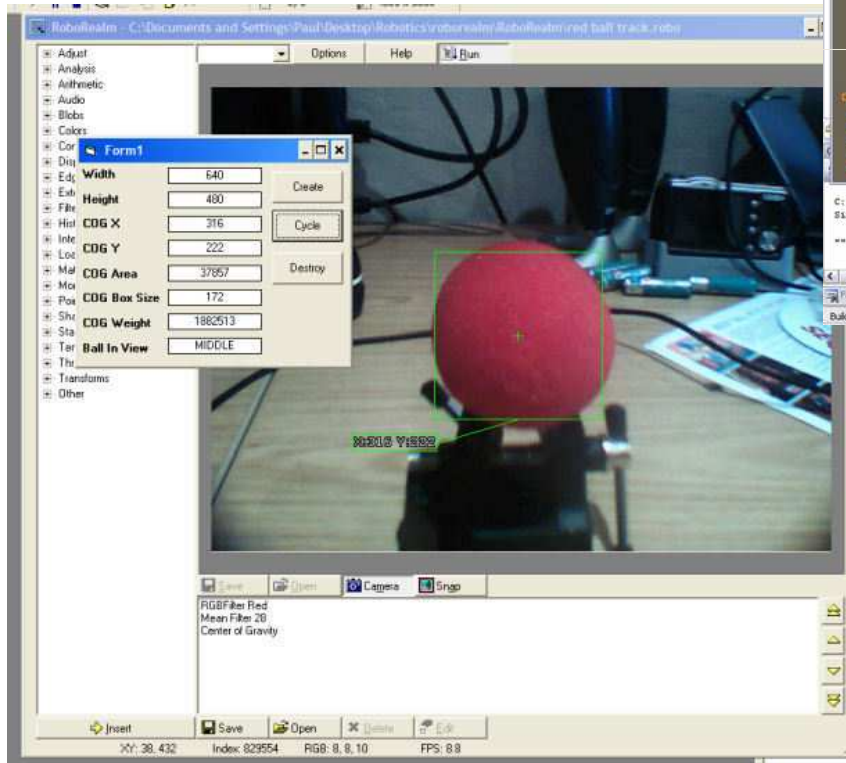


Free and Open Source Robotics Software

Malcolm Zapata

Free Software

RoboRealm



Microsoft Robotics Studio

Open-Source Software

- CLARAty
- Soar
- CLARION
- 4D/RCS (military vehicles)
- AR-ToolKit

CLARAty

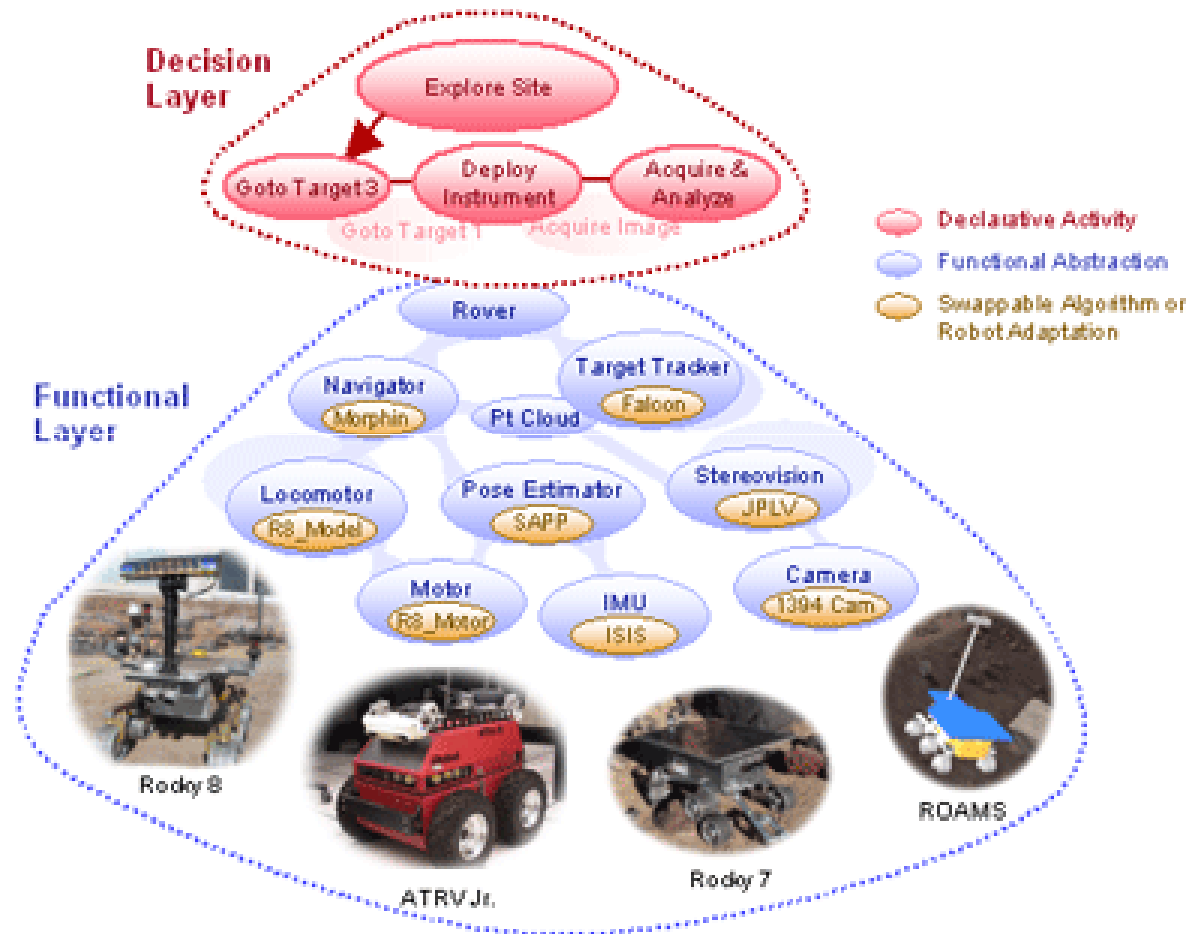
- Coupled-Layer Architecture for Robotic Autonomy
- Joint effort between NASA and JPL
- Goal was to make re-useable robotics software
- “Integrate once and run anywhere”
- 2 Layer Architecture
 - Decision Layer and Functional Layer

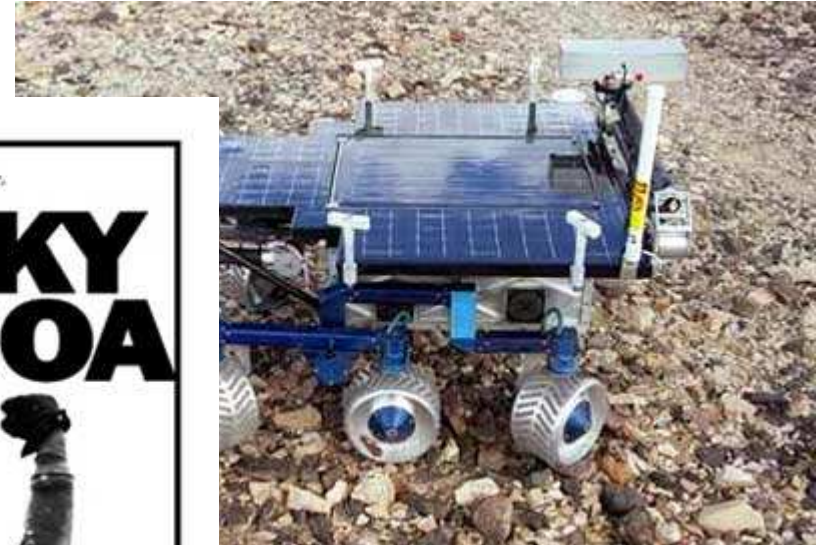
Decision Layer

- Rover Models
- Execution
- Planning
- Communication

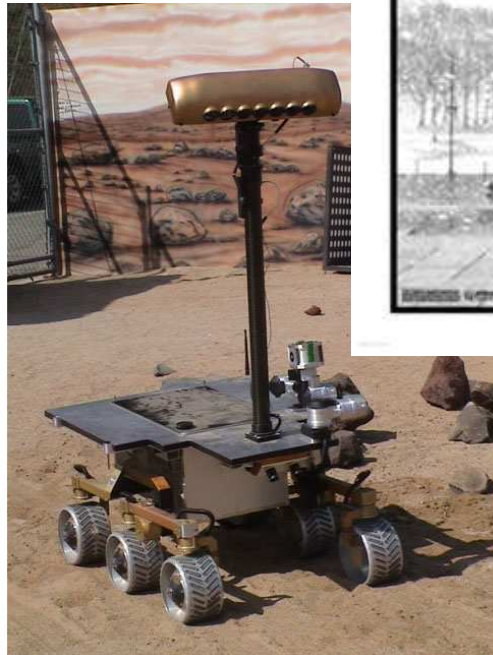
Functional Layer

- Base
- Math Transforms
- Input Output
- Sensors
- Motion Control
- Locomotion
- Vision
- Estimation
- Navigation
- Path Planning
- Behaviors

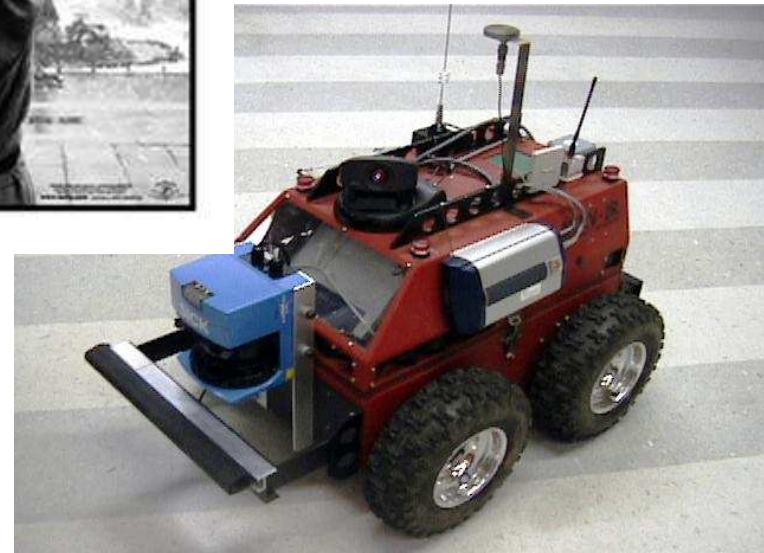




Rocky 8



TRV-Jr



Advantages of CLARAty

- Software is open source and re-usable
- Integrated with Virtual Environments
- Large Academic Community
- Plans to release + 300,000 lines of code (over 100 modules)

Disadvantages of CLARAty

- Reading through 100,000 lines of someone else's code can be confusing
- Not entirely open source (TSPA License)

How to Download

- <http://claraty.jpl.nasa.gov/man/software/development/repository.php>