


Link to feedback form:  
<http://shoutkey.com/peach>

# Tusic Sprint 1 Review

Athmika, Emily, Hannah, Kristen,  
and Magnolia




We will design and fabricate a **page turner for musicians** that is actuated with a **hands-free** method.



# MVP

Required aspects:

- » Can turn at least one kind of sheet music reliably
  - » Is triggered by something without hands
  - » Constructed professionally (no wires, tape, cardboard showing)
  - » Has been tested by a musician for usefulness
- 

# Learning Goals

**EMILY**

System  
integration,  
program  
hands-free  
inputs

**HANNAH**

CAD, rapid  
prototyping,  
mechanisms,  
system  
integration

**KRISTEN**

System  
integration,  
Open-source  
programming,  
Prototyping

**ATHMIKA**

Writing more  
readable code

**MAGNOLIA**

Tidier circuits,  
Electrical  
troubleshooting



# Stretch Goals


## Mechanical

- » Handle loose leaf and music in binders
- » Flip forward and backwards
- » Should not interfere with the ability to read music

## Hardware

- » Seamless integration with RasPi
- » Battery operated

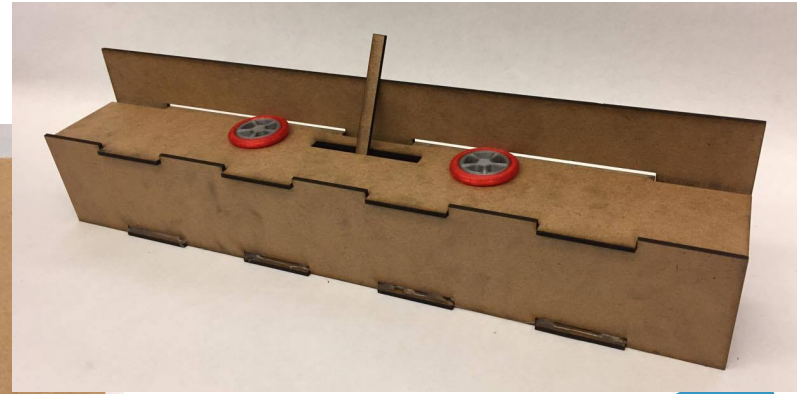
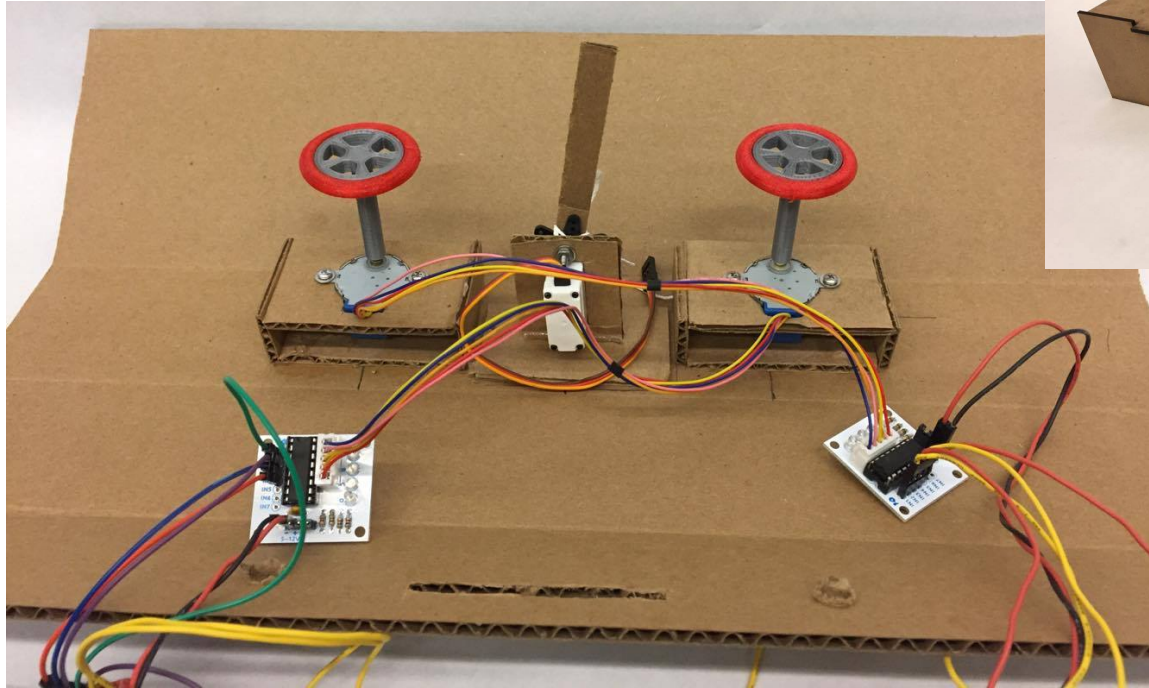
## Software

- » Different modes for “learning” when to turn
  - » Turning controlled by eye movement
- 

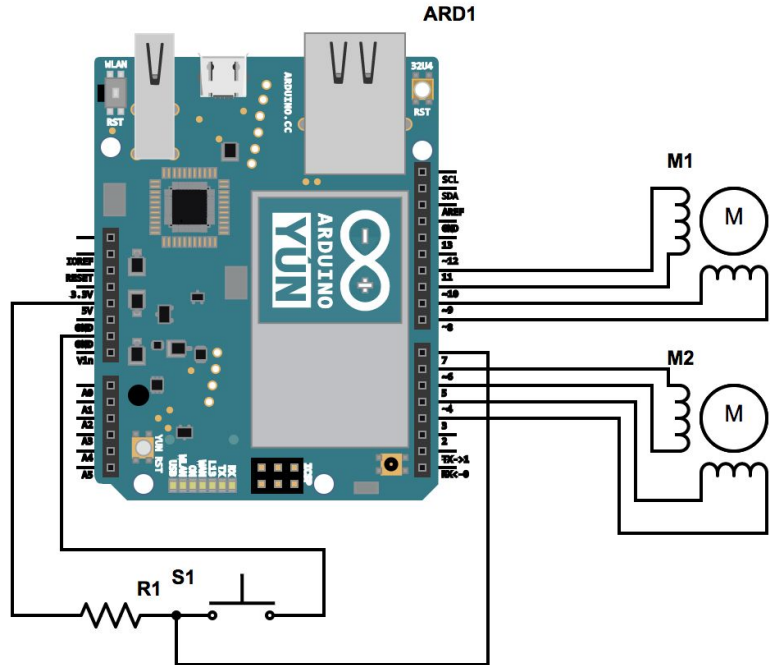


**Demo**

# Deliverable 1: Prototype mechanical design

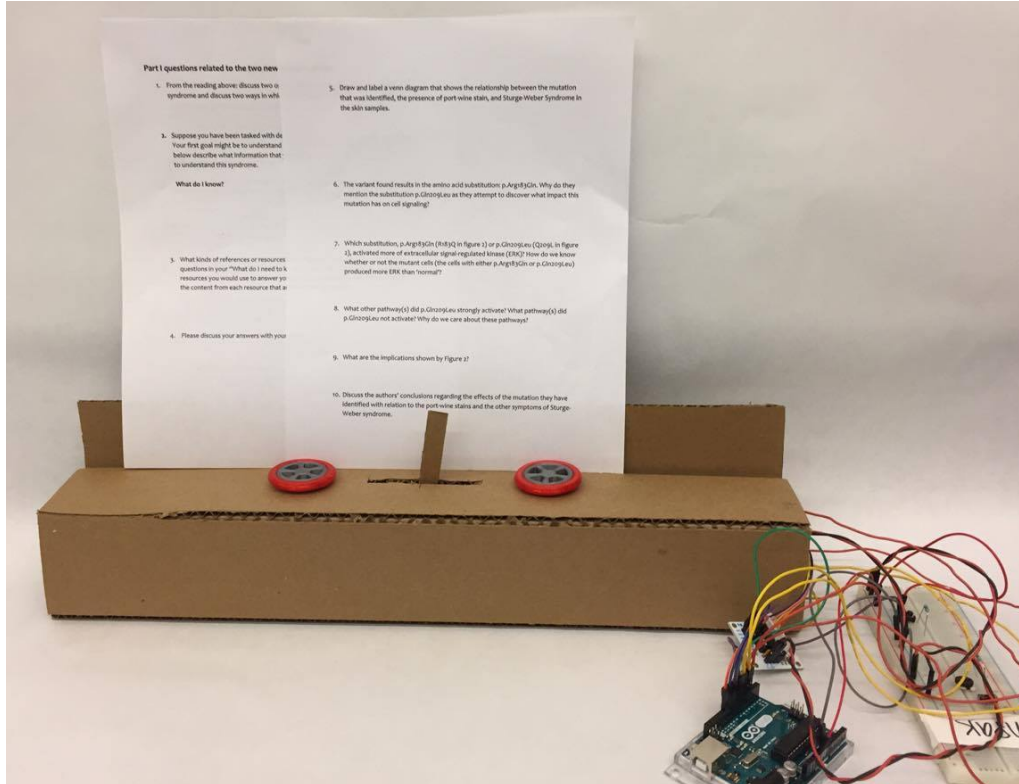


# Deliverable 2: Button input to trigger system



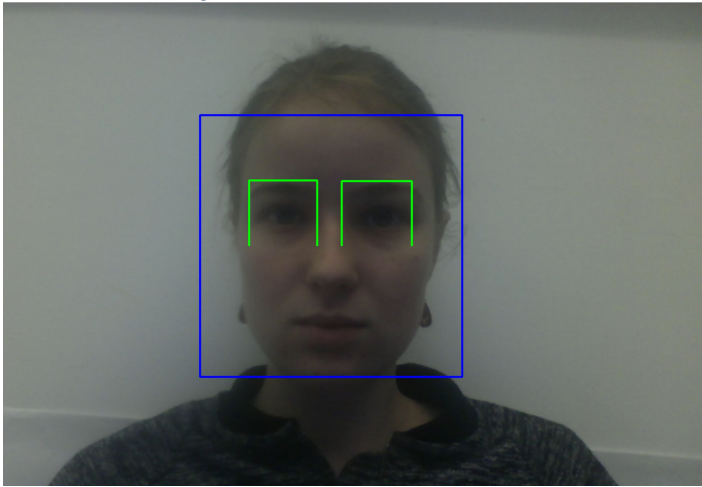


# Deliverable 3: Integrated System

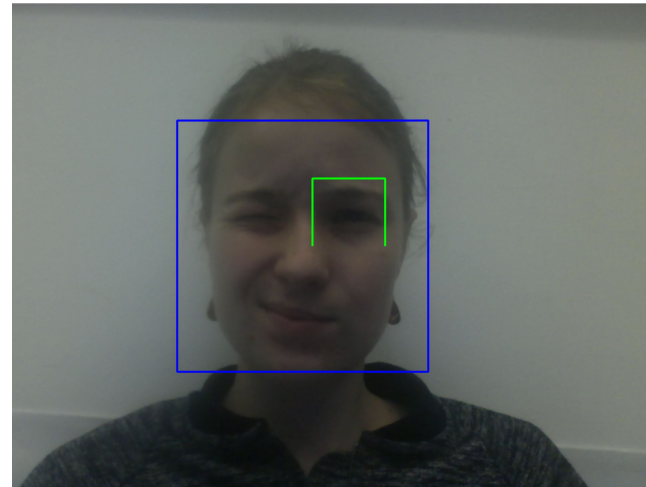


# Deliverable 4: Eye-tracking software prototype

Both eyes



Wink



# Deliverable 5: First draft of website

## Blog

### The Decision: A Page-Turner for Musicians

Posted on October 15, 2017

After our last group meeting, we had come to a bit of a deadlock. We couldn't agree on whether we wanted to work on a page-turner or a safety jacket for biking. Last night, however, we finally reached our decision. We will be creating a page-turner for musicians. Personally, I was originally leaning toward the safety jacket. The element that made me change my mind was identifying a clear user for our page-turner. When playing an instrument, both hands are usually occupied. This makes turning sheet music pages difficult and stressful. Additionally, sheet music is generally of a standard size and comes in specific forms (i.e. a stack of papers, a binder, or a paperback book). If this were a generic page turner, there would be many more variables, specifically, the size of books. We also believe that having a specific user in mind will help our design decisions as we move forward.

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### Day 0: Ideas, ideas, ideas!

Posted on October 13, 2017

Today marks the first day of our final Principles of Engineering project. Last night, I found that my team co (Kristen), Athmika, Emily, Hannah, and Maggie. We have three Software Engineers, one Mechanical Engineer, and one Physicist. This seems like quite a solid spread of skill-sets, and considering that I almost chose Electrical Engineering as my major, I feel confident that we will be able to accomplish electrical aspects of our project as well.

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#### RECENT POSTS

The Decision: A Page-Turner for Musicians

Day 0: Ideas, ideas, ideas!

#### RECENT COMMENTS

#### ARCHIVES

October 2017






# Current Challenges

## Software

- » Communication between camera and system
- » Distance calibration

## Mechanical

- » Getting motors to move simultaneously
  - » Methods/materials for moving paper
  - » Actuation to handle stacks
- 



## Deliverables for next sprint

- » Integrate eye and motor control with Raspberry Pi
  - » Better mechanical prototype (no cardboard)
  - » Capability to turn several pages of music
- 