Clay Negen
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Local Orchards

Honors Senior Project

Advisor: Jonathan Englesma

Honors Advisor: Roger Giles

Intro

The central focus of my application was helping local apple orchards make a public appearance on the internet. My app, Local Orchards, does exactly this. It allows individuals to create accounts and register businesses with information like their address, their hours, and their status.

Tooling

My application is written in JavaScript using React JS. This is an entirely front end, single page application, that communicates directly with our database. I used FireBase for the database and User Authentication, and Material UI for the component styling.

What I Learned

React:

I have learned so much about React while doing this project. But I want to point out a few main learning points. Firstly is React Router: it allows us to simulate traditional web architecture on single page applications. This allowed me to render components based on the url with ease. I really think this is an amazing tool, and should be taught alongside basic react ideas. I was able to use Private Routes in order to do user authentication for the Profile page and the Sign Up page.

Additionally, I have learned a ton about props, state, and React's useEffect functions. The 'modern' way of functional programming in react replaces the traditional componentDidMount hooks with something called useEffect. useEffect is a hook react provides that can be placed in the top level of your component, and when it is called, it will complete the function and re-render the component. This was extremely useful for all of the asynchronous database calls I was making on the fly.

Firebase:

My original plan for the project was to use MongoDB as my noSQL database, and create a server that would use express to communicate with it. However after talking with my advisor, I decided to switch over to Firebase, and I could not be more happy that I did. I have learned a ton about the power of firebase and would like to share some thoughts.

Firstly, I learned that it is incredibly easy to import an instance of your firebase application and Firestore (the database portion) directly into your app. You simply make a file called firebase and export your instance of either your app or your firestore (in my case i exported both). Secondly I learned that the onSnapshot feature that Firebase provides can lead to some very quick response times between your application and the database. And lastly I learned that I can do user Authentication right in Firebase!

User Authentication

Coming into this project i had 0 experience with user authentication, and therefore I put it off until the very end. I learned this was a mistake, and it is much easier to start your application with user authentication and use the AuthProvider throughout. I learned that in firebase, you can use the same application your database is on, for user authentication as well! This was awesome to learn and i'm excited to explore it further. I ran into some problems tying my users' business, but I think I can get it solved.

Conclusion

Overall, this was an extremely fun project to do. I was passionate about helping Local Orchards, and I think that drove me to create a beautiful application. I spent a large portion of my time on the design aspect of it, and I think it turned out really sleek and professional. I think if I wasn't constantly learning throughout this entire process, I could have walked away with a more complete application, but I learned so much on the way it made it all worth it. Please check it out at: https://localorchards.netlify.com.