AgBizClimate Midterm Progress Report

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Project Overview

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Project Introduction

- What is AgBizLogic?
  - Suite of decision web tools
  - Current tools Include: AgBizProfit, AgBizLease, AgBizFinance, AgBizEnviroment
- Primary Goal: Create AgBizClimate
- Functionality: AgBizClimate aims to give farmers and ranchers tools to help mitigate the effects of Climate on crops and livestock.

Scope

- Our Project Is part of the Greater AgBiz logic Platform.
- We are specifically adding functionality to the AgBizClimate Module.
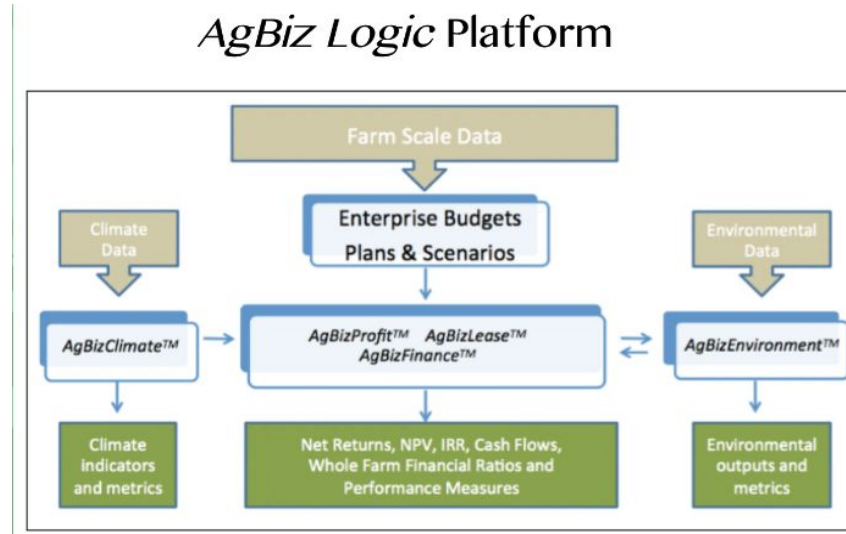
Functionality Pipeline

- Users log in
- Users selects budget
- Users selects region
- User Selects scenario type
- Users get visualized climate data for region
- Users adjust yields based on results
- Users review their budgets
- Note: Process is iterative

Summary of Progress

- Resolved work items.
- Items in progress

Resolved Work Items

- Updated Requirements Document to reflect changes to API access.
- Created Concept script that connects to the threads database and gets data using NETCDF4.
- Create Install script for NETCDF4 and dependencies.
- Added UI elements needed to create a short term climate scenario.
- Developed charts page that creates visualization of short term climate data and allows users adjust yields.
- Found work around for netcdf issues.

Items in Progress

- Creating a more refined version of the Climate Data Script.
- Creating a REST API that until the datascript is complete will serve static data to the front end of the application.
- Document Updates.

What's Left

- Document Updates
- QA and Testing
- Backend Updates
- Stretch Goals

Document Updates

- Updates to the Technical Review to reflect the actual choices we ended up making.
- Final updates to the requirements document.
- Updates to the design document to reflect changes in design based on implementation.

Back End Updates

- Finish setting up/scaffolding REST API endpoint for climate data API.
- Set Up REST API to serve Statically generated data.
- Integrate the Data script into the Endpoint for the REST API.

Stretch Goals

- Create PinPoint tool for selecting location.
- Add more models to the plot.
- Create plot so we can show 90% confidence interval.

QA and Testing

- Frontend Testing - Unit Tests and Running Manual Test Cases
- Backend Testing - Unit Tests
- Final Quality Checks.

Overview of Major Blockers

- Gaining permission to access the NorthWest Climate Toolbox's data set
- Getting data from the NorthWest Climate Toolbox
- Project Scheduling

Gaining access to the NW Climate Toolbox

- The NW Climate Toolbox is an essential component to our project
- Due to administrative proceedings we did not immediately have access to the NW Climate Toolbox
- We gained access to the NW climate toolbox at the end of week 2 and could begin development.

Solution

- We worked on other parts of the project during this time

Getting Climate Data From the NW Climate Toolbox

- Climate data is an essential component to making our project work/have value
- The NW Climate Toolbox developers recommend using NetCDF to pull data from their servers
- NetCDF has an issue where it inorganically chunks the files
  - Makes it impossible to get data for specific locations

Solution

- We created a python test script that pulls the necessary data via the servers URL, bypassing netcdf

Project Scheduling

- Most of our group members are taking 18 or more credits
  - Finding meeting times that work for everyone is difficult

Solution

- We organized set meeting times with our client and other group members that we try to attend every week
- Work on pieces individually
- Communication is key!