

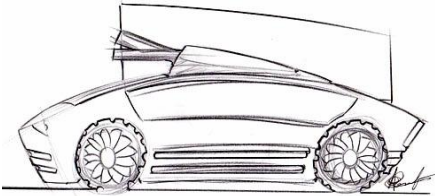
Revised 6/27/2008

## Senior Design Projects and Some Examples

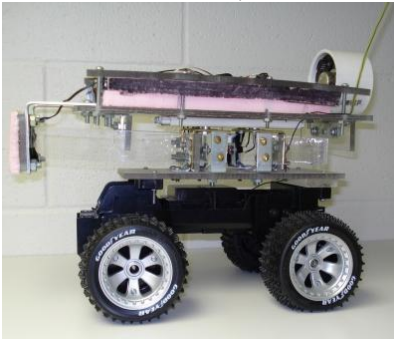
### Fall 2001 (AME470)

#### Interactive Toy

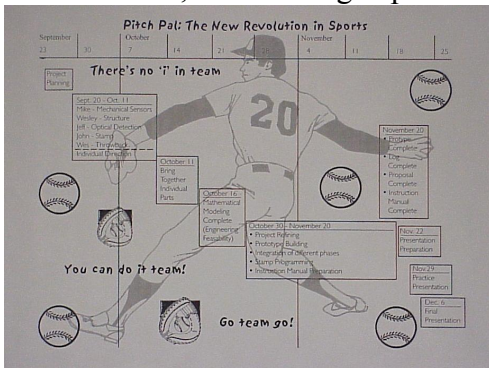
- ❖ “Water Hog,” a remote-controlled water gun



- ❖ “Crash Talker,” a remote-controlled talking vehicle & game



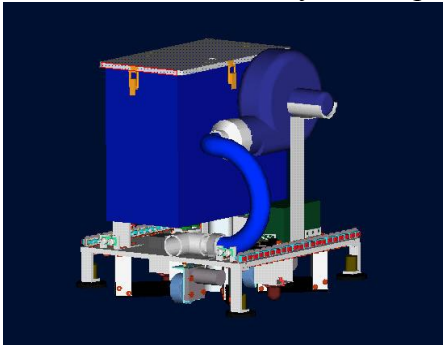
- ❖ “Pitch Pal,” a little league pitcher training aid & game



Spring 2002

Autonomous Floor Cleaner (McDonald's Corporation)

A vehicle to remove Styrofoam packing peanuts from a variable floor area



Fall 2002

Ultra-Compact Clothes Washer

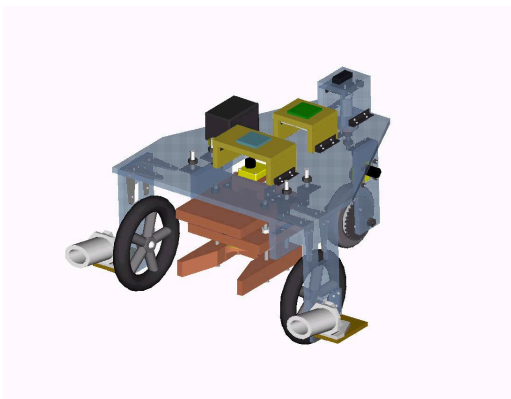
A tabletop unit suitable for use in hotels, dorm rooms and other limited spaces



Spring 2003

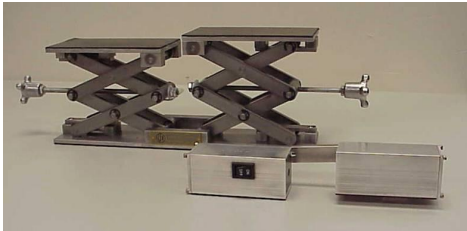
Hazardous Waste Removal System

An autonomous vehicle that can locate and retrieve a hazardous material container



Fall 2003

Tool to Align Side-by-side Refrigerator Doors (Sears)  
A tool to eliminate subjectivity in field service calls



HEPA Filter Clean/Test System (Sears)  
Service equipment to extend the usable life of vacuum cleaner filters



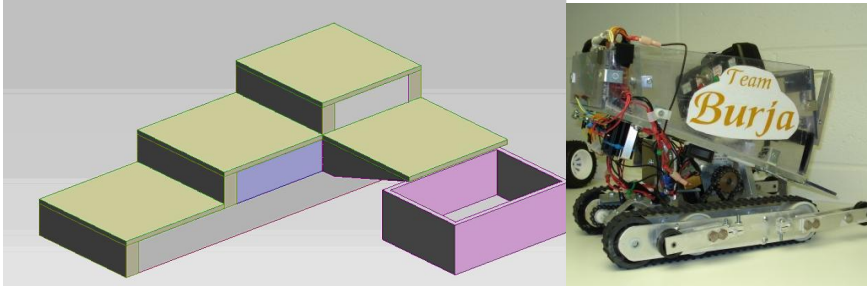
Fall 2004

### Land Mine Detection System

An autonomous vehicle that can locate and identify simulated mines

### ASME Bulk Material Transporter (i.e. “rice mover”)

A contest to move the most dry rice up a right-angle stairway



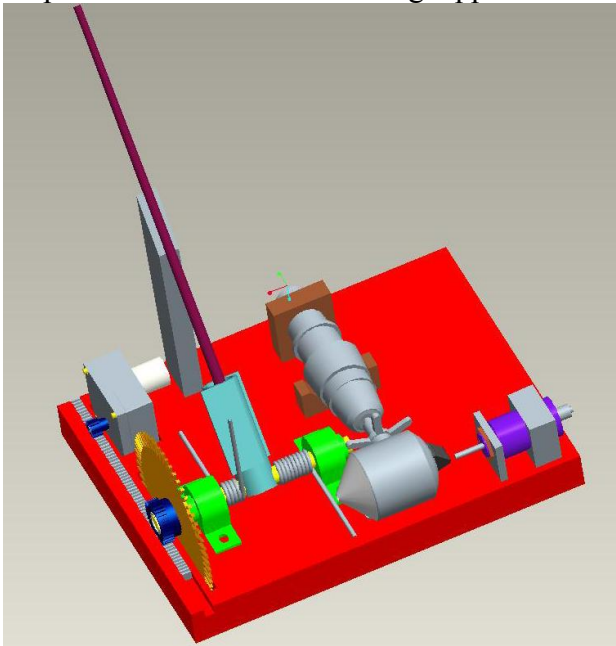
### Intelligent Hand Tool

- ❖ Automatic ball inflator
- ❖ Automatic jar opener

-incomplete data

Fall 2005

### ASME “Sip & Puff” Hands-free Fishing Apparatus



An apparatus to allow disabled persons to fish with a casting rod & reel

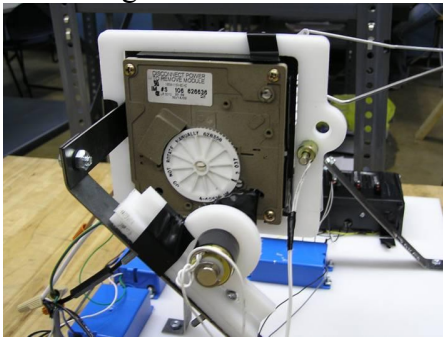
### Injury Rehabilitation Device



“Stehm Hand” device hand rehabilitation apparatus  
“FlexioNDynamics”  
“NDSaturn”  
“BIOnc” Knee Trainer

-incomplete data

Automated Refrigerator Ice Maker Test Stand (Sears)



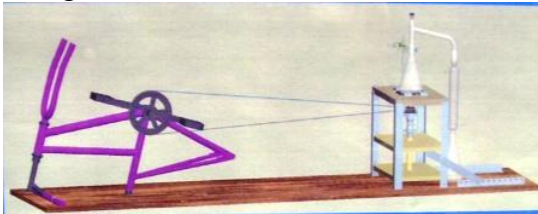
“Green” Engineering Project



-Gray water recycling machine made from discarded washing machine

Fall 2006 (AME40463)

ASME Design Contest – Human Powered Water Distillation System



- ❖ “Team Pure” human-powered electricity generator
- ❖ “InnovationDistillation” emergency water recovery system
- ❖ “Watched Pot” human powered still
- ❖ “Toteable, Potable Water” pedal-powered purification system
- ❖ “Home Brew Water Crew” human powered water distiller
- ❖ “Pedal Pure” human powered water purifier

Fall 2007 (AME40463)

### Basic Ambulatory Assistance System



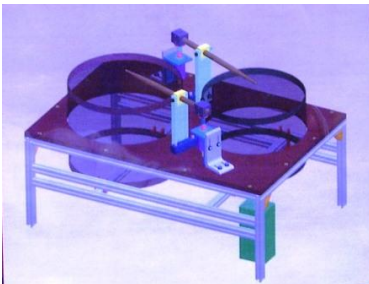
- ❖ “Leg-O-Manic” hands-free crutch
- ❖ “The Nomad” leg assistance device
- ❖ “Ambu-Gold & Blue” wheelchair alternative
- ❖ “Driving Technologies,” an assistive handwriting device
- ❖ “Phalange Phlex”
- ❖ “Assistrek”

### Circuit Board Assembly, Solder & Test System



- ❖ “Solder Baat” automated soldering machine
- ❖ “ACE” Automated Circuit Engineering

### Innovative Musical Instrument



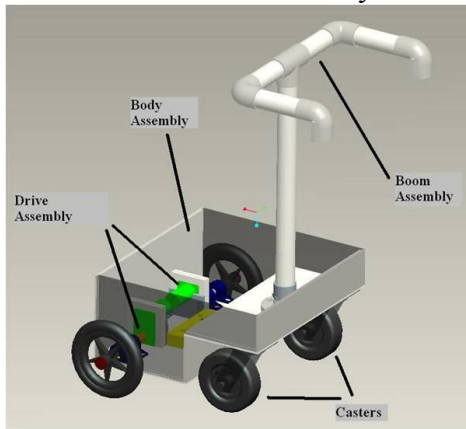
- ❖ “Bang-a-Rang” fingertip-operated drum set
- ❖ “Mini-Mozarts”

## Animatronic Robot

“NDmatronics,” a 4-degree of freedom robotic head

Spring 2008

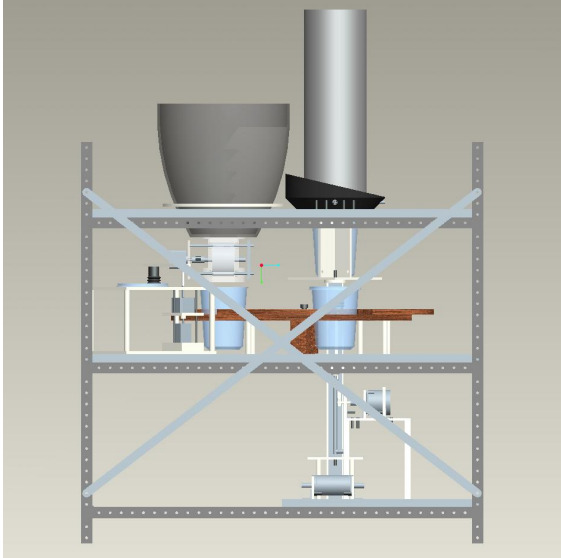
## Hazardous Material Seek & Identify Vehicle



- ❖ The Dukes of Hazard
- ❖ Team Hazard Hawk
- ❖ HMS Hound Dog



## Product Packaging Machine



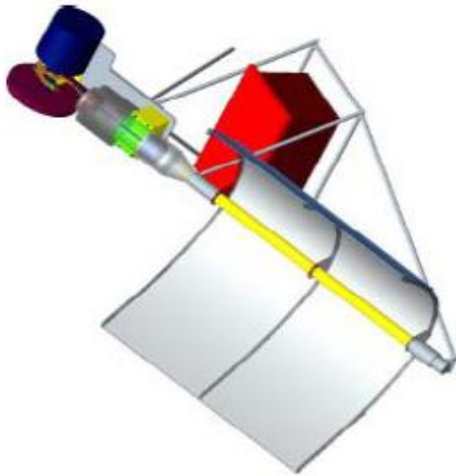
- ❖ Perfect Pellet Packaging Product
- ❖ The Butler: Your Personal Shopper
- ❖ Spinnitech

#### Portable Wind Energy System



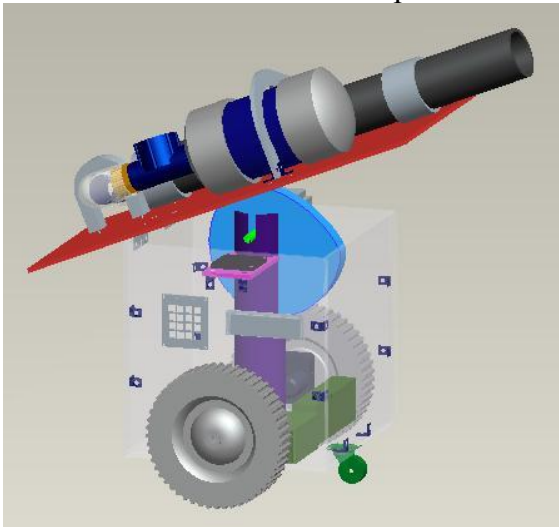
- ❖ Revolutionary Technologies
- ❖ Wind-Aid
- ❖ Pinwheel Technologies
- ❖ Turbinator Technologies

## Compact Solar Energy to Electric Conversion & Storage System



- ❖ Solar Power Rangers

## Robo-Football Demonstration & Competition Development



- ❖ Team Top Gun
- ❖ Bad News Bots
- ❖ Hewlett Packers