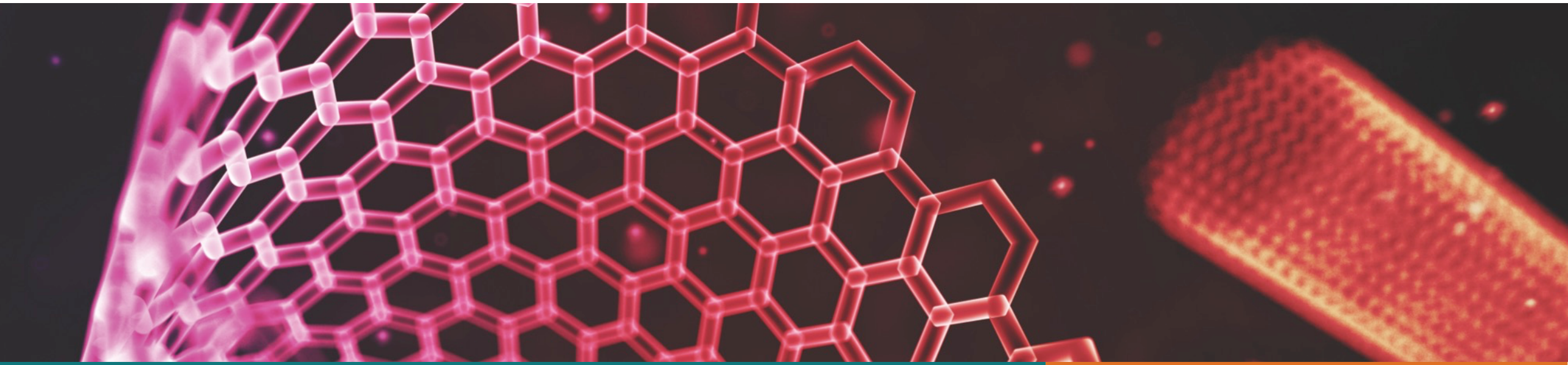# CS 554 – Web Programming II
The Final Project

Intro

Your project will be to create a web application. You will decide the purpose and function of said application.

You will use many technologies and techniques together to create a web application.

Necessary Components

All applications must satisfy all course objectives, which are:

- CSS3 - Implement style pages using advanced selectors and CSS3 features.

- JQuery - Implement client-side functionality with JQuery.

- NoSQL - Implement pages that take advantage of the NoSQL concept.

- Framework - Use a framework to implement a web page.

- AJAX - Create pages with extensive use of AJAX.

- Security - Build a website that will be protected against common attacks (such as phishing, cross-site scripting, SQL injections, JS injections, etc.).

In addition to those, your primary backend language must be NodeJS.

Course Technologies

For your project, you will need to use at least 3 technologies that we will cover in this course

The applicable technologies are:

- Next.js

- React

- Workers

- Redis

- Socket.io

- Firebase Auth

- Typescript

- Or Any other topic we cover in the class

Gulp does not count, nor does Bootstrap 4 (as that satisfies the Framework objective)

Independent Technologies

For your final project, you will be required to research and use two technologies that are not covered in the course

These technologies do not have to necessarily be web technologies, nor do they have to have node drivers; it is possible to execute shell tasks in Node. Any software that has a REST API is also very easy to shim a driver for.

Some ideas:

- A messaging queue for IPC in place of Redis (i.e., RabbitMQ)

- An image manipulation software (i.e., ImageMagick)

- Advanced full text indexing databases (i.e., ElasticSearch)

Technical Implementation Plan

You will submit a project description with a technical implementation plan. This implementation plan will list out:

- The function and general overview of your project

- Each of your three course technologies you intend on using, as well as what their uses will be

- The two independent technologies, a brief description of each, as well as what their uses will be

Version Control

I highly recommend each team creates a Git repository for their final project in order to work together.

If you host on Bitbucket or Github, this will also allow me to more easily assist you (provided you invite me to your project!)

Score Breakdown

The final project, in total, is worth 50% of your total grade.

5% of your final grade will come from your technical implementation plan

45% of your final grade will come from the project itself

Final Project Presentation

You will have fifteen minutes to present your final project. You will submit it with the final code portion, and it will be a screen capture like you did in 546 of one of your group members going over the application

You will:

- Give a brief intro to your project

- Discuss what your course technologies are and why you chose them, and how they fit together with your application.

- Explain what your two independent technologies are, how they work, why you chose them, and how they fit into your application.

- Talk about any technical issues your system may have / limitations it may experience.

- Demo all features of the application

Questions?