



**IE/ME 4650 Mechatronics Engineering for  
Smart Device Design**



# **FINAL PROJECT SHOWCASE**

**Smart product  
developed by our  
own students**

Friday, May 4<sup>th</sup>  
10:30 – 11:30 AM

2040 Seamans Center  
New Annex Design Studio

**COME SEE!**

**Sponsor: Department of Mechanical and Industrial Engineering**

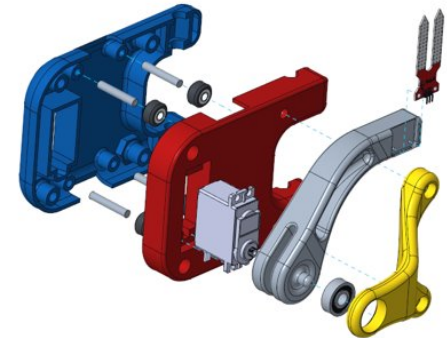
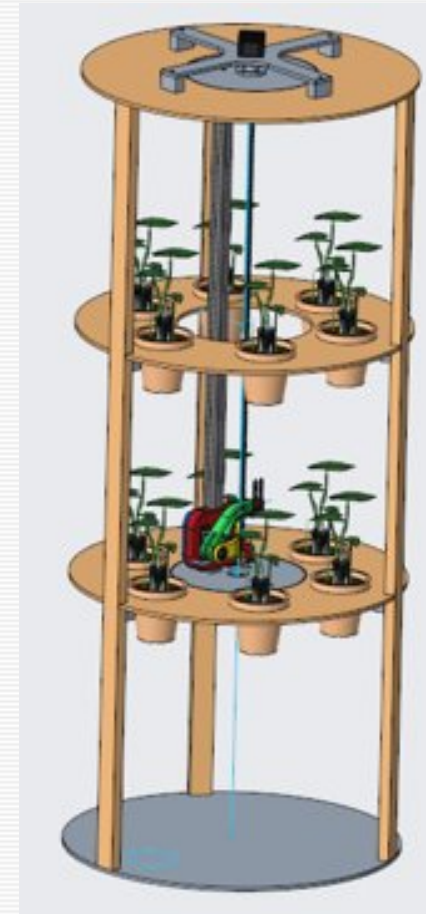
# MECHAPONICS

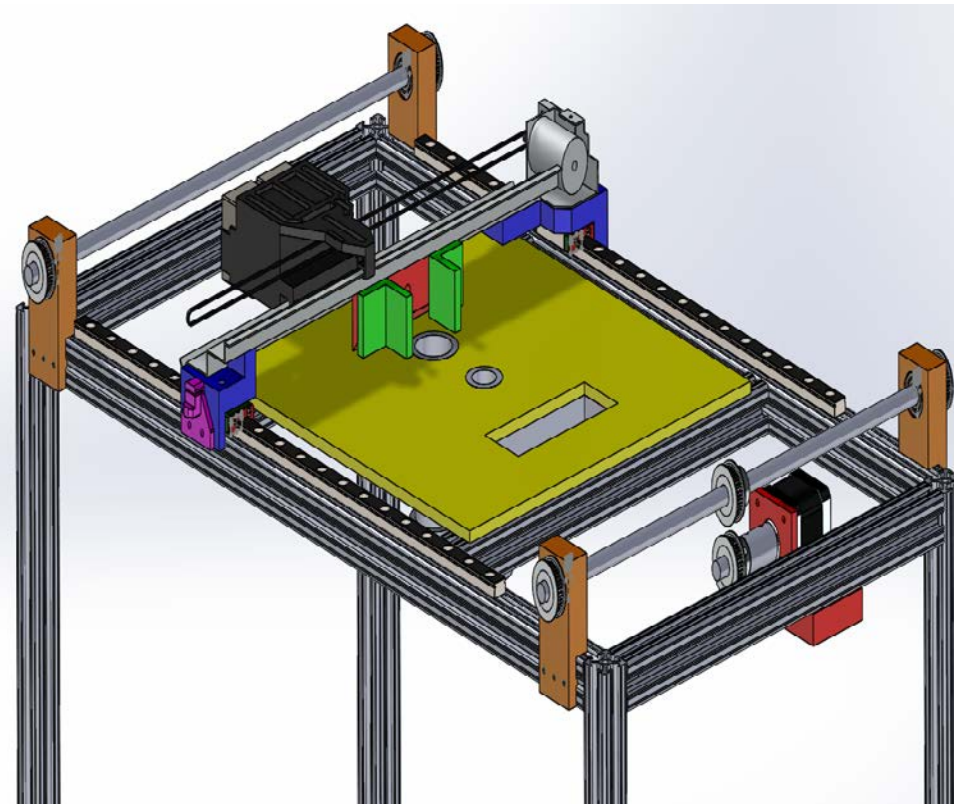
PRESENTS

# GROWBOT

## Automated Plant Care System

- Monitors soil moisture, ambient temperature, light exposure
- Waters plants automatically
- Activates LED grow lamps
- Takes care of up to 12 plants
- Easy to use GUI





# FLAT PRINTER

IE: 4650 FINAL PROJECT SHOW CASE  
5/4/2018

## See what we learned and what we got!!

We disassembled a Canon MG 2520 printer and hacked the paper roller encoder to build our own Flat Printer! We used the encoder signal to control a stepper motor used to realize y-axis movement. We will add a z-axis in the future and replace the ink with the particular powder to make 3D printable.

α

# DIY!

Print Your  
Own Picture

Print Your  
Own T-Shirt

Any Size You  
Want

## TEAM ALPHA:

Baizhuang Zhou  
Fan Fei  
Ziyang Xu

Presented by:

# TEAM AWESOME

Mechatronics  
engineering on  
May 4 at 10:30

## 2D DRAWING MACHINE



Draw a picture on a  
computer

Draw anything you  
would like



Uploads to our  
drawing machine

Our Machine will take  
your amazing  
drawing and create it  
before your very eyes



Watch as your  
masterpiece comes to  
life

In a short period of  
time the drawing you  
created will be  
presented on the  
whiteboard

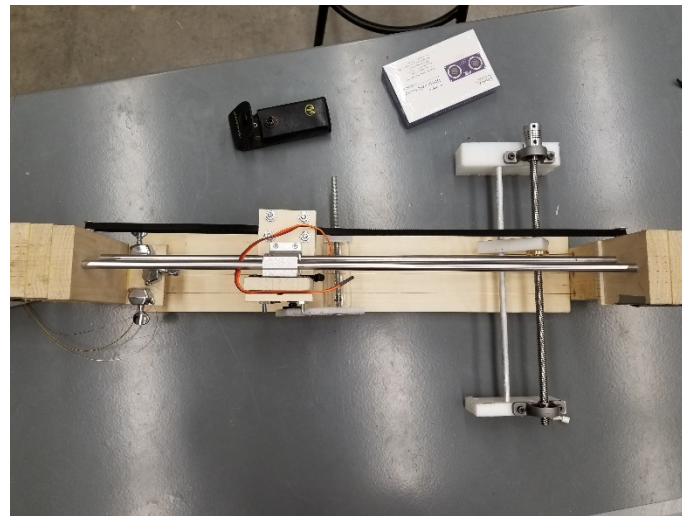
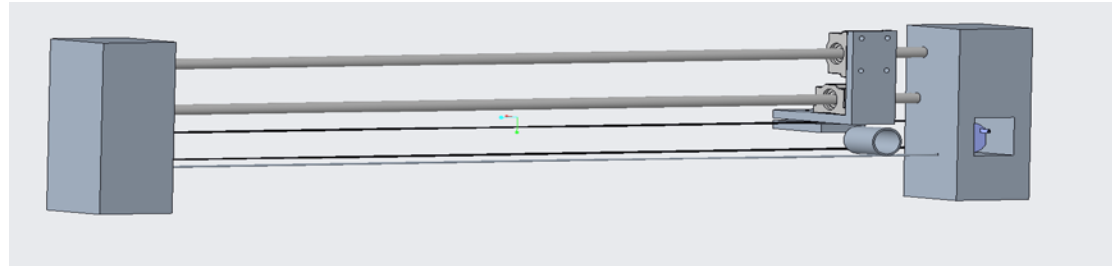
TEAM AWESOME INC. CO. LLC.

103 South Capitol Street, Iowa City  
6789998212 | <https://uiowa.instructure.com/courses/73903>

# Automatic Guitar

Charles Hearn – Brian Merrill – Baibhav Poudel

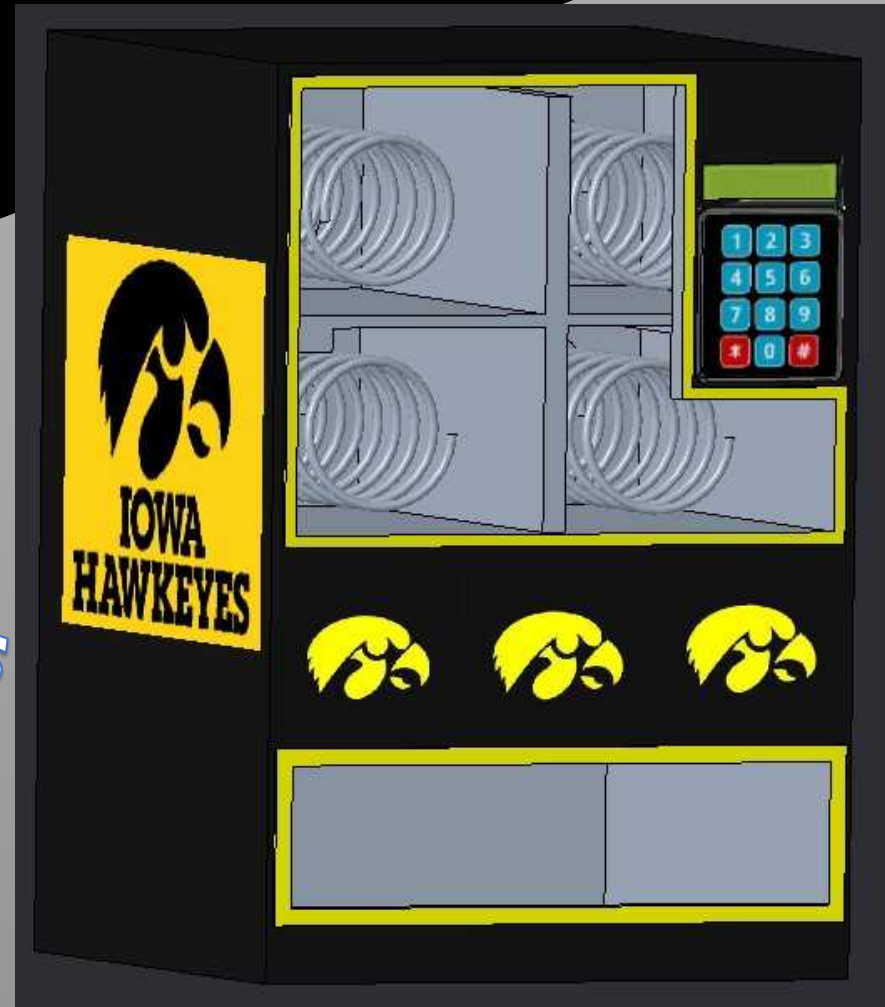
Our final project for mechatronics is the design and implementation of a mechatronic guitar, and we are coding a song to be played by various motors and servos through our Arduino kit. The system has combined two linear stages to create two axis: one for the pick and one for the slide.



# Mechatronic Vending Machine

# COME SEE!

**The Vend-gineers**  
Joseph Julien, Austin Brehm,  
Thomas Niermeier



**Display up to four  
different products  
OF YOUR CHOICE!**

# QUADCOPTER

Fully Autonomous or manually controlled package delivery

Demonstration: Delivering and dropping 100 gram package within grid system

➤ Friday at 00:00 in the Place



AARON KLINKER, VICTOR NGE,  
SHELBY CLAIR & CALIHAN MORLING