Andrew Chan

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PROJECTS

Go-chella — Live Site | Github

An event planning and organizing website - JavaScript ES6, MongoDB, Express, React.js, Redux, Node.js, and Google Maps API

- Developed a robust user authentication system utilizing JSON Web Tokens that provides an aesthetic UI for relevant errors by parsing them through different slices of frontend state via React/Redux
- Designed a display carousel that cycles through a background based on the active group on a set interval by looping through the group's acts backgrounds to improve UX on the dashboard
- Followed a minimalistic design philosophy and refactored the frontend state to reduce the number of render calls a component will call when mounting and updating to just two at most to ensure a smooth user experience
- Architected a visually appealing yet simple UI design to improve UX for users of the website by displaying relevant information in a symmetric pattern

Discourse — Live Site | Github

An app for live text chat - React.js, Redux, Ruby, Ruby on Rails, Action Cable (websockets), PostgreSQL, AJAX, and Moment.js

- Established live text chat channels for each server by opening websocket connections via Action Cable and allowing users to broadcast custom time-stamped messages as soon as they subscribe to the channel
- Implemented a responsive text field that will expand up to a certain maximum height based on input text by adjusting the properties of the text field with JavaScript every time a change is detected

Flappybara — Google Play Store

A casual game for all ages - Unity 3D, C#, Mono, Firebase, Android App Bundle

- Created a solo indie game using the Unity engine and established fundamental movement physics and collision interactions with game update and collider event handlers
- Integrated Firebase analytics and database to keep track of a global leaderboard for user high scores
- Connected the game with various signed keys to ensure security and identity, and optimized performance and display for various mobile phone models by utilizing the Android App Bundle to reduce file size and ensure compatibility

Shadow fight — Live Site | Github

A fighting game inspired by Tekken and Street Fighter - JavaScript ES6 and HTML5 Canvas

- Built according to Object-Oriented Programming principles to allow for intuitive player movement and attacking physics with sprite animations by setting timers for animations to complete and lock out player control until complete
- Calculated accurate hitboxes based on the sprite positions to ensure the visual representation of the sprite on the canvas always matches player input on a frame by frame basis by using requestAnimationFrame

EXPERIENCE

Lead engineer - Polio Project

University of Washington, Engineers Without Borders - Machine shop, September 2015 - February 2018

- Designed a Polio elution device for use in third world countries with unreliable electrical access to carry out the filtering and detection of Polio in a compact size, funded by the WHO and Bill and Melinda Gates Foundation
- Communicated with many teams and scientists to effectively respond to given feedback and deliver over 24 elution devices to at least 5 countries to aid in polio eradication efforts
- Created a foundation for future devices to by composing an official technical documentation to keep track of the crucial design decisions made for the final product

Software engineering intern

Innofidei Ltd. (Hong Kong branch) - Java, May 2013 - July 2013

- Analyzed Java codebase behind the company's transmission devices, as well as added variables and conditionals for the laboratory tests
- Performed a variety of laboratory tests for 4G LTE technology, targeting the anomalies that hindered the speed of data transmission in short range distances, narrowing down the cause to be a side effect of the signal transmission system

EDUCATION

App Academy - Immersive three month software engineering program focusing on full stack web development (Spring 2019)

University of Washington, Seattle - B.S. Applied Physics (Winter 2018)