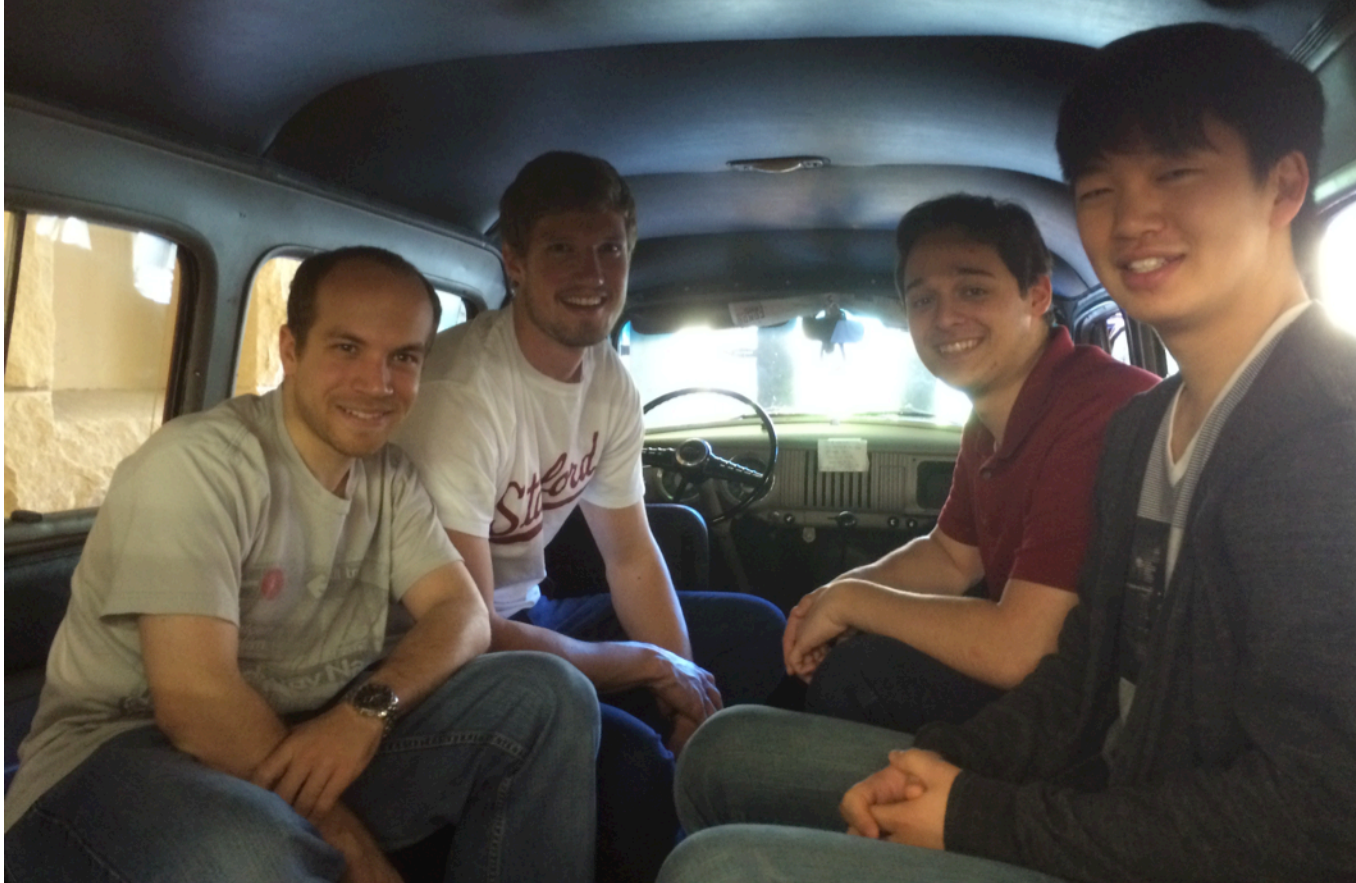


Team 29 - && 0x01

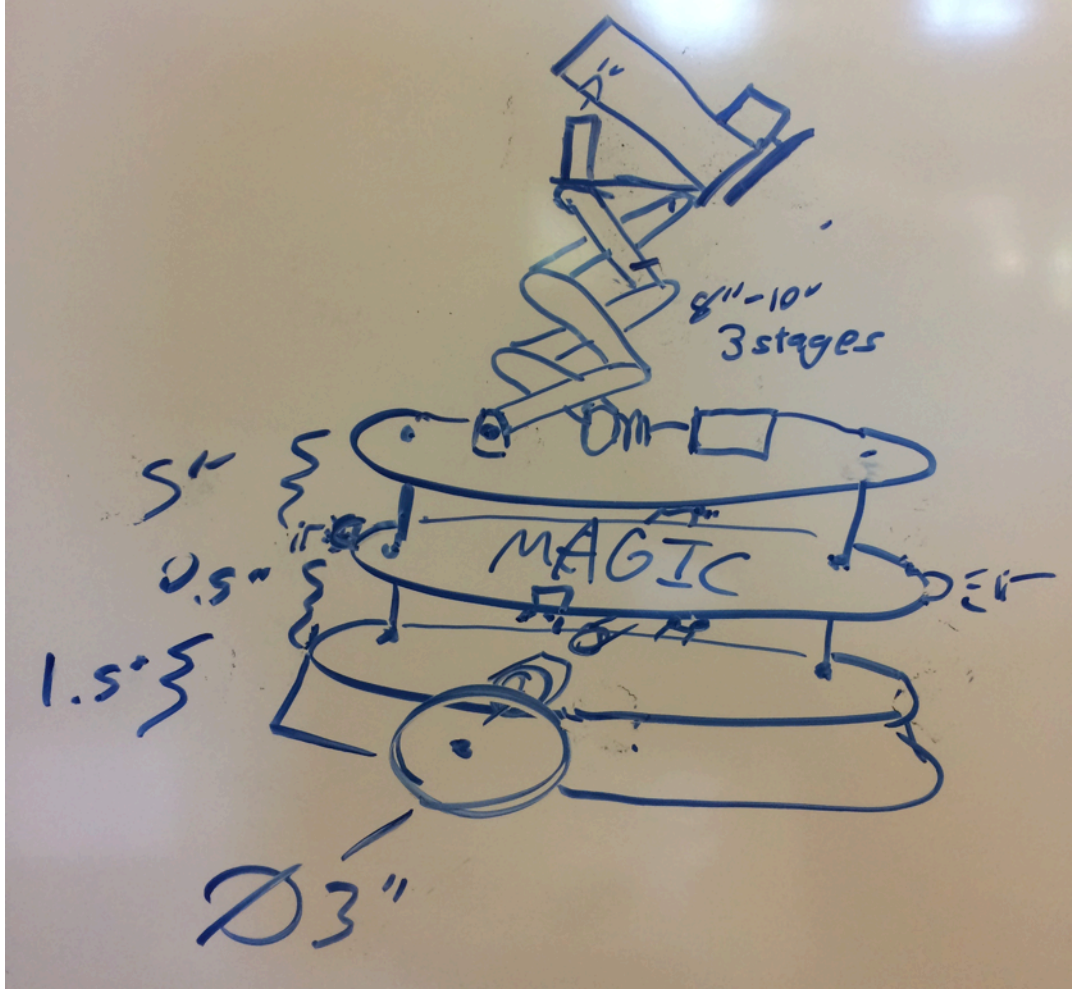
Skip to my loop.



Benjamin Galligan, Lars Roemheld, Ravi Haksar, Dongsuk Shin

Overall sketch

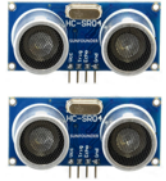
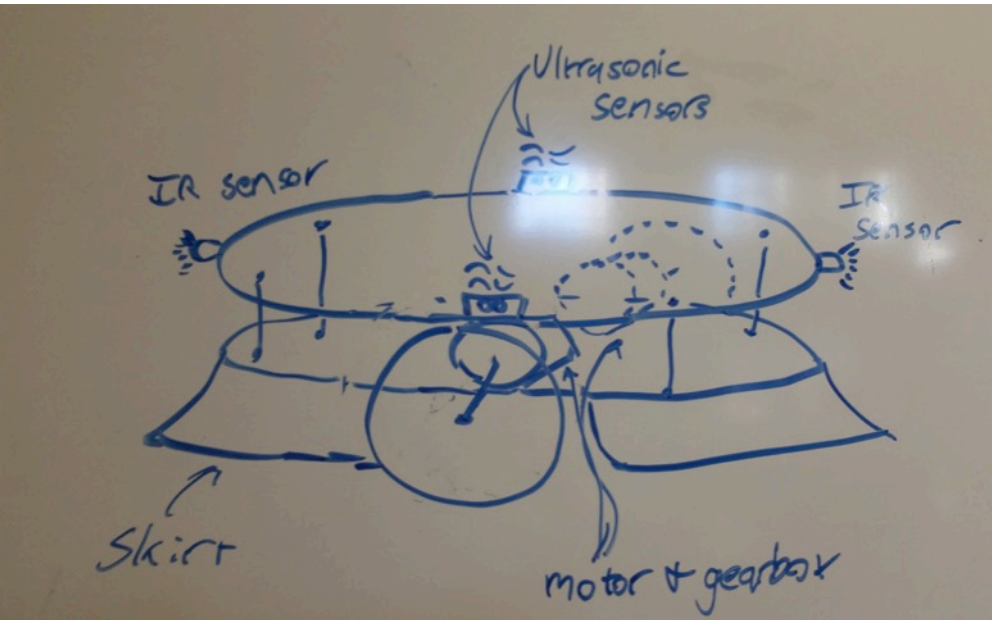
Fast-moving slam dunker.



- Driving Platform: similar to cockroach, more sensors
- Skirt: fend off stray balls
- Magic zone
- Scissor-Lift for slamdunk slope

Phase 1: Drive+Navigate

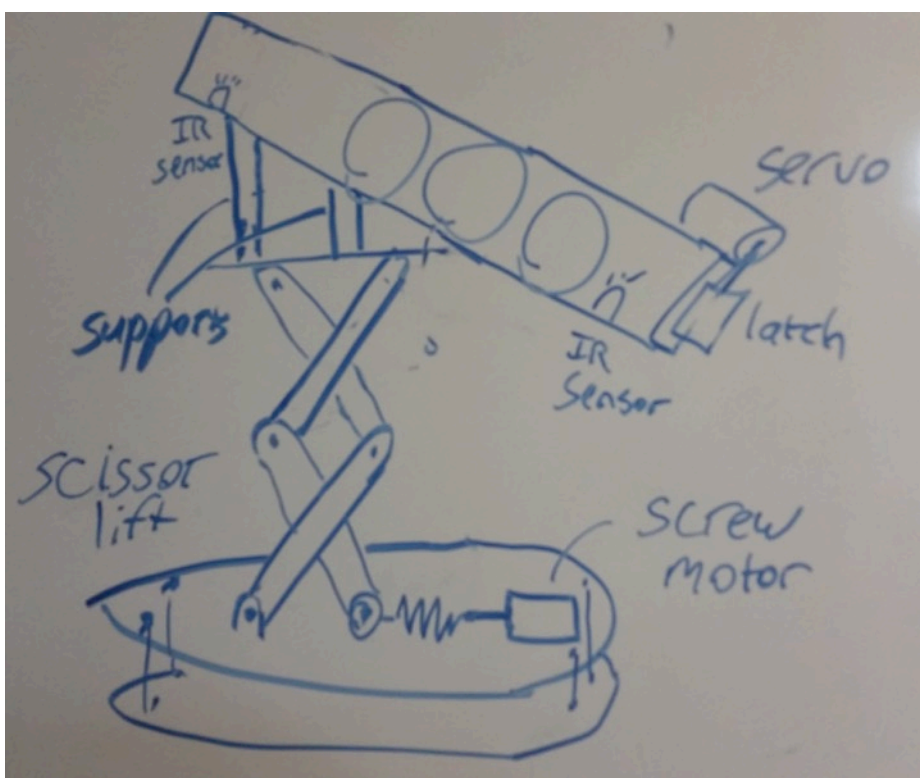
First result is platform that can find bumper & 1pt hoop



- Sensors:
 - IR proximity front & back
 - Ultrasonic sides (long range)
- Drive chain:
 - Two motors with gearbox for 2wheels
- Arduino Magic
 - Compute shortest way based on distance to sides?
 - 90deg turns

Phase 2: Score

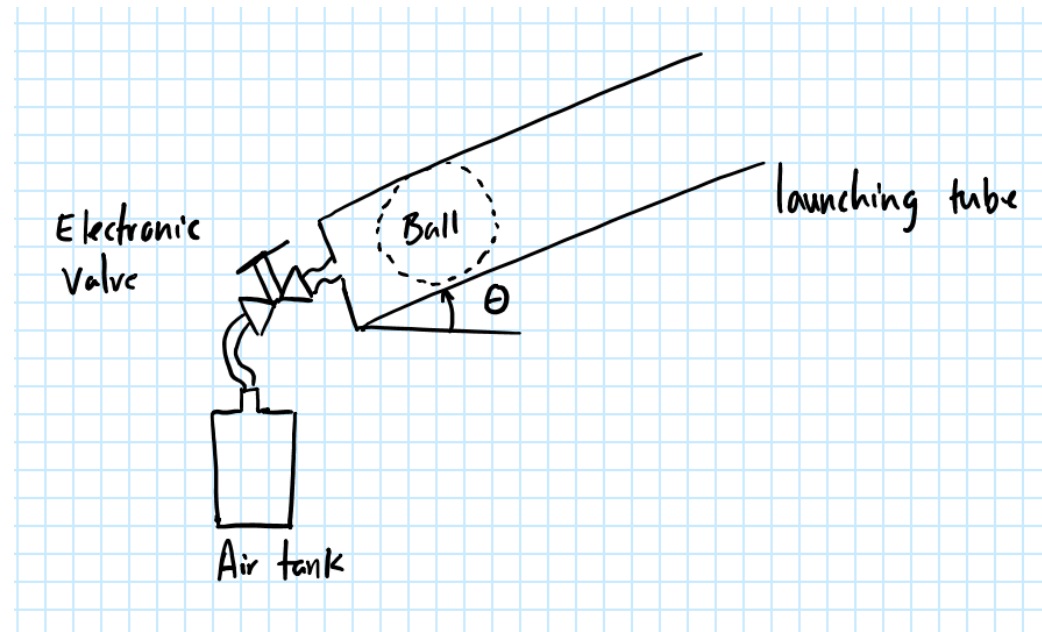
Based on driving platform, we will implement a dunking slope



- Lift requirements
 - Scissor lift with approximately 8" long links
 - Supports to slope dunking system
 - One motor with gearbox and screw for lift
- IR sensors on dunking system to detect balls
- One servo for slope-latch

Shooting Mechanisms

- CO2 launcher
 - Using air pressure
- Spring with motor & latch
- 2 wheel launcher
 - Motorized mechanism



Parts of Interest

Preliminary sourcing research

Part	Quantity	Cost/Each	Part Number	Shipping speed	Notes
Motor driver	1			N/A	L293 Board
DC motors					
Gearbox	2	14.95	Sparkfun 12866	Max 3-5 days	Motor/Gearbox/Wheel combo
Wheels					
Servos	2	5			Purchase from lab supplies?
DC motors	2	12.95	Sparkfun 12316	Max 3-5 days	For launching balls
Air valve	1	8.95	Sparkfun 10456	Max 3-5 days	For launching balls
Compressed air tank	1				Unable to find reliable vendor
Ultrasonic sensors	4	5.69	Sainsmart HC-SR04	Prime	Near and far range finding
Compass	1	14.95	Sparkfun 10530	Max 3-5 days	
Acrylic			Home depot	Immediate	

Project timeline

Look, we have a GANTT chart!

