

Team 21 Project Charter

Transforming Drainage: Reservoir Planning Tool for Water Quality and Irrigation Benefits

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Problem Statement:

The Transforming Drainage Project aims to minimize irrigation deficit by developing and improving various types of water drainage storage systems and their associated technologies and practices. A web based interface has been implemented to calculate singular data points from a location specified and display information graphically, but currently needs minor updates along with a system to calculate and display all data points (approximately 10,000) as a chart on top of a regional map. This will help determine the effectiveness of new and current drainage systems across a wide variety of data points, instead of just one at a time, and will be used throughout the Midwest.

Project Objectives:

1. Construct modular algorithms to calculate necessary output
2. Output results as an interactive series of layers on top of a regional map
3. Display in another tab locally or link to output
4. Create a better method for downloading results and charts
5. (Time permitting) Create a secondary database to hold user uploaded files

Stakeholders:

Users: Current and future engineers, and state/local governments who would be in charge of designing new drainage systems, along with agricultural producers who would be impacted by the design and location of drainage systems.

Developers: Jordan Hagedorn, Brandon Kent, Jacob Conley, Alexis Williams

Project manager: Ben Reinhart

Project Owner: Jane Frankenberger, Principle Investigator

Deliverables:

- Information layers that can be turned on/off on top of a google map
- Modularized code to allow for easy upgrades in the future
- Updated (more descriptive) output charts using Google Charts
- Time permitting: possibly allow uploaded files to be saved via a database