



MocoRobots



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End User Profile

Charlie Burke, Aviation
Ordnanceman Second Class



- Active Duty Navy from 2009 - 2015
 - 2 Naval Tours as an Aviation Ordnanceman
 - Planned on career (20+ years) in Navy
 - Injured unloading 500lb AIM7 Missile
 - Forced Med-Leave from Navy
 - Ongoing back issues
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Problem

- Extremely Heavy and Delicate Payloads
 - Weights range from 250 - 2000 lbs
- Mental and Physical fatigue
 - High-stress environment
 - As long as 12 hour shifts
- Precision and safety with Efficiency?

“If you don’t do your job correctly, it could be someone’s life.”- Ellis St. Pierre, Navy Quality Assurance Safety Officer



Beachhead Market: Navy

- Large defense budget
 - TAM = \$28M/yr
- Productive customer discovery interviews within the field
- Accessible adjacent markets
 - Air Force
 - Contractors
 - Partnered airplane manufacturers

Mission Statement

Revolutionize labor force through a human-robot team



“The answer lies in automation... lives depend on it.” -
William Murray, Director of Halsey Bravo Advanced
Research Project, USNWC

Product Demo/Solution

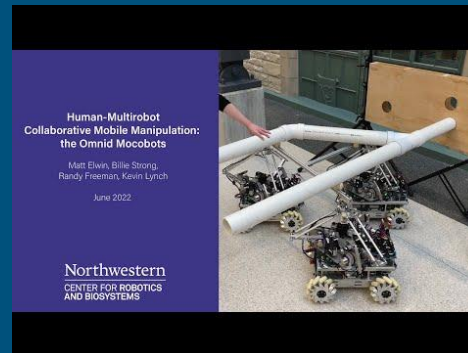
Zero-Gravity (Float) Mode



Three different functionality modes

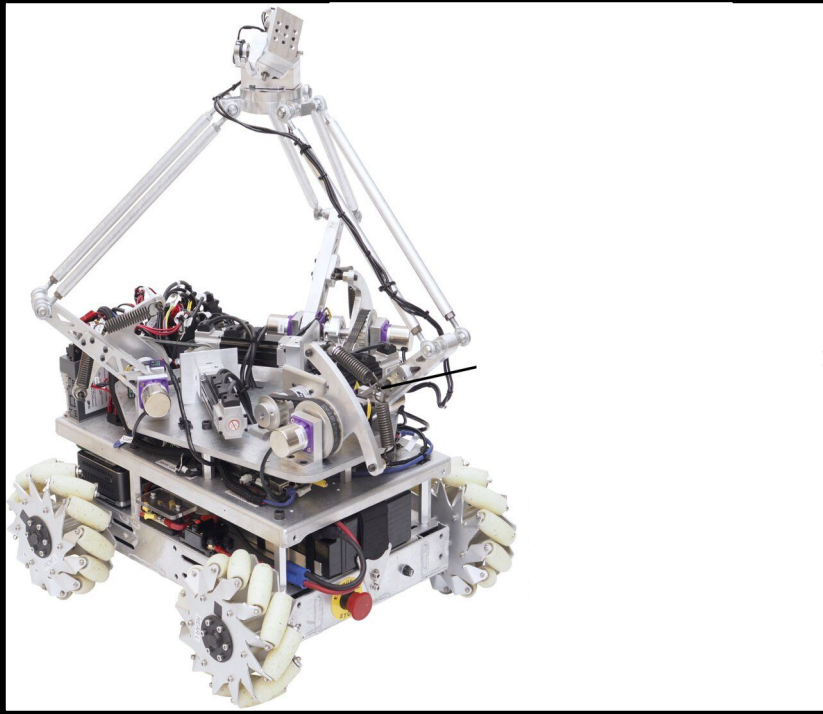
- **Zero-gravity mode**
 - Simulates a gravity-canceling environment through springs
 - Greatly reduces weight load for users
- **Human Guiding mode**
 - Sets boundaries for robot workspace
- **Monitoring mode**
 - Monitors internal forces of target object

Payload Control Mode



Walk the Dog Mode

Product Demo



- **Lifting Specs**
 - Group of 4 Cobots can lift up to 2000lbs
 - Lifts up to 5-6ft in the air
 - Load moves at the same speed as user's arm
 - Interchangeable end-effectors for lifting various shaped loads
- **Battery Specs**
 - Rechargeable Lithium-Ion batteries
 - Battery life of 8 working hours
- **Ground Movement Specs**
 - Omni-directional wheelbase for all-direction movement
 - Moves according to user's haptic feedback
 - Stable wheelbase to avoid tipping
- **Safety Specs**
 - Built-in kill switch
 - Visual and audio indicators for robot movement
 - Built-in mechanical compliance in order to not injure users

MVP: Corobots working in zero gravity mode in order to move around approximately a ton of weight in all directions. The corobots are rechargeable and user-friendly.

Safety

High

Low

Ordnance Loader



Equipment Manufacturer



Universal
Robots



MocoRobot



Trolley



Manpower

Low

High

Time Efficiency

Any questions?

