

Bi-Weekly Report No. 1

Artwork Super-resolution Scanning Application

8/28/2023 – 9/16/2023

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Client/Advisor: Dr. Thomas Daniels

Weekly Summary

This week, the group met with Dr. Daniels and began discussing some of the physical components we'll use with our design. Specifically, the brackets we plan to mount to each corner of the artwork.

Also, we had our first PIRM presentation where we received great feedback from several other senior design groups.

Past Week Accomplishments

As a Group

- PIRM Presentation
- Dr. Daniels Meeting
- Weekly Meeting talking through application ideas

Isaac – *Software Development Lead*

- Worked on new corner detection algorithm for ArUco markers, now able to detect ArUco markers and draw a line from each corner to the next.

Reece Dodge – *Project Lead*

- Discovered the OpenCV ArUco library
- Brainstormed ideas for corner mounted detection markers

Samuel Schaphorst – Testing/Quality Assurance Lead

- Helped Isaac with aruco border detection program. Messed around with different open cv functions that utilize aruco

Garrett Powell – Electrical Design Lead

- Assisted with early implementations for Aruco markers
- Early setup to begin development on noise reduction algorithms

Individual Contributions

<i>Team Member</i>	<i>Contributions</i>	<i>Hours - This Week</i>	<i>Hours - Cumulative</i>
<i>Isaac Plambeck</i> <i>Software Development Lead</i>	<ul style="list-style-type: none"> • Aruco Corner detection Algorithm • Updated Application with new tabs for Aruco testing • Website Update 	8	8
<i>Reece Dodge</i> <i>Project Lead</i>	<ul style="list-style-type: none"> • Discovered the OpenCV ArUco library • Brainstormed ideas for corner mounted detection markers 	5	5
<i>Samuel Schaphorst</i> <i>Testing/Quality Assurance Lead</i>	<ul style="list-style-type: none"> • Assisted with border detection program • Gained more understanding of aruco functions in cv 	5	5
<i>Garrett Powell</i> <i>Electrical Design Lead</i>	<ul style="list-style-type: none"> • Assisted with early Aruco implementations • Setup to begin working on noise reduction 	4	4

Plans for the Upcoming Week

Isaac

- Refine Aruco Corner detection algorithm
- Work on cropping

Reece

- Brainstorm ideas for color correction algorithm
- Consider ways to improve the current corner mounting philosophy

Samuel

- Figure out algorithm for pantone color translation and begin applying it to our code

Garrett

- Begin development for potential noise reduction implementations and algorithms
- Assist with color correction/Pantone codes when necessary

Summary of Weekly Advisor Meeting

- Discussed different methods of assembly
 - Wood corners with velcro
 - Aruco symbols on each corner
 - Pantone card beneath aruco symbol
- Figured out a formula for determining the algorithm for pantone color translation