

EE / CPRE / SE 491

Sheet Vision

Iteration 8 Report

4/13/19 - 4/19/2019

*Student suggested Project*

*Faculty advisor: Alexander Stoytchev*

#### Team Members:

Bryan Fung — Frontend/Backend, Meeting Facilitator

Garrett Greenfield — Front end, Team Scribe

Ricardo Faure — Frontend/Backend, Meeting Facilitator

Trevin Nance — Machine vision, Chief Engineer Power System

Walter Svenddal — Machine vision, Report Manager

#### Past Week Accomplishments:

- Integrated Camera into Mobile Application (Ricky)
- Began integrating computer vision music note algorithm into Desktop application and AWS Server.
- Designed architecture for computer vision functionality (Trevin)
  - Created a UML diagram.
  - Created a point and notefinder class, created enums.
- Worked on object detection (Trevin)
  - Changed the current object detection to use a scaling method to add size invariance for object detection, created detection for 1,  $\frac{1}{2}$ ,  $\frac{1}{4}$  notes and sharps. Modified algorithm to be modular to work with AWS server.
- Resource collection and Opencv (Walter)
  - Finished work on phase 3 of the OpenCV processing (polishing incoming sheet music images)
- Worked on playing piano animations from JSON data (Bryan, Garrett)
  - Implemented an application for desktop that can take JSON data and play and animate a piano
  - Researched how to store keys pressed to a midi and read from a midi

#### Pending issues:

- Bug on the Android application which makes it crash
- Difference in image handling between Trevin and Ricky
- Mobile Development is difficult

## Individual Contributions

<u>Team Member</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>Total Hours</u>
Bryan Fung	Implemented an application for desktop and researched on how reading and animating from a MIDI file	4	39
Garrett Greenfield	Created an application for desktop that can take JSON data and play and animate a piano	4	32
Ricardo Faure	Established communication with AWS server from mobile app	5	45
Trevin Nance	Continued work on detecting eight and quarter notes	6	31
Walter Svenddal	Worked on document screening algorithm	4	32

## Plans for Coming Week:

- Whole Team:
  - Prepare for presentation
- Bryan Fung:
  - Implementing on presentable demo of the piano front end animations
- Ricardo Faure:
  - Finish implementing Music Detection into AWS cloud. Define what file types will be sent by AWS machine to the client.
- Garrett Greenfield:
  - Work on creating a presentable demo of the piano front end animations
- Trevin Nance:
  - Find the rest of the symbols which are required for this semester's goals, switch image handling methods to work better with AWS

- Walter Svenddal:
  - Reconfigure partitioning to more accurately find measure lines even when askew