

Team Senioritis

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Changes made from proposal:

We have completely pivoted our idea based on the fact that we did not get Twitter Developer access. We initially were going to work on a different module while we wait for that approval, but researched and found it may not come for 2 weeks. During that time, we developed software that can automatically send an email when prompted. However, we decided this possible 2 weeks was not in line with our project timeline and developed a new proposal which is outlined in detail below. Following the new proposal, there is a report specific to Release #0.

New Project Proposal

General description:

We will be creating an application that uses exif data to locate where a photo was taken and visualize it nicely on a dynamic map for later review. The main group of people we are hoping to help is those who go on site visits and take pictures for new projects, e.g. an Engineer assessing a treatment plant. The process for this now is multiple people take photos, dump them in a folder, and someone goes back in later to sort them by location/subject. Another aspect that is frustrating for this group is taking photos of nameplate information. Our software will extract text from photos for sorting purposes. With our software, teams will be able to visualize their photos on a map for easy review without any manual sorting.

Details:

When the user sends their images through our software, they will get sorted by location and displayed on an interactive map for later viewing. We will be accessing the latitude and longitude from metadata of images taken. Then we will export it into a KMZ file using pykml and be able to display it on our own dynamic map like Google Earth. For the images of nameplate information, we will be able to extract the text for fast post processing. This view will be available after running the program and the user can then download the KMZ file to re-run it on our app, share it, etc.

Module 1: Take user photo input and export it into KMZ file

Module 2: Visualize photos on dynamic map like google earth

Module 3: Process images to extract text from nameplate information for fast post processing

Plan of work:

- Release 0
 - Work on Module 1
 - Extract photo metadata, export metadata into a KMZ file
- Release 1
 - Work on Module 1 and 2, refactor Module 1
 - Read KMZ file, display on dynamic map, allow user to save KMZ
- Release 2
 - Work on Module 3, refactor Module 1 and 2
 - Image processing - extract text from images to get nameplate information
- Final Release
 - Refactor previous Modules
 - Clean up and fix bugs that might be discovered during the demo

User Stories:

1. Extract metadata from images
 - a. From an uploaded image, access the metadata and extract latitude and longitude coordinates
2. Create KMZ file
 - a. From uploaded images, generate a KMZ file
3. Display
 - a. Create interface for users to navigate, upload images, and save KMZ
4. Map with images
 - a. Display images on a dynamic map for intuitive viewing without having to manually sort
5. Users save KMZ
 - a. Users should be able to save the generated file to re-run on our dynamic map
6. Extract text from image
 - a. The software should process images with text to get nameplate information

Unit testing:

We will create test scripts for each script file we create and run them frequently while programming. For the GUI, we will manually test buttons and display throughout.

Acceptance testing:

A set of test images will be gathered to test the image to KMZ module. A test KMZ file will be created to test the dynamic map display module. To test the image to text processing, we will have a standard image that we run for testing and confirm correct output. For the user exposed elements, we will use the GUI and ensure all buttons work and that the website is fully functional.

Release #0 Report

Release #0 User Stories:

1. Extract metadata from images
 - a. From an uploaded image, access the metadata and extract latitude and longitude coordinates
2. Create KMZ file
 - a. From uploaded images, generate a KMZ file

Release #0 Pair Programming Chart:

Pair Programming			
Time	Members	User Story	
TH 11-12:30	Bryce, Kevin	Automatic email	(first project idea)
TH 11-12:30	Emmie, Alex	Collect contacts	(first project idea)
TH 5-7PM	Connor, Bryce	Automatic email	(first project idea)
TH 5-7PM	Emmie, Kevin	Extract Metadata	
SUN 6-10PM	Alex, Bryce	Create KMZ file from image data	
SUN 6-10PM	Connor, Alex	Extract Metadata	

Release #0 Unit Testing:

We created a test file for each of the two scripts for this release. Titled test_script.py, we ran them frequently while programming.

Release #0 Acceptance Testing:

We tested the software with a select few images to confirm longitude/latitude being collected. To test the KMZ file creation, we sent it to Google Maps to confirm the actual location of where the photo was taken. At this point, we tested one photo at a time.

How this portion connects with the other parts:

This is Module 1 of our project proposal. This software will extract metadata needed to display on the dynamic map which is the main bulk of the project. This specific portion is the initial step in helping engineers organize site visit photos.