FERMENTATION MANAGEMENT SOFTWARE

- The goal of our project was to create a tool to aid the fermentation processes, and to track all relevant information about brewing beer.

- The project consists of a web application, api, and database that stores each valuable metric gathered by brewers. These details allow us to show their statistics in a concise manner.

- Our app generates graphic visualizations of brewing data to help brewers gain valuable historical insight and make future decisions.

- BrewHops was a project started by a previous capstone group. We increased the usability of the application, made it production-ready and is now being use-tested within the company.

NINKASI & HISTORY

- Ninkasi Brewing Company was founded in 2006 and the headquarters are located in Eugene, Oregon.

- The first beer they produced was the Total Domination IPA, but have since then expanded their brewing to a wide variety of recipies.

- Ninkasi supplies their craft to a handful of states and regions: Alaska, Alberta, Arizona, British Columbia, California, Colorado, Idaho, Nevada, Oregon, Utah, Washington and Virginia.

- As of 2017, Ninkasi is recognized as the 38th largest craft brewer in the United States.

NINKASI BREWHOPS

Fermentation tracking system for current and historical performance of brewing methods.

Figure 1: Our app shows the current status and history of batches of beer sampled from these tanks. A single tank holds enough beer for one person to drink four pints a day for 93 years. (image courtesy of Ninkasi Brewing)

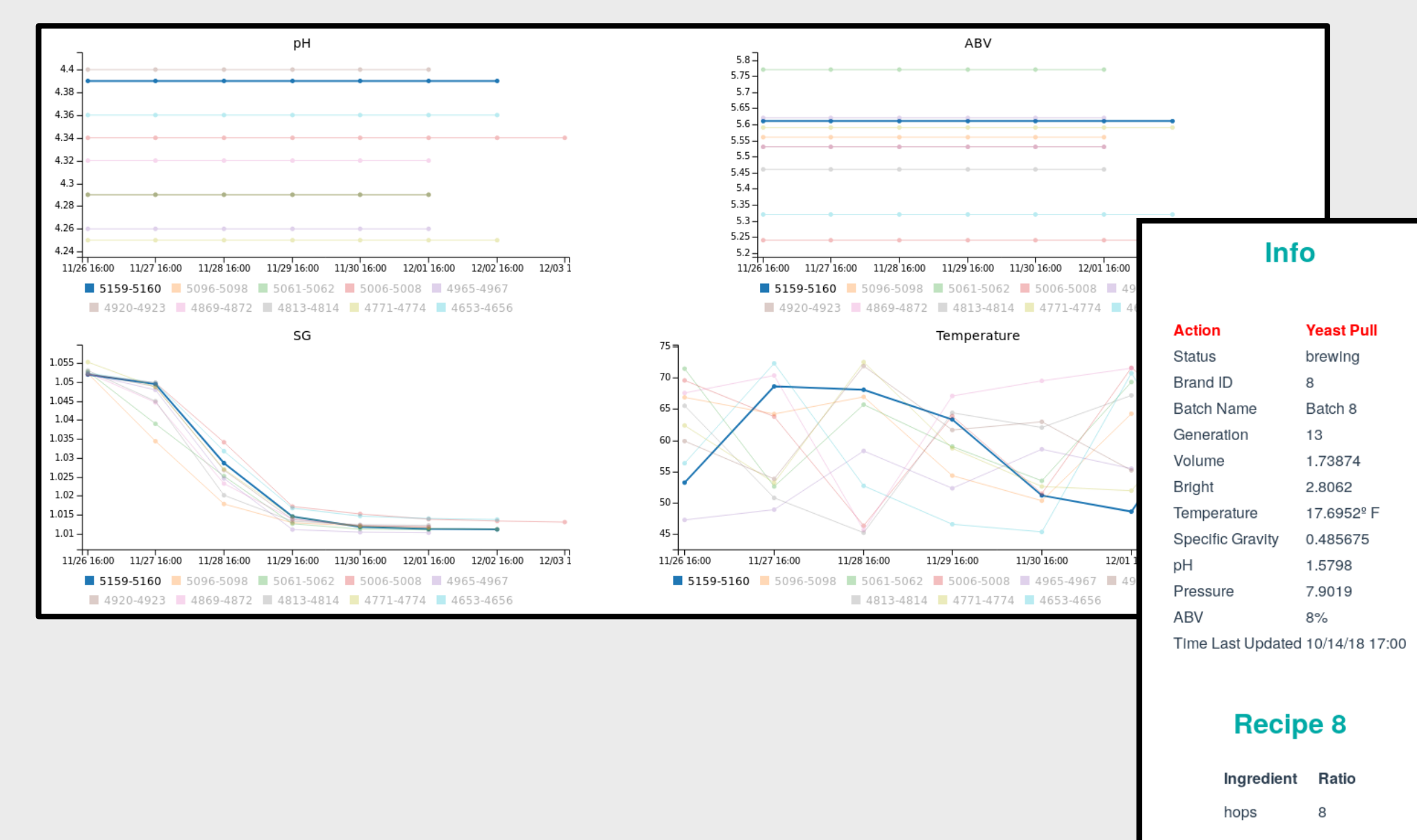## MANAGE AND INSPECT INDIVIDUAL BATCHES

Figure 2: Information about an individual batch can quickly accessed in multiple formats. Current or past batches are viewable and can be compared to previous versions of the same recipe.

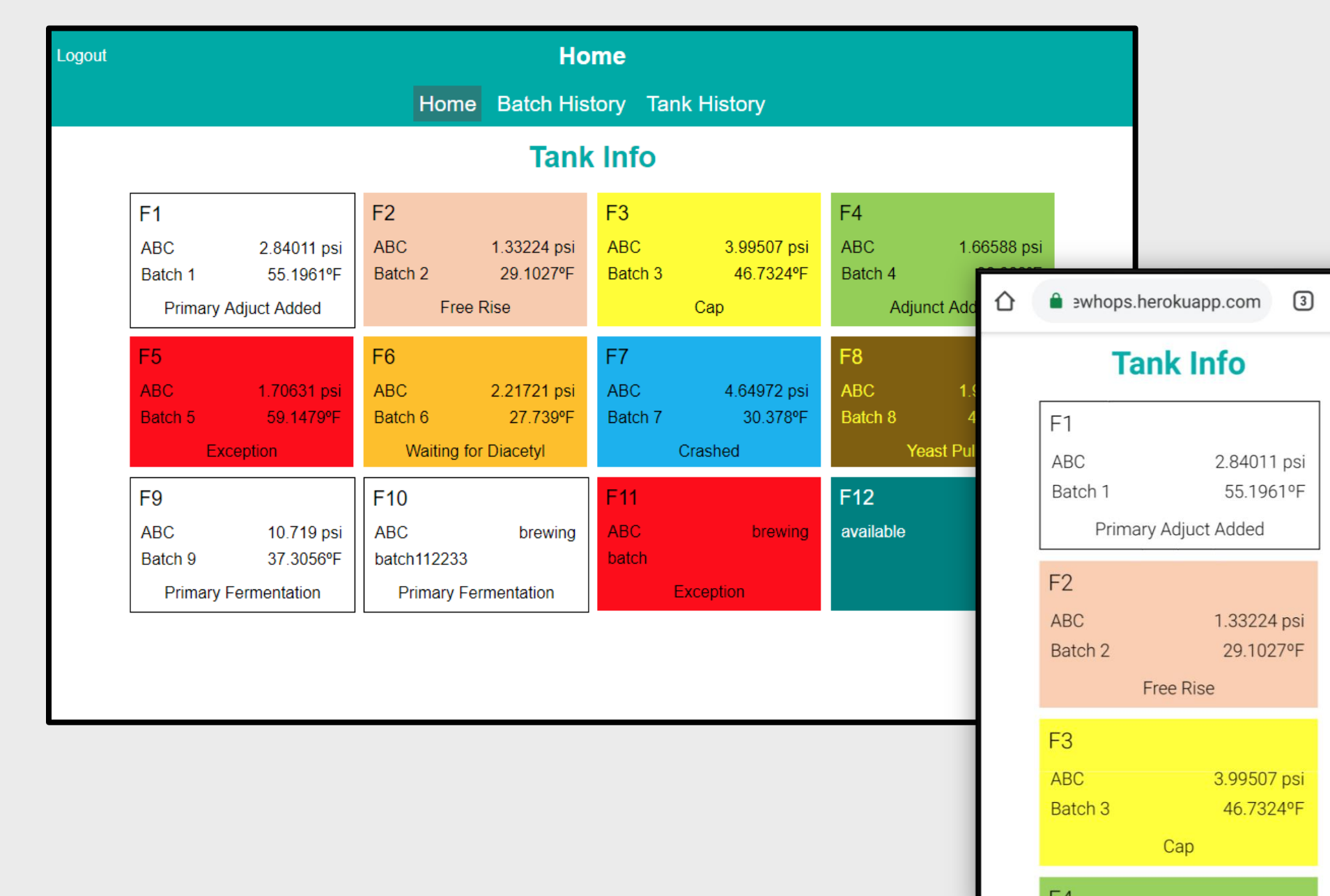## CLEAN AND QUICK ACCESS TO TANK STATUS

Figure 3: The application provides a single place where the brewers can go to view the current status of their tanks. The app is mobile and desktop compatible, thus can be used anywhere.

WEB APP AUTOMATES DATA COLLECTION AND VISUALIZATION PROCESSES

- During the brewing process there are many variables that are tested and tracked. Our data aggregation and visualization automates tasks that are insightful for brewers and increases consistency.

SYSTEM IS ACCESSIBLE ON DESKTOP AND MOBILE DEVICES

- This system is accessible from mobile and desktop clients so brewers can easily visualize the state of each brewing batch and add new data with ease.

HEAVY EMPHASIS ON CLIENT COLLABORATION AND USABILITY

- We worked closely with Ninkasi on this system to update it and add new features that will best meet their business needs.

ACKNOWLEDGEMENTS

- Joe Kleiber: for being an excellent advisor.
- Ninkasi Brewing: for provided process data and user testing to improve the application functionality.
- Connor Christensen, Lily Shellhammer, and Billy Buffum: for their initial contributions to the project.
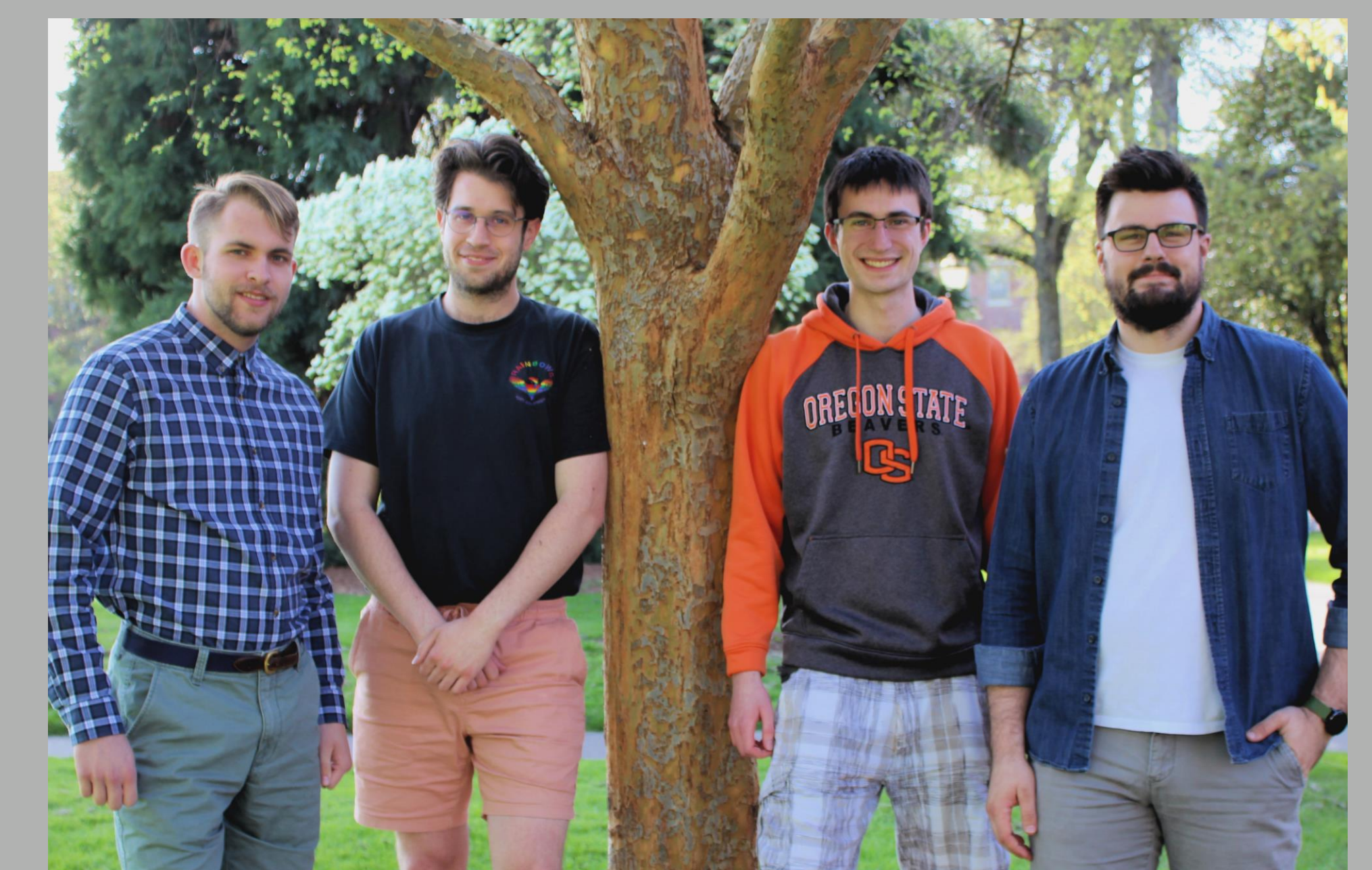

Figure 4: (From left to right) Henry Peterson, Bailey Singleton, Brennan Douglas, Dan Van Horn