

EE / CPRE / SE 491

Sheet Vision

Iteration 5 Report

3/09/19 - 3/15/19

Student suggested

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:

- Set up AWS machine to run openCV (Ricky)
 - Set up API for communicating with AWS Machine.
 - Set up OpenCV on AWS machine to run image processing algorithms.
 - Styling on App.
- Confirmed communication between AWS and Desktop Application.
- Designed architecture for computer vision functionality (Trevin)
 - Created a UML diagram.
 - Created a point and notefinder class, created enums.
- Began working on detecting eighth note (Trevin)
 - Started working on the OpenCV function which will detect eighth notes.
- Resource collection and Opencv (Walter)
 - Finished work on phase 3 of the OpenCV processing (Dividing up sheet music into ROIs).
- Implemented the camera and photo controller for the react application(Bryan, Garrett)
 - Implemented a working camera into an application that can send the picture to other working parts of the system.
 - Implemented a photo file search that works like the above but from a file.

Pending issues:

- Nothing on Front-end side for now.

Individual Contributions

<u>Team Member</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>Total Hours</u>
Bryan Fung	Created a react+electron desktop app that will be able to capture an image and then select the file and upload it.	6	25
Garrett Greenfield	Created a react+electron desktop app that will be able to capture an image or select the file and upload it.	6	20
Ricardo Faure	Tried out different ways to implement desktop application aside from react-native-windows, extended research on web frameworks.	10	30
Trevin Nance	Created the architecture for the OpenCV work and created skeleton code for the note detection algorithm.	2	20
Walter Svenddal	R&D of OpenCV on sheet music.	5	17

Plans for Coming Week:

- Whole Team:
 - Research and confirm how the audio processing will work.
 - Add mobile application to our ecosystem.
 - Add the ability to play sounds on desktop application.
- Bryan Fung:
 - Creating a piano with animations & sounds using React, for desktop application.
- Ricardo Faure:
 - Set up mobile react-native application that can communicate with AWS machine.
- Garrett Greenfield:
 - Create a demo animation for piano playing.

- Trevin Nance:
 - Finish creating the method of NoteFinder which will find the moment of the head of eighth notes.
- Walter Svenddal:
 - Start working on image preprocessing with printed sheets of music.