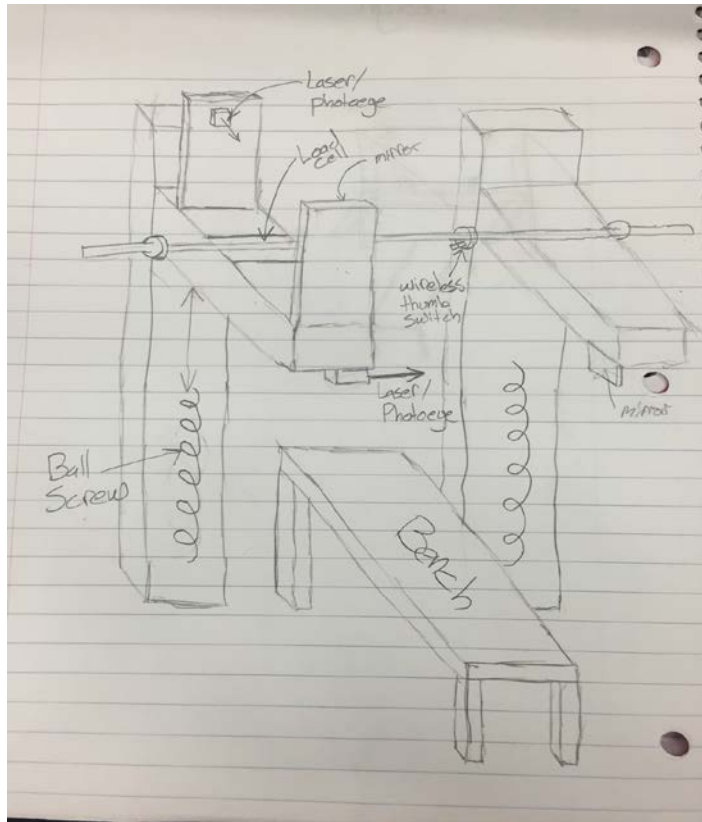


# Safety Weight Lifting System

Team #4



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# Project/Product description

- Safety Weight Lifting System
- Push your physical limits and stay safe without the need of a spotter
- Adjustable for any size/strength
- Quick and efficient lifting mechanism
- Intended to support the bench press

# Key Requirements

- System can handle up to 450lbs
- Arms can lift the bar 3 inches/second
- Backup Power System in case of power outage up to 1 hour
- Powered by 102 - 132 Vac at 60 Hz +/-3Hz
- Bench Press System (Component Cost) - \$1100
  - Power Supply - \$40
  - Microcontroller - \$10
  - Wireless - \$40
  - Sensors - \$200
  - Drives/Motors - \$270
  - Mechanical (4ft Ball Screws, Motor Shaft Couplers, Bench Press Metal, etc) - \$540
- Assembly - \$160
- Testing - \$10
- Operates in a controlled temperature environment from 32-100°F

