

# 2014 SECON COMPETITION PROPOSAL

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Are We There Yet? (AWTY)

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# Competition Outline

- Line Following
- Simon Says (15 Seconds)
- Etch-A-Sketch (Draw IEEE)
- Rubik's Cube (Rotate one side 180 degrees)
- Card Pick-up (Carry to end of course)

# Control System

- Arduino Mega
- Beaglebone Black
- Cortex Stellaris

# Movement System

- Tank treads\*
- Wheels

# Line Following

- Photo Resistors for recognition of line

# Simon Says

- Color Recognition
- Light Recognition
- Sound

# Etch-A-Sketch

- Claws to manipulate knobs
- Cap to fit over knob in order to manipulate

# Rubik's Cube

- Utilize same claw system as the etch-a sketch
- Attempt to leave on ground and manipulate top row



# Card Pick-Up

- Use of sticky tack or other adhesive substance
- Use of suction

# Initial Budget Estimate

- Claws: \$40.00
- Microcontroller: \$40.00 – \$70.00
- Treads: \$60.00
- Chassis: \$50.00
- Arms: \$60.00
- Motors : \$10.00 per motor, approx. 10-15 motors

# Considerations

- Group Strengths
  - Line Following
  - Experience using microcontrollers and a variety of IDEs.
- Challenges
  - Exploration and learning of new topics/ideas, specifically the color/light recognition.
- **Fall Goals**
  - Etch-A-Sketch and Simon Says implemented