

# Weekly Report No. 5

Artwork Super-resolution Scanning Application

2/26/2023 – 3/5/2023

*Isaac Plambeck • Reece Dodge • Samuel Schaphorst • Garrett Powell*

*Client/Advisor: Dr. Thomas Daniels*

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## Weekly Summary

This week, we met with Daniels and created a document of ideas to review during our next meeting. Our primary goal was to better understand the technical challenges of our project and decide which approach best tackles said challenges.

## Past Week Accomplishments

### As a Group

- Created a brainstorming document with ideas of how we want to accomplish our goal

### Isaac – *Software Development Lead*

- Added tabs to the app and started working on multiple file uploads to allow for editing multiple images at once.

### Reece Dodge – *Project Lead*

- Continued fleshing out foundational ideas
- Researched image distortion and past IEEE image processing standards
- Researched existing super-resolution techniques

### Samuel Schaphorst – *Quality/Test Engineer*

- Border detection program is capable of finding borders
- Began testing and using corner detection functions with open cv

**Garrett Powell – Electrical Engineering Lead**

- Python Review
- Brainstorming to determine direction of project

**Pending Issues****Isaac**

- None

**Reece**

- Struggling to grasp the issue of perspective correction
- Struggling to grasp inverse barrel distortion matrix multiplication

**Samuel**

- Border detection program is not as accurate as I would like

**Garrett**

- None

**Individual Contributions**

<b><i>Team Member</i></b>	<b><i>Contributions</i></b>	<b><i>Hours - This Week</i></b>	<b><i>Hours - Cumulative</i></b>
<b><i>Isaac Plambeck</i></b> <i>Software Developer Lead</i>	<ul style="list-style-type: none"> <li>• App work and Website update</li> </ul>	7	24
<b><i>Reece Dodge</i></b> <i>Project Lead</i>	<ul style="list-style-type: none"> <li>• Researched image processing</li> <li>• Brainstorming</li> </ul>	8	16
<b><i>Samuel Schaphorst</i></b> <i>Quality/Test Engineer</i>	<ul style="list-style-type: none"> <li>• Functioning border detection program</li> </ul>	6	17
<b><i>Garrett Powell</i></b>	<ul style="list-style-type: none"> <li>• Python Review</li> <li>• Brainstorming</li> </ul>	4	14

<i>Electrical Engineering Lead</i>			
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## Plans for the Upcoming Week

### Isaac

- Continue Working on multiple file upload.
- Finish website for website assignment that is due.
- Start looking into automatic cropping of images.

### Reece

- Understand the nuances of image stitching and barrel distortion correction

### Samuel

- Continue editing and working with border detection
- Start working further on corner detection function

### Garrett

- Observe open cv applications regarding signal/image processing.
- Research additional potential image processing methods

## Summary of Weekly Advisor Meeting

- Discussed ethics and certain ethics that apply to our project
- Went over use case diagram
- Talked about adding to design documents and more ideas to discuss next week