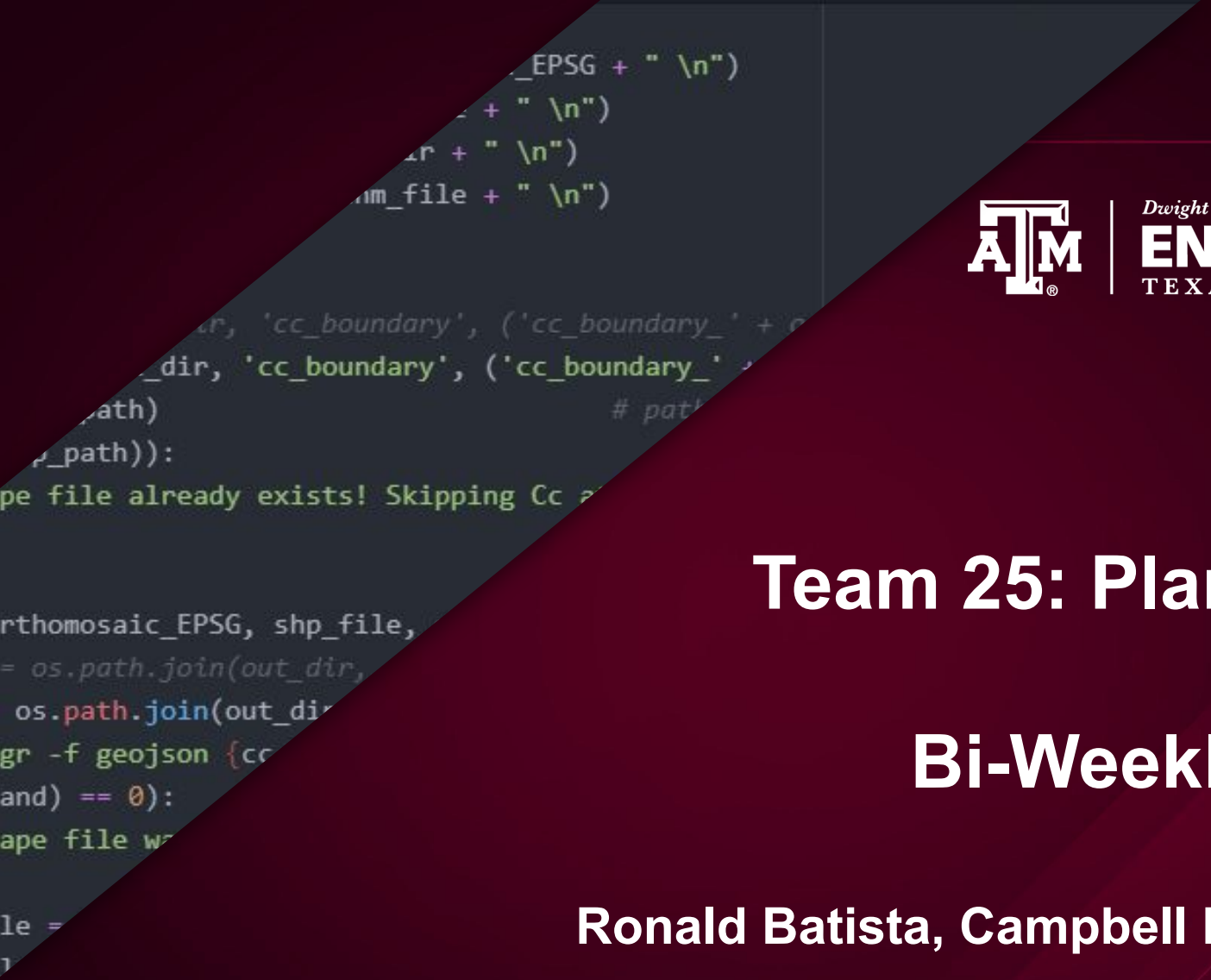


Dwight Look College of ENGINEERING
TEXAS A&M UNIVERSITY

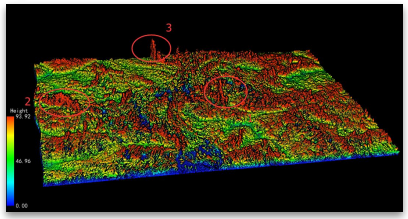
Team 25: Plant Attribute Extraction
Bi-Weekly Update 3

Ronald Batista, Campbell Motter, Rosendo Torres

Sponsor: Texas A&M AgriLife Corpus Christi
TA: Dalton Cyr

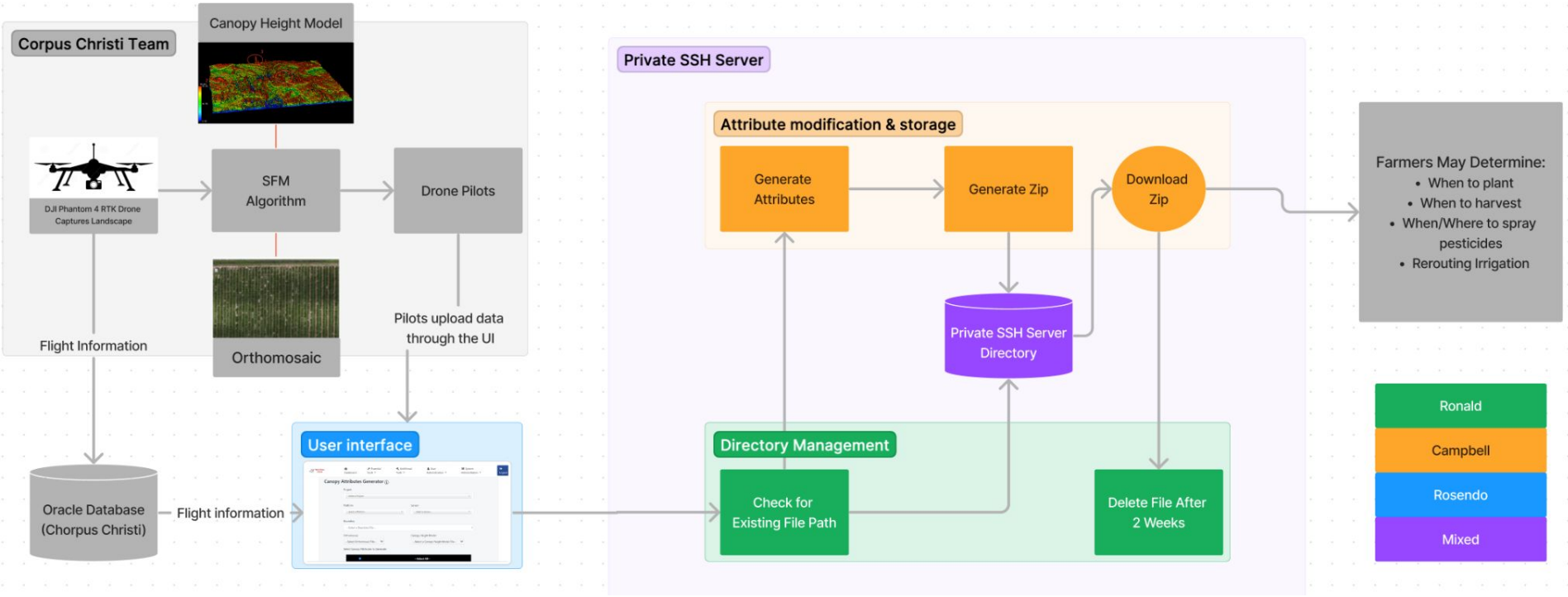
Project Summary

- The current website that receives crop imagery from a drone is inefficient in generating data and lacks the ability for large scale attribute extraction.
- We plan to manipulate the current code and website to be able to generate more data for the desired attributes based on user input and better show crop growth changes.

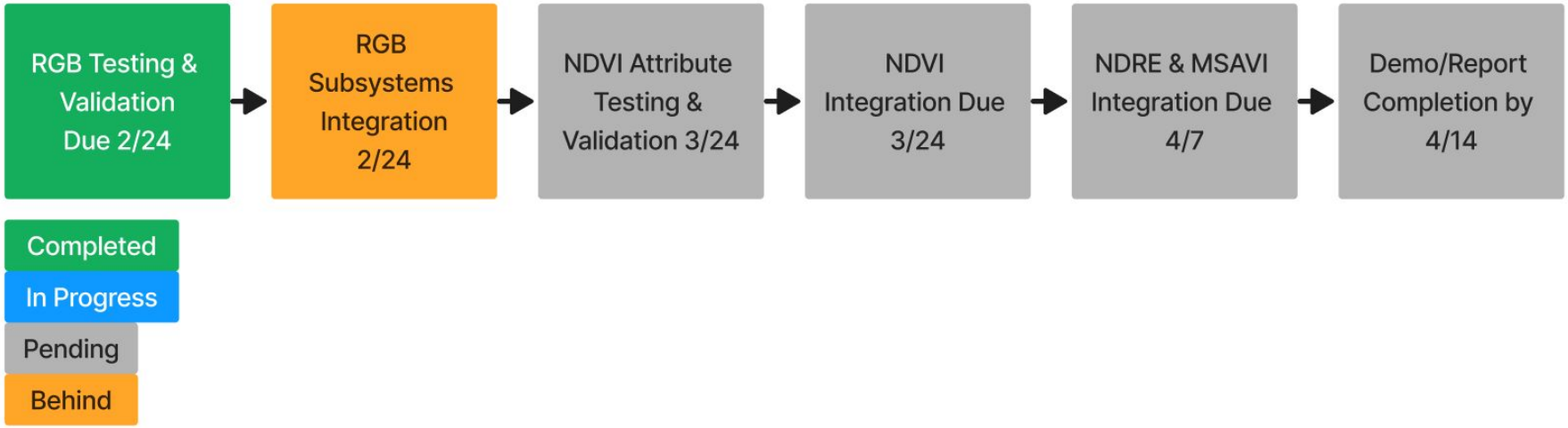


Row name	Col	FID	20220523
1	1	0	0.02056595
1	2	1	0.02549317
1	3	2	-0.0121878
1	4	3	0.06381568
1	5	4	0.17575994
1	6	5	0.06538012
1	7	6	0.52365637
1	8	7	0.28521359
1	9	8	0.42652851
1	10	9	0.39120442
1	11	10	0.18587758
1	12	11	0.38030854
1	13	12	0.18536243
1	14	13	-0.0772267
1	15	14	0.19025867

Project/Subsystem Overview



Project Timeline



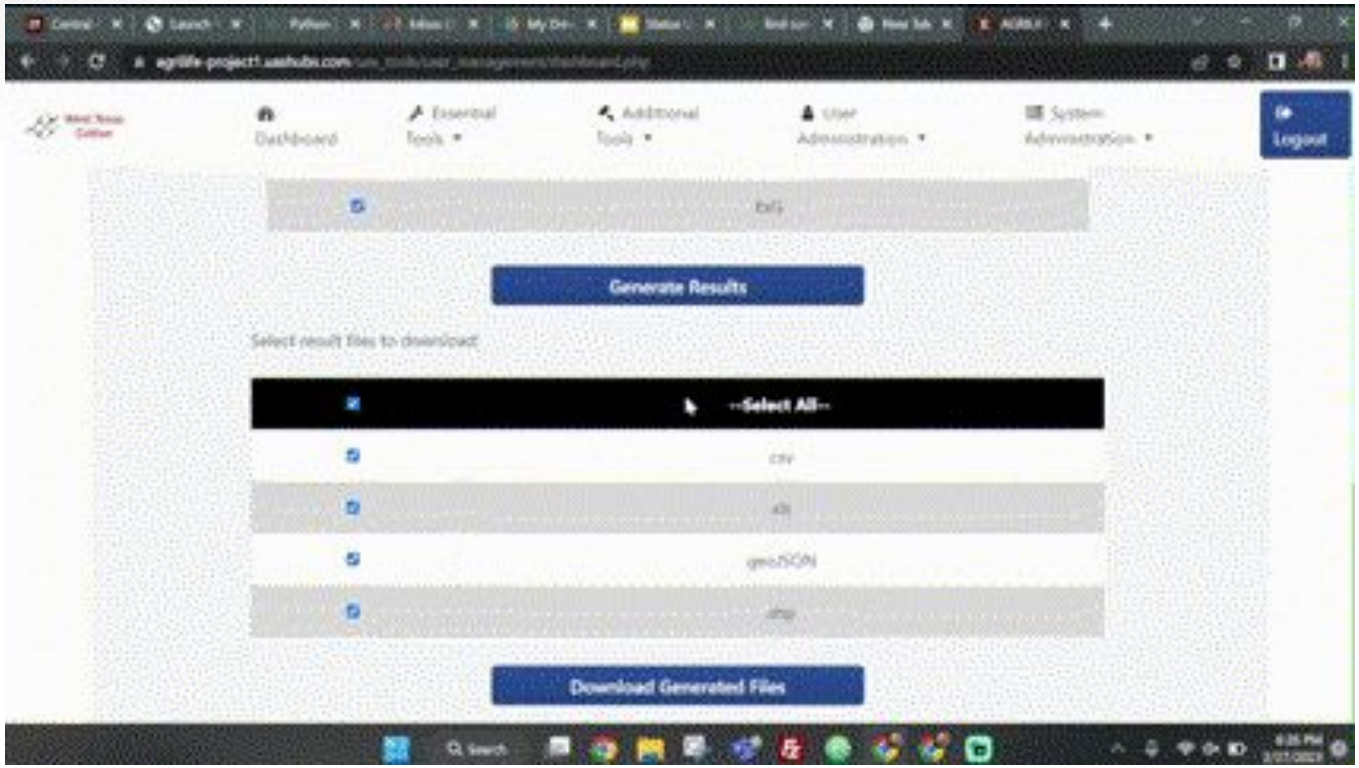
Directory Management

Ronald Batista

Accomplishments since Update 2 11 hrs of effort	Ongoing progress/problems and plans until the next presentation
Tested and validated CheckZipStatus code to detect the difference between similar attribute selection with up to 3 files selected. Testing and validating deletion of files. Tested and validated stopping the generated attribute and downloading an already generated file	Implementing and testing code for new multispectral data. Checking with our sponsor on verifying EPSG of a site.

Directory Management

Ronald Batista



Test 1: Redownloading Pop-up

User Interface

Rosendo Torres

Accomplishments since Update 1 12 hrs of effort	Ongoing progress/problems and plans until the next presentation
• Integrated with Ron to update user on existing directories • Completed general UI for Multispectral Data Generator	• Filtering/Restricting based on instructions given by sponsor • Work on warnings based on Multispectral Data Generator

Dwight Look College of ENGINEERING
TEXAS A&M UNIVERSITY

User Interface

Rosendo Torres

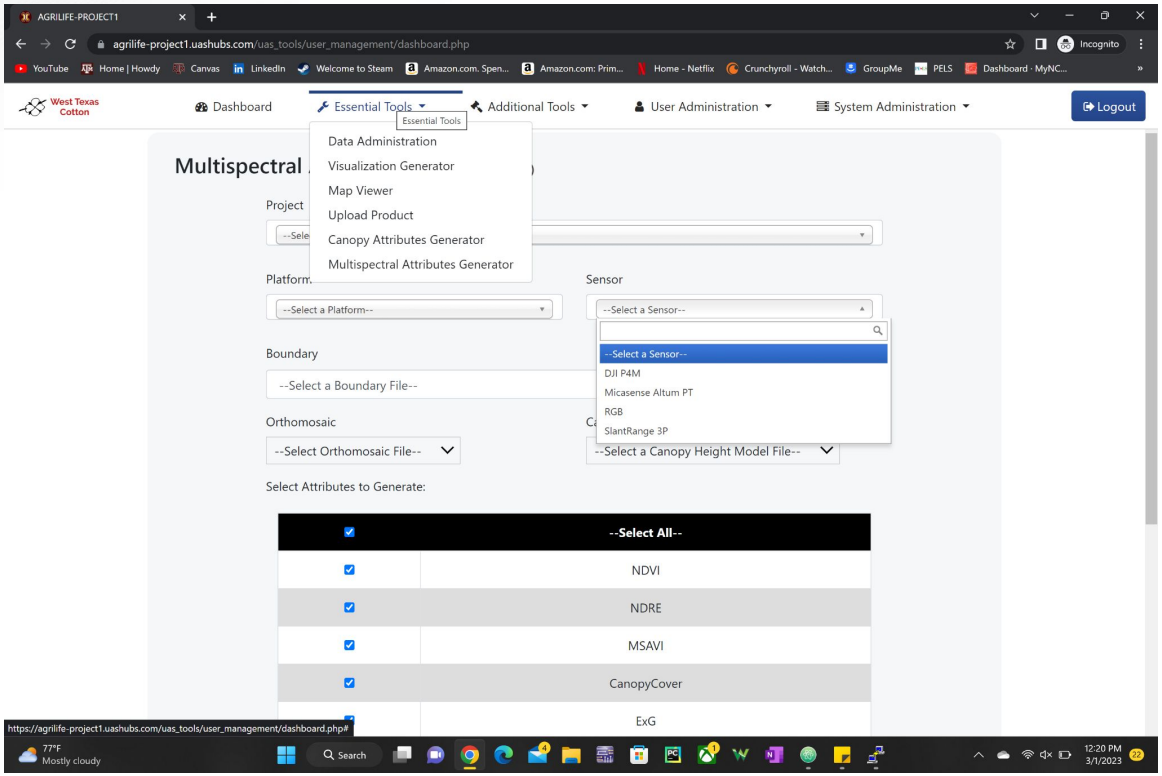


Figure 1: The Multispectral Data Generator Interface

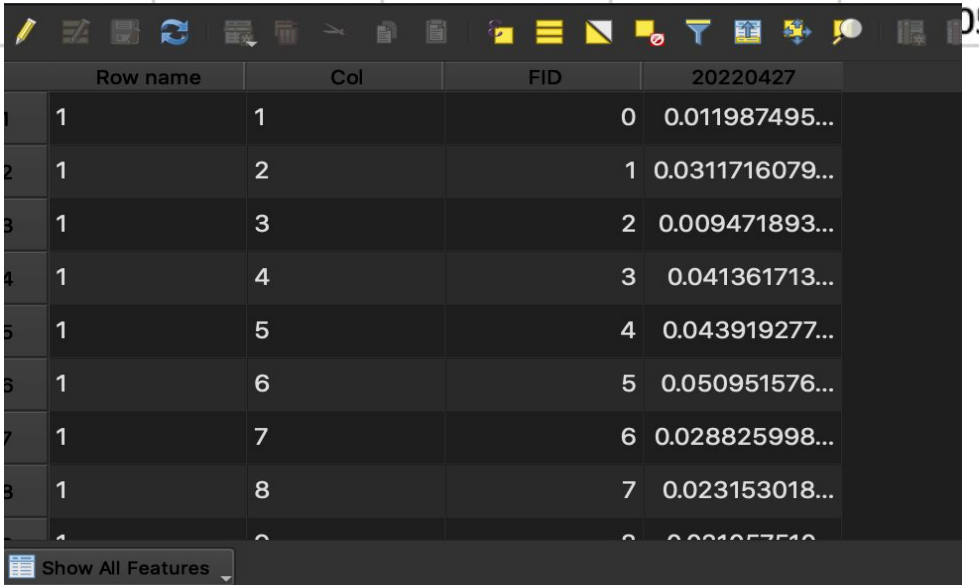
Attribute modification & Storage

Campbell Motter

Accomplishments since Update 2 25 hrs of effort	Ongoing progress/problems and plans until the next presentation
• Completed and validated CSV file merging. • Testing and debugging SHP file merging code. • Minor changes in the results folder to make it easier to traverse. • Completed the halting of attribute generation when the results already exist. (Completed with Ron)	• Complete and validate file merging for SHP. • Full scale validation of RGB and all of the possible inputs/outputs and test cases. • Start the changes to Multispectral code, create the input conditional statements for the separate “index products”.

Merged CSV data

	Row name	Col	FID	20220408	20220427	20220523
0	1	1	0	0.05073171	0.0119875	0.08536034
1	1	2	1	0.0548954	0.03117161	0.11052322
2	1	3	2	0.05099869	0.00947189	0.08260365
3	1	4	3	0.05205822	0.04136171	0.09630604
4	1	5	4	0.05332241	0.04391928	0.08891315
5	1	6	5	0.04686275	0.05095158	0.09861269
6	1	7	6	0.04904079	0.028826	0.09601555
7	1	8	7	0.04691987	0.02315302	0.09460106
8					05751	0.10768566



Execution Plan

Case	Ownership	Due	1/27/23	2/10/23	2/24/23	3/10/23	3/24/23	4/7/23	4/14/23
Generating attributes with the selection of multiple files for RGB data.		1/27/23							
Files successfully downloaded from the website in a zip file.		1/27/23							
Implement & test more specific grouping and file zipping based around attributes.		2/10/23							
Test function that will zip together all of the seperate attribute zip files.		2/10/23							
Implement & test merging together CSV files for RGB data.		2/24/23							
Implement & test merging together SHP files for RGB data.		2/24/23							
Implement & test NDVI attribute generation and storage.		3/10/23							
Implement & test NDRE attribute generation and storage.		3/24/23							
Implement & test MSAVI attribute generation and storage.		3/24/23							
Finish validating subsystem from 403		1/27/23							
Attribute restriction setups		3/10/23							
Population of dropdown menus with new requirements		3/10/23							
Validation of results table and download table		3/24/23							
Testing functionality and use of checkZipStatus and deleteTempResults for RGB		2/24/23							
Initialization of testing directory manipulation of multispectral data.		3/10/23							
Testing checkZipStatus and deleteTempResults for NDVI attribute.		3/24/23							
Integration of respective subsystems for RGB attributes.		2/24/23							
Integration of respective subsystems for NDVI attribute.		3/24/23							
Integration of respective subsystems for NDRE attribute.		4/7/23							
Integration of respective subsystems for MSAVI attribute.		4/7/23							

Legend

Ownership

- Ronald
- Rosendo
- Campbell
- All

Progression

- Completed
- In Progress
- Pending
- Behind

Validation

FSR Section	Test Name	Success Criteria	Methodology	Ownership	Staus
3.2.1.3	Zip File Path Identification (RGB)	The code created will identify if there is an existing file path that was generated by the user, and depending on the result, will either let the generation continue, or stop the generation and notify the user a file path exists.	Using Python and SQL code to identify filepaths and send a printed response to the console. A boolean function will be created to pass a binary 1 or 0 to let the main.js know whether to cancel or continue with the generation.	RONALD	TESTED
3.2.1.4	File Path Deletion (RGB)	Once the data has been generated and it has been 2 weeks since the generation, the filepath and the contents in the path will be deleted.	Using Python and SQL code to implement a timer in the background of the website to keep the generated file path for 2 weeks. Using a similar structure to identifying file paths, the code used for deletion will generate after the attribute is generated.	RONALD	TESTED
3.2.1.5	Zip File Path Deletion (Multispectral)	The code created will identify if there is an existing file path that was generated by the user, and depending on the result, will either let the generation continue, or stop the generation and notify the user a file path exists.	Similar to how the RGB code has been setup, but with the different types of multispectral data instead and testing for each attribute and for multiple files.	RONALD	NOT TESTED
3.2.1.6	File Path Deletion (Multispectral)	Once the data has been generated and it has been 2 weeks since the generation, the filepath and the contents in the path will be deleted.	Similar to the RGB code. Testing deletion of the file path and zip folder in the location created by Campbell.	RONALD	NOT TESTED
3.2.2.1	User Warnings (BOTH)	The user receives warnings and alerts that let them know specifically what needs to be changed	Test all possible unvalid conditions and make sure a warning/popup appears letting the user know the issue	ROSENDO	TESTING
3.2.2.2	Menu Population (Multispectral)	The data populates the dropdown menus correctly based on selected criteria.	Run website with all possible combinations of platforms, sensors, boundaries and projects.	ROSENDO	TESTED
3.2.2.3	Table Configuration (Multispectral)	The tables for both generating results and downloading data will include all required data types and file types.	Select different configuration of platforms and sensors to validate that the tables displayed change data and file types based on selected platforms and sensors.	ROSENDO	TESTED
3.2.3.4	Merged CSV data (RGB)	Within the attribute zip files, there is a single CSV file containing the merged data sets of the individual data sets for a specific attribute.	Examining the generated CSV files individaully and verifying that the data contained in the merged CSV file is correct and doesnt have any overlapping or missing data. This is done through Excel.	CAMPBELL	TESTED
3.2.3.5	Merged SHP data (RGB)	Within the attribute zip files, there is a single SHP file containing the merged data sets of the individual data sets for a specific attribute.	Examining the generated SHP files individaully and verifying that the data contained in the merged SHP file is correct and doesnt have any overlapping or missing data. This is done through QGIS LTR.	CAMPBELL	NOT TESTED
3.2.3.6	Merged CSV data (multispectral)	Within the multispectral zip files, there is a single CSV file containing the merged data sets of the individual data sets for a specific multipectral attribute.	Examining the generated CSV files individaully and verifying that the data contained in the merged CSV file is correct and doesnt have any overlapping or missing data. This is done through Excel.	CAMPBELL	NOT TESTED
3.2.3.7	Merged SHP data (multispectral)	Within the multispectral zip files, there is a single SHP file containing the merged data sets of the individual data sets for a specific multipectral attribute.	Examining the generated SHP files individaully and verifying that the data contained in the merged SHP file is correct and doesnt have any overlapping or missing data. This is done through QGIS LTR.	CAMPBELL	NOT TESTED

Thank you!
Questions?