2007 TE Sessions – Intro

September 18, 2007

www.robojackets.org

FIRST Announcements

Info

- Sponsors
  - Caterpillar
  - Arthur Blank Foundation
- Key Contacts
  - Brian Guerriero – bguerriero@gmail.com
  - Stefan Posey – stefan.posey@gatech.edu
- Every Tuesday 5pm - 8pm

RoboJackets

About This Year

- Basic
  - Ways to build, how to build, and how to succeed.
- Advanced – Special Topics
  - Motor Control, Manipulation, Programming, etc.
- Lectures and notes (pdf)
  - http://www.robojackets.org (click on TE Sessions)

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TE Schedule

Basic

– Introduction to TE	09/18	
– Intro to ME	09/27	
– Mechanical Power Trans	10/02	
– Drive Types	10/09	
– Manipulation	10/16	
– Manufacturing & Safety	10/23	
– Fluid Power	10/30	
– Electrical Power & Storage	11/06	
– Programming	11/13	

Advanced / Special

- Autonomous Control
- Technical Design
- Adv. Mech Power Trans
- Motor Control
- Manipulation I
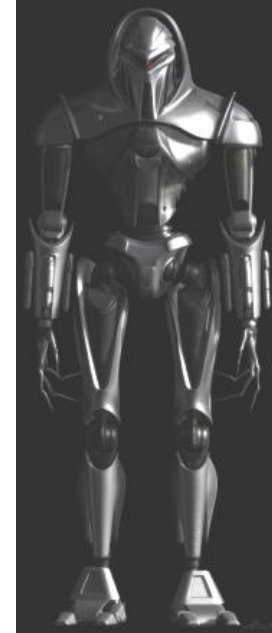- Manipulation II

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What is a robot?

- Characteristics
  - Brain Power
  - Detects environment
- Basic Idea – A vehicle / platform that can compete tasks with out human interaction.
  - Autonomous capabilities and Sensors

Marks of a Good Design

- Red Scanners
  - Kitt, Cylons, Gundam, RoboCop
- Shiny
  - Transformers
- Self aware
  - T1000, Data

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Applications

- Commercial / Industrial
- Government / Military
- Research
- Robotics & Georgia Tech
- College Competitions

App: Commercial / Industrial

- iRobot
  - Roomba
- KUKA
- FANUC
- EPSON

App: Government / Military

- Samsungs Sentry in the DMZ
- UAV
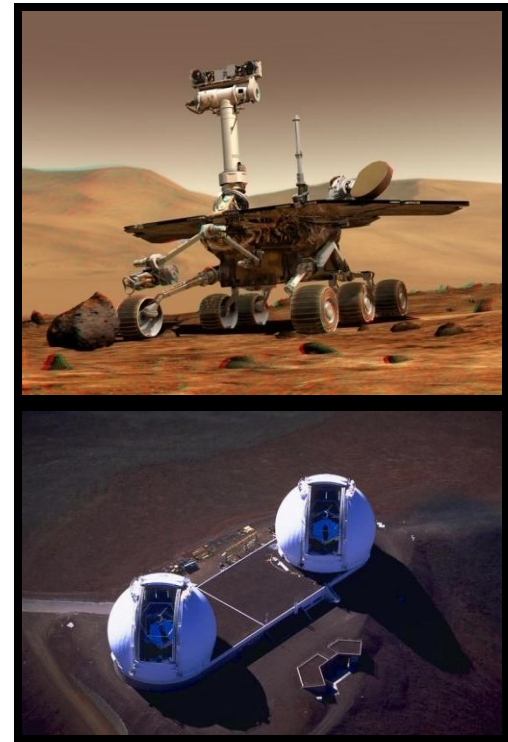 - Survalance
  - Communication
- Rescue
- Bomb Disposal

App: Research

- DARPA
  - Grand Challenge
- NASA
  - Rovers, Landers, Satellites
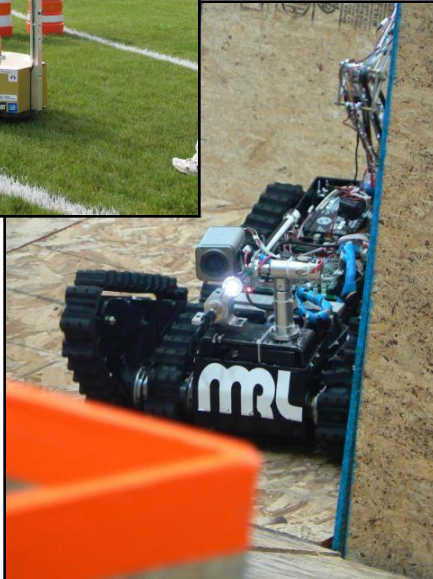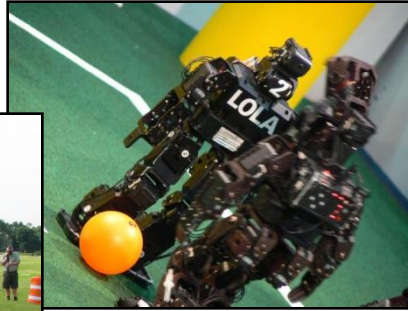- Telescopes

App: Robotics & Georgia Tech

- Robotics and Intelligent Machines (RIM)
  - http://robotics.gatech.edu
- BORG Lab
- GTRI
- UAV Lab
  - IARC
- IMDL
  - Rescue Crawler, Haptic (force feedback)

App: College Competitions

- FIRST*
- RoboCup
  - Small Size*
  - Medium
  - Humanoid
- BattleBots*
- AUVSI
  - IGVC* – Ground
  - AUVC – Underwater
  - IARC – Arial
- IEEE
- More

Note * = RoboJackets Team

TE Session Final Competition

- When: November 17, 2007 @ 10 AM
- Where: MARC

- Food will be provided
  - Kosher and Vegetarian
- Official FTC Scrimmage

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Mini Competition

- Objective
  - Tower
    - Hold 1 bag of candy
- Supplies
  - 2 Boxes of straws
  - 1 Roll of tape

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For more info contact the RoboJackets.