Self-Service Learning Plan & Timeline

Introduction

Welcome to the Self-Service Learning Plan. This is a general guide linking to a variety of resources as well as setting up a *rough* timeline of learning objectives. It is important that you **take initiative to learn.**

Please dive into additional resources when you feel you are not proficient or to skip resources when you feel you are already proficient.

Your mentors are here to help you learn and prosper. **Take advantage of your mentors:** hit them up when you have questions or are stuck!

LEARN BY DOING! Get your hands dirty. Fail early and fail often. Try to hit roadblocks and overcome them.

Week 1: Foundations

The goal this week is to get any necessary tools installed as well as get a feel for JavaScript and get a taste of React.

Objectives

- Have essentials set up.
  - Install git,
  - Create a github account
  - Have an IDE installed (e.g VSCode)
  - Install latest stable release of node
- Know how to `add`, `commit`, and `push` to a git repository.
  - Article going over fundamentals
  - Coding tree video on basics of git
- Know the basics of vanilla JavaScript.
  - A Video showing how to create a simple JavaScript accordion script.
  - Article about JS for React:
  - Tons of other resources to answer questions (e.g w3schools)
- Get a feel for React (High level view & components primarily).
  - Up to 27:20: React JS Crash Course 2021
  - "Play along" and pause the video to mimic what the narrator is doing.
- **RECOMMENDED**: Create your own personal website!
  - Use "npm create-react-app" to create a template and tweak some code to personalize it.
  - OR Fork an existing template (e.g cobidev/gatsby-simplefolio) and modify it!
  - You can easily **deploy this website** using netlify! (All you gotta do is specific what GitHub repo, and they will deploy it for you)
  - Don't forget to **SHOW IT OFF IN SLACK!**

Additional Resources

More in-depth JavaScript tutorial: JavaScript Crash Course For Beginners

Week 2: Fundamentals

The objective of this week is to get a sense of how to use React to build

Objective

- Familiarize yourself with React (props, state, events).
  - Create the front end of a basic task tracker app.
    - Finish the React component of the crash course from last week (up to: 1:22:00) React JS Crash Course 2021
    - **BONUS**: feel free to finish the crash course to use the back JSON backend, but we will learn how to make a server with node.js ;)
- Learn the basics of Node.js
  - Node.js Tutorial for Beginners: Learn Node in 1 Hour (watch first and last 10 minutes)
- Express: Understand how to build a RESTful API with Express & Node.js
  - How to build a REST API with Node js & Express
  - Make sure to “play along” with Mosh. Pause frequently and code alongside him.

Additional Resources

- React Mosh tutorial: React JS - React Tutorial for Beginners

Week 3: Getting your hands dirty

Objective

- Build a RESTful API for your task tracker
  - This is an open-ended project for you to apply what you learned. This will likely be challenging. Reach out to your mentors and investigate when you get stuck.
  - Build a RESTful API that can handle GET, PUT, and DELETE requests for your task tracker app you built for your react app.
  - Hook-up your react app to make requests to said RESTful API
  - Don’t worry about storing this information in a database - you can simply store it in an array as Mosh did in the express tutorial. (Though if you’re interested in doing so, do it!)
- Understand Mongoose and MongoDB `
  - MongoDB and Mongoose | Creating a REST API with Node.js
    - See first comment of the video when you encounter the mongoose.connect error.
- Connect the RESTful API you built above to a MongoDB database to store tasks in a database!

Week 4

This week is being left as “flex” time to either:

- Work on another mini-project of your / and your mentors choice.
- Finish up learning anything you haven’t gotten to above ^
- Learn specific technologies and skills required for your project.
- Or hop straight into building your feature.

Work with your mentors to see what y’all’s team’s plan is!

Week 5 - 10

Start building features with your mentors and mentees!

We will have an **end of session review** (date TBD) to show off your team's work this summer.

Additional Resources

Feel free to refer to last years set of resources to dive deeper into more topics: https://docs.google.com/document/d/1ufh4KWuudimZUSIUWQLCYA7xx4UyYDKl6_EYLb-NpEY/edit?usp=sharing

Of course, Google is your BEST FRIEND when building software. Everyone Google’s their questions - no shame. It is part of the process!

Helpful React Hooks Docs: https://reactjs.org/docs/hooks-intro.html

Flexbox Froggy (really intuitive, helpful game to help learn flexbox for arranging/layout of elements): https://flexboxfroggy.com/

How to GraphQL (good videos introducing the concept of graphQL + perks over REST): https://www.howtographql.com/basics/0-introduction/