CSC 380 – Software Engineering

Lake-Effect Storm Prediction and Research Center Website
Project Description

Background

The the Lake-Effect Storm Prediction and Research Center at SUNY Oswego maintains a website (http://pi.cs.oswego.edu/~osscams/LESPaRC/), where they share weather forecasts, hazardous weather advisories, and maps with predicted snow accumulation with clients. The website suffers from a lack of modernization and currently does not feature a mobile-optimized form of displaying data. Moreover, the process of updating the website is lengthy and involves mostly manually extracting data from MS Word and uploading it to the website using FileZilla.

Objective

The objective of this project is to design and implement a new version of the website, which has two main new features: (1) display forecasts and weather data in mobile-optimized fashion and (2) automate the process of updating the website to the best possible degree. This may involve reverse engineering the process the LESPaRC staff uses to produce and update forecasts and provide them with a suitable front end that takes in machine-readable data of forecasts and produces the desired visual output (e.g., snow accumulation maps).

Key Features & Challenges

The challenges are the following:

- Redesign and reimplement the current website features in a modernized version
- Implement a mobile-optimized front end (that is not an iOS or Android app)
- Understand and optimize the manual process of producing forecasts and update the website
- Allow LESPaRC staff to upload forecasts data.
- Render forecasts data in a suitable format

Stakeholders, Resources, and Further Information

This project is in cooperation with Scott Steiger <scott.steiger@oswego.edu>, Chair of Atmospheric and Geological Sciences and Director of LESPaRC at SUNY Oswego. He will be assisted by student forecasters Kaitlyn Jesmonth and Matthew Lynne. You will need to meet with them to elicit requirements and gain an overview of the relevant materials, systems, constraints, and the project goals. He will provide you with examples of forecasts and process descriptions.