



PROJECT PLAN

SAM SCHAPHORST, REECE DODGE, GARRET POWELL, ISAAC PLAMBECK

PROJECT MANAGEMENT/TRACKING PROCEDURES

Project Management Style:

- Waterfall + Agile

Tracking Procedures:

- Microsoft Teams
- GitHub
- Trello

TASK DECOMPOSITION

- Application template
- Multiple image upload
- Automatic image processing techniques
 - Corner/border detection
 - Confirmation and edit capabilities
 - Image cropping
 - Perspective Correction
 - Image alignment
 - Pixel mapping
 - Image noise reduction
- Application finalizations/revisions

PROJECT PROPOSED MILESTONES, METRICS, AND EVALUATION CRITERIA

- Application template-A functioning GUI with upload capabilities
- Upload process-Software will be able to upload and display desired photos
- Image processing
 - Border detection works with 85% accuracy
 - Image alignment works with 85-90% accuracy
 - Noise detection eliminates 85-90% of noise
- Application revision-software has 0 bugs

PROJECT TIMELINE/SCHEDULE

Primary Column	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Application Planning	Yellow											
Image Upload		Purple										
Image Processing		Blue										
Border Detection		Green										
Image Cropping		Brown						Brown				
Perspective Correction		Black						Black				
Image Alignment		Red						Red				
Pixel Mapping		Orange						Orange				
Image Noise Reduction		Yellow						Yellow				
Application Review												Blue
Break					Green							

- In the schedule seen above, we plan to spend ultimately all of our time in senior design working on the image processing aspects of the project
- Our plan is to have 2 aspects, image processing and border detection finished before the spring semester ends

RISKS AND RISK MANAGEMENT/MITIGATION

- Application Template/Upload Process
 - Potential problems with upload format and or image display; should be a simple correction
- Image Processing
 - Border detection-Accuracy less than 85% RF=.4
 - Image alignment- Accuracy less than 85% RF=.2
 - Noise correction-Accuracy less than 85% RF=.1

PERSONNEL EFFORT REQUIREMENTS

Task	Estimated Person-Hours Required	Explanation
Requirements gathering and analysis	40	Collect user requirements, define scope.
System Design	60	Design system architecture, user interface.
Algorithm Development	200	Develop and test algorithms.
Application Development	300	Code, integrate, test, debug application.
Quality Assurance and Testing	80	Test application, identify bugs/issues.
Documentation and Training	20	Create user manuals, documentation, training.
Deployment and Maintenance	50	Deploy, install, maintain application.

OTHER RESOURCE REQUIREMENTS

- Raspberry Pi camera
- Visual studio code
- Python