
Biweekly Report No. 4

Artwork Super-resolution Scanning Application

10/11/2023 – 10/25/2023

Isaac Plambeck • Reece Dodge • Samuel Schaphorst • Garrett Powell

Client/Advisor: Dr. Thomas Daniels

Weekly Summary

This week we focused on everything we need left to finish and who will work on what and all of the steps involved to get to the finish product from where we are currently at. Everyone should have a more detailed idea on each step that is left and how we will tackle it.

Past Week Accomplishments

As a Group

- Went over overall progress and figured out who should work on what portion of the project

Isaac – *Software Development Lead*

- Fixing bugs in cropping algorithm and perspective change

Reece Dodge – *Project Lead*

- Continued research of super-resolution scaling techniques in existing Python libraries

Samuel Schaphorst – *Testing/Quality Assurance Lead*

- Printed aruco markers
- Developed python script that can display pixel median image

Garrett Powell – *Electrical Design Lead*

- Fixes and continued improvements to automatic color correction algorithm
- Alterations to ArUco marker detection parameters to increase consistency

Pending Issues**As a Group**

- None

Isaac

- None

Reece

- None

Samuel

- none

Garrett

- Waiting for pictures that incorporates large ArUco markers to begin implementing those with color correction algorithm.

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"> • Corner, Crop, and Perspective Change algorithm work • Talks with Dr. Daniels for next steps 	4	20
<i>Reece Dodge</i> <i>Project Lead</i>	<ul style="list-style-type: none"> • Research of super-resolution scaling techniques in existing Python libraries 	2	14
<i>Samuel Schaphorst</i> <i>Testing/Quality Assurance Lead</i>	<ul style="list-style-type: none"> • Pixel median program development • Aruco markers printed 	5	19

Garrett Powell <i>Electrical Design Lead</i>	<ul style="list-style-type: none"> • Fixes and Improvements to Color Correction Algorithm • Research/Alterations of ArUco Marker Detection Paramters 	8	26
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Plans for the Upcoming Week

As a Group

- Get aruco markers on wood frames, continue development of each image processing function

Isaac

- UI and frontend refinement/updates for how the overall app will look
- Merge in code worked on by other members into main app.

Reece

- Use a super-resolution scaling function on test artwork

Samuel

- Start working with images taken from my phone and tuning median program

Garrett

- Continue attempt to increase consistency with detecing ArUco markers on all Pantone Cards
- Begin a basline algorithm for weighting the contributions of all four cards based on pixel location

Summary of Weekly Advisor Meeting

Talked through the processes and all the steps needed to have a working application. Cleared up some questions about each step and who is working on what.