CoSpace Rescue
@ Pei Hwa
Lesson 1
Roboticics & CoSpace Rescue

• What is the definition of a Robot?
  – Remote Controlled Car
  – TwitterBot

• Simulators
  – Transformers Ride in Universal Studios
  – Microsoft Robotics Developer Studio
CoSpace Simulator

• Boards
• Physics
  – Gravity
  – Inertia
  – Momentum
  – Lighting?
  – Scratches on the surface?
  – Imperfect motors?
  – Rust? Dust?
CoSpace Rules

- Game Boards
- Mission
- Rules (Do’s & Don’t’s)
CoSpace “Robot”

- Sensors
  - ?
- Motors
  - ?
- Controller (vs. Human Brain)
  - How fast can it think?
  - How many things can it do at once?
- Chassis
  - Axis of rotation
  - Weight distribution & center of mass
Event-Based Programming

- Reactive Processing
- Some stimuli have higher priority over others
- Planning?
- Memory?
- Randomness?
- Modularization?
Brainstorm Strategies

• What wins competitions in past?
• What are new, possible competitive advantages?
Competition Best Practices

• Test Early & Often
  - Simulate on your own with dead AI
  - Simulate with live AI
• Analyze issues, plan small changes
  - Prefer fast, numerous, minor change cycles over gigantic do-overs
• Change Management
  - Test everything after each change
    • Ot just the one new expected behavior
    • Easier if one has a test script of all possible issues
  - Save older versions
So, now what?

• Let’s Test!