

Team 37

Project Title: AI-assisted Software Tool to Visualize Flood Forecasting with Water Routing

Date: 9/29/21

Members:

- Individual 1 – Ani Manjunath
- Individual 2 - Siyu Wang
- Individual 3 - Kylus Pettit-Ehler
- Individual 4 - Eric Korneisel
- Individual 5 - Gabriel Rau
- Individual 6 - Ryan Thompson
- Individual 7 - Quinn Conrad

What we've accomplished in the past week/what we've been researching

-Individual 1 – Researching tools for flood forecasting that are similar to what we want to do. I found a demo tool that simulated water routing with satellite map data. It also used a third party forecasting system called Delfts-FEWS. I am currently working on contacting them to find out if we can get a demo version. Also compiling a list of requirements for our project.

-Individual 2 -find similar software tools for flood forecasting and get an idea of the features that we can use for our project. I did some research on how the software builds the model, where they can get the data and what api they have used.

-Individual 3 - Find an existing tool similar to what we are trying to develop. The one I found focused on the state of Iowa. It did a good job of organizing a lot of data, and gave an example for showing potential flood areas and their watersheds.

-Individual 4 - Found a data website which features some of the features we've been looking for for the final project.

-Individual 5 - Found tool for Maine Watershed Visualization. Uses paid license for ARCGIS. Free open source version called QGIS.

-Individual 6 - Researching existing tools that are similar to the software we are trying to build. In this case looking for features we could include. I found a tool by noaa that has grid based predictions for precipitation over a period of time as well as graphs to visualize the data.

-Individual 7 - Researched similar existing solutions specific to watershed and precipitation visualization

What we're planning to do in the coming week

-Individual 1 – We are going to begin to plan out our implementation of the project. We have to decide if we will create a project from scratch or if we can find open source software and build on it.

-Individual 2 - start planning the project. do more research on what we might need. look for api and more sources.

-Individual 3 - Find out where the data in the Iowa flood forecasting software is coming from. What kind of data could we get and how would we obtain it. Work with a team to create requirements for our project and lightning talk.

-Individual 4 - Planning on doing more research into the databases and which softwares are available to use for the implementation of the project.

-Individual 5 - Figure out how the ARCGIS framework is capturing data if at all. Investigate open source QRIS and see if the capabilities of the framework will suffice for our project

-Individual 6 - Evaluate the software to figure out how the prediction is done, by deep learning or otherwise, as well as obtain the source of their data.

-Individual 7 - Reverse engineer discussed application to find its data sources, APIs, and licencing

Issues we had in the previous week

-Individual 1 – No issues.

-Individual 2 -No issues.

-Individual 3 - Not any real issues, just deciding if we want to start from scratch or use open source software.

-Individual 4 - There were little to no issues this week.

-Individual 5 - No real issues.

-Individual 6 - No real issues last week.

-Individual 7 - So far, there hasn't been any issues