



Mechanical Presentation

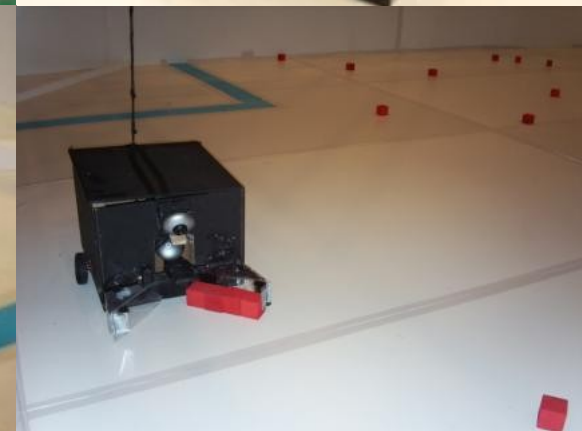
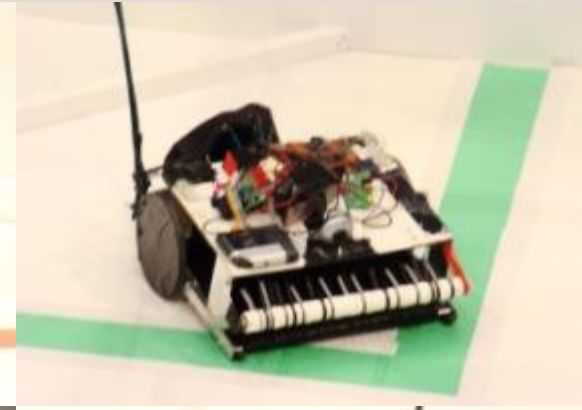
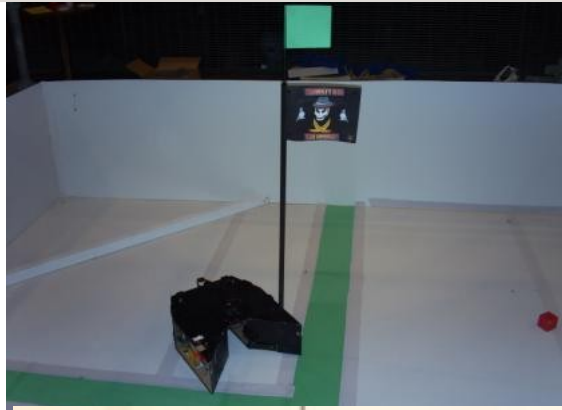
STUDENT
ROBOTICS

- 07/08 Designs
- Design Aspects
- Chassis / Framework
- Electronics/Battery Position
- Drive & Locomotion
- Ball Collection/Launching



2007-2008 Designs

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ROBOTICS



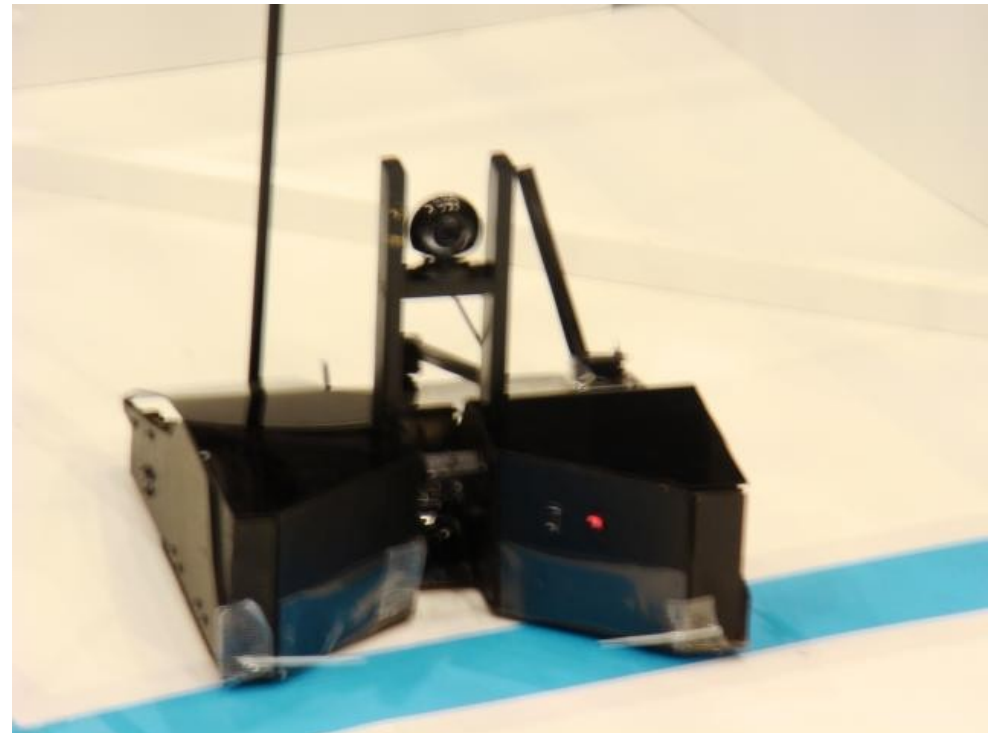


2007-2008 1ST Place

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ROBOTICS

Peter Symonds (2)

- Grabber: Rotary Cradle with Selective sorting and drop-off arms
- Storage: 8-10 tokens
- Front and rear contact sensors



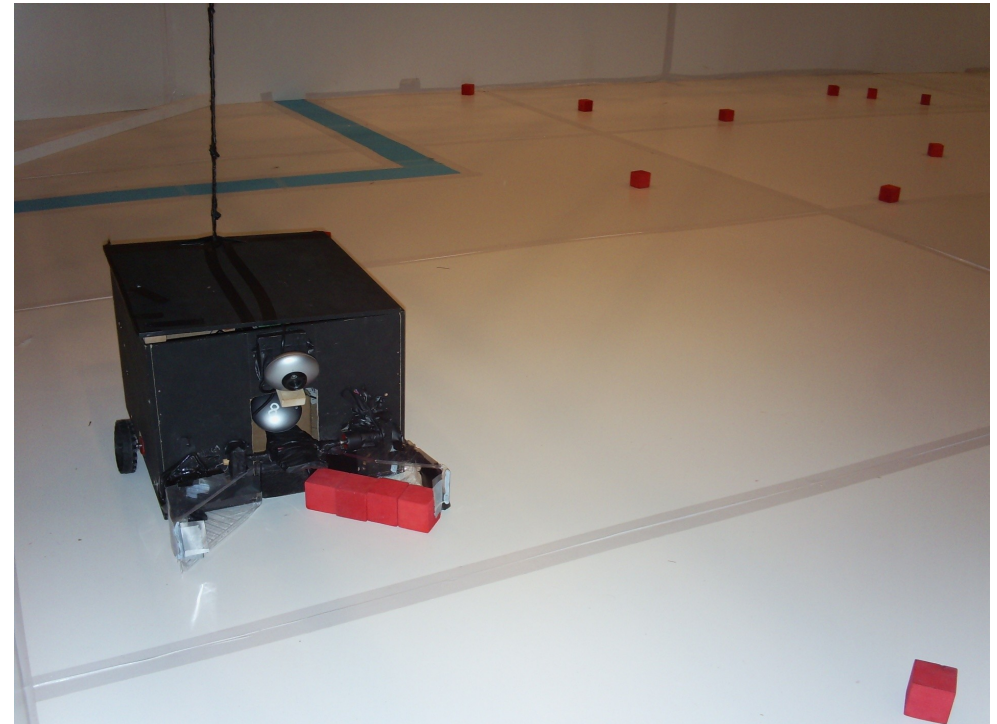


2007-2008 2nd Place

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St Anne's (6)

- Drive: 2 × 12V motors
- Grabber: “Sandwich box” Jaws and Paddle
- Storage: 3-4 tokens



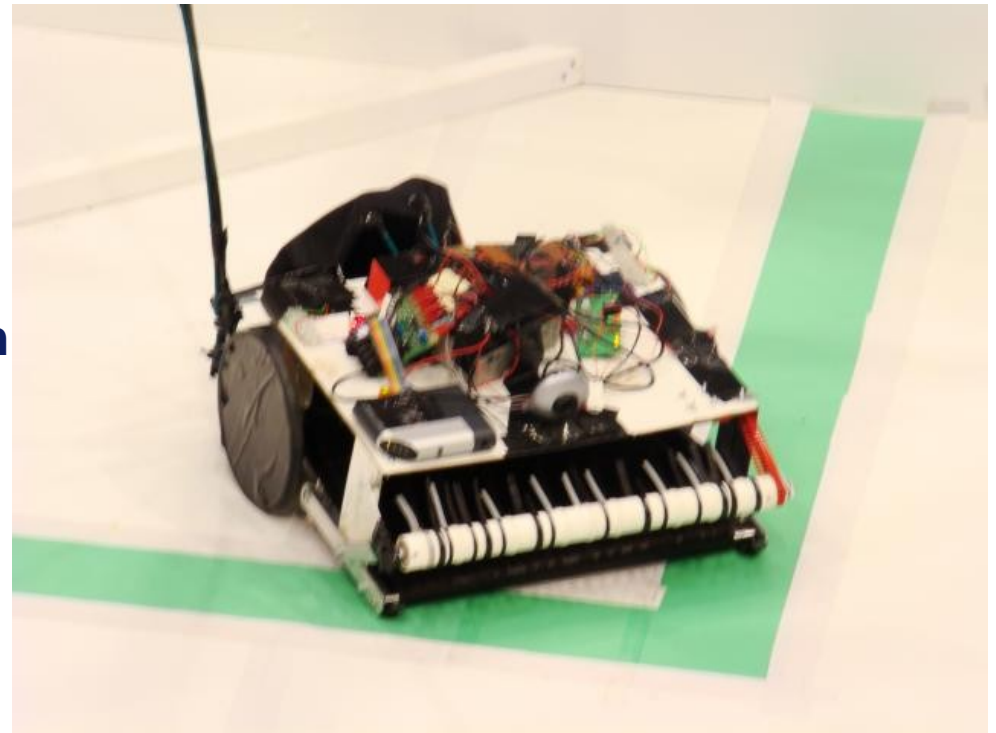


2007-2008 3RD Place

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ROBOTICS

Taunton College (4)

- **Drive:** 2 × 12V motors, Custom Wheels
- **Grabber:** High speed rotary brush with conveyer belt feed into rear storage bag
- **Storage:** 15 - 20 tokens





•Design Aspects

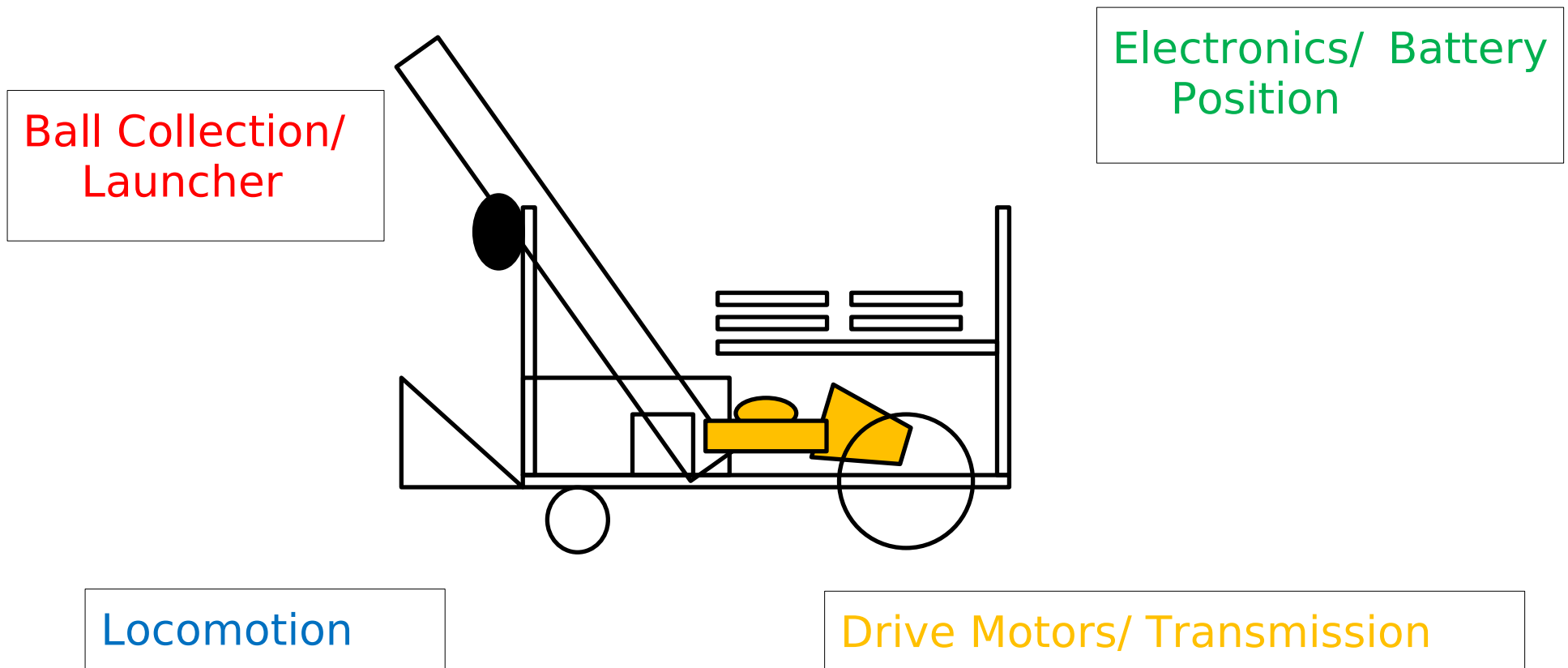
STUDENT
ROBOTICS

- Chassis / Framework
- Electronics / Battery Position
- Drive Motors / Transmission
- Locomotion
- Ball Collection / Launcher



Design Aspects - Chassis

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ROBOTICS

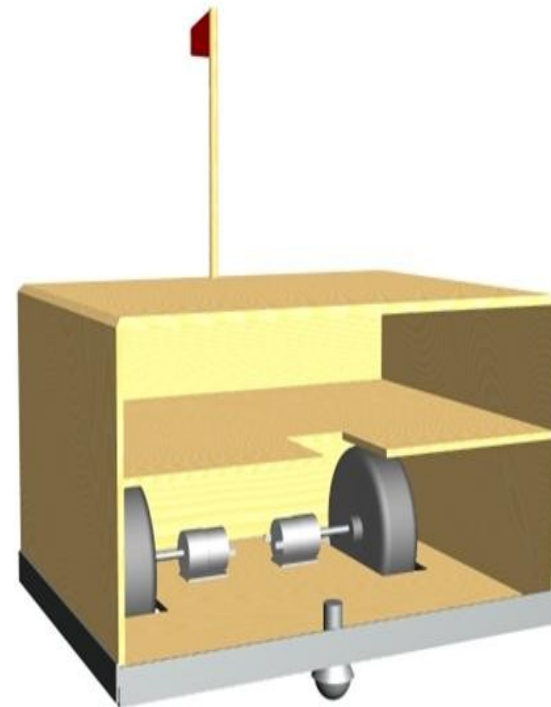




Chassis/Framework

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- 500x500x500
- Materials (wood, metal, plastic)
- Structural strength
- Weight
- Levels
- Modular Design
- Mock-ups

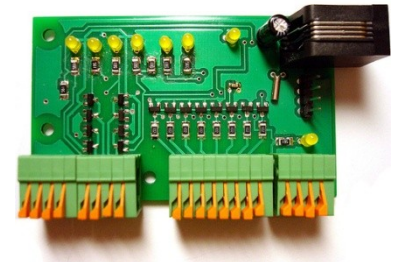
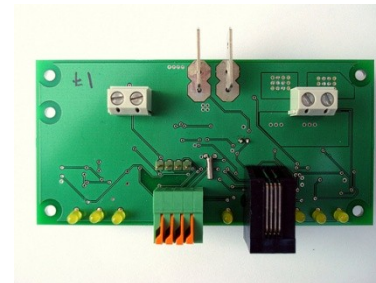
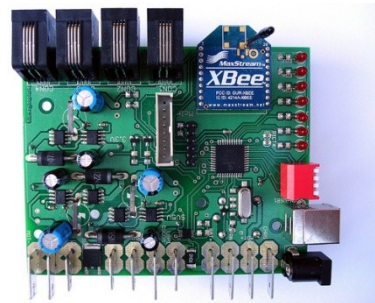
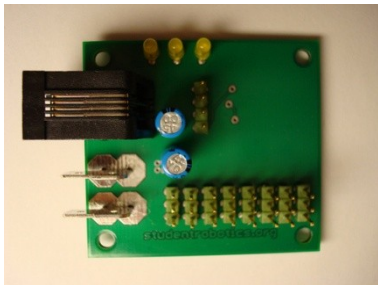




Electronics/Battery position

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- Securely mounted
- Access to boards (Charging, USB etc.)
- Near Relevant Components
- Battery Weight

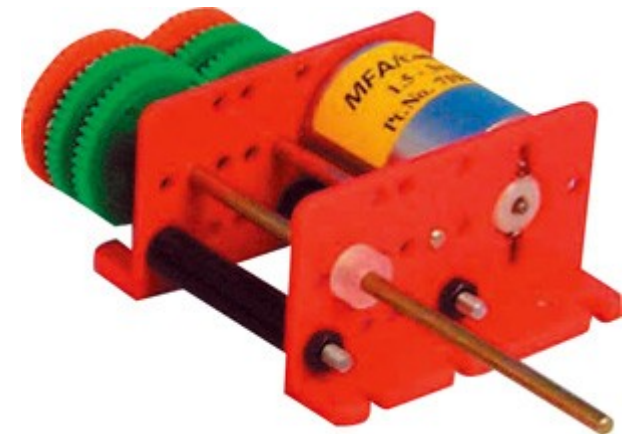




Drive Motors/Transmission

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- DC Electric Motors (12V)
- Gearboxes
- Pulley/Belt Drives
- Connecting Locomotion
- Bearings
- Speed/Torque

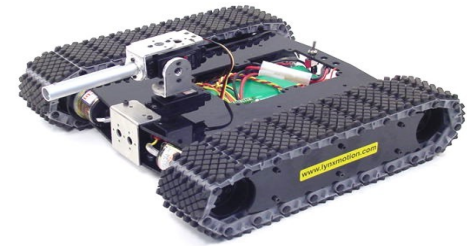




Locomotion

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- Tracks
- Wheels
- Castor Wheels
- Wheelbase/Track
- Grip/Traction
- Turning Methods





Ball Collection/Launcher

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ROBOTICS

- Pick up and move with balls
- Sweepers
- Arms
- “Rakes”
- Shunts





Ball Collection/Launcher

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ROBOTICS

- Cannons
- “Crossbows”
- Catapults
- Cranes
- “Flywheels”

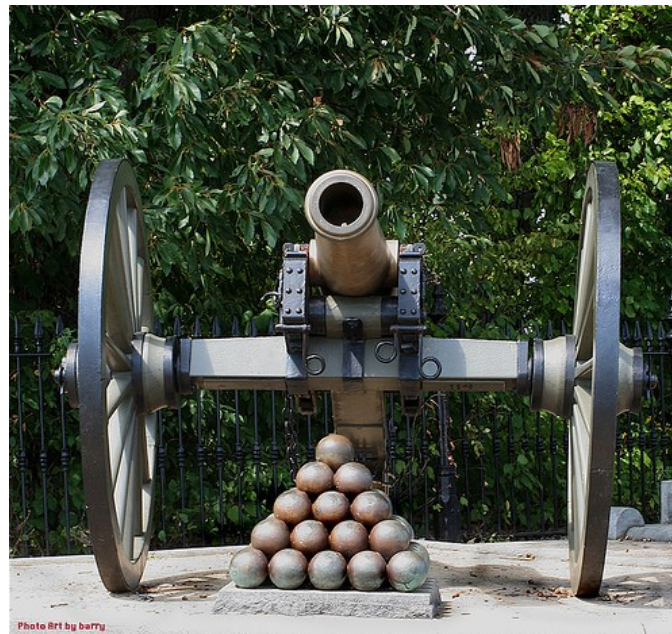


Photo Art by berry