Motivation:

For my senior project, I plan to pursue a project in web programming under the guidance of Professor Rushmeier. Web development is an ever expanding area, with applications in many fields. While there are many technologies at use today in web programming, I will be concentrating on a few in particular.

Django will serve as the framework to develop the program. React is the Javascript library I will be using since it provides many advantages over other options. React provides much faster load times, which are extremely relevant today. React also has reusable components which provide code modularity and clarity. It is also easy to maintain state with React which is valuable in the dynamic web applications being developed today. Finally, React contains the CSS, HTML, and Javascript relevant to a component in one file, providing better readability and easier maintenance of code.

Proposal:

I plan to use Django and React to explore web development by making a specific web application for a Yale club. I first hope to explore other web applications that use Django and
React to understand how to best utilize their features. I also plan to explore the React language and Django framework by creating a basic prototype application.

Then, I plan to create the initial design of the website, with the features I will implement. Based on this, I will develop the web application, with iteration on the design and features list.

The website will be for a Yale club, and will have authentication for members. There will be ways to look at a shared calendar, and integrate with Facebook to reflect updates from the group on the website. Additional features will be defined as I continue to create the design of the website. I will use Github for version control for the project and will submit the Github repository with the final report.

**Deliverables:**

1. Initial website design sketches and list of features
2. Github repository of code for final web application
3. Final report with code structure description, design sketches, list of features, details of website code design, etc.

**Project Timeline:**

9/22 – mid October

Explore applications that use React

Understand how to best take advantage of the technology's strong points

Develop a basic prototype application using Django and React
Mid October – November

Create website design

Develop initial structure of web application

Implement framework of the web application

November

Continue development of the web application

Iterate on website with any changes to web design or additional features

By December 15

Deliver final report and code for web application