GRANT PAULSON

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SKILLS

JavaScript, React, Redux, Ruby on Rails, Git, SQL, PostgreSQL, Node, MongoDB, Express, HTML5, CSS3

PROJECTS

Nomadic Nests (JavaScript, Ruby on Rails, React, Redux, PostgreSQL, Webpack, HTML, CSS) live | github

Full stack single page web app emulating Airbnb - allows users to search for listings and create bookings

- Designed a fluid navigation interface that embraces React's declarative structure by using React Router; lifecycle methods initiate AJAX HTTP requests to fetch required data if it isn't threaded, allowing all URLs to be a point of entry and shareable
- Created a Ruby on Rails MVC backend that uses Active Record to communicate with a PostgreSQL database; both model and database level validations ensure data quality while Active Record's query building defends against injection attacks
- Built backend API using Rails includes function to eliminate N + 1 queries and return formatted jsons extracted by jbuilder
- Made an intuitive search bar by using eagerly loaded data that displays as searchable options matching user input; an additional filter bar displays modals for each filter field and updates Redux state to include constraints in HTTP requests
- Utilized Google Maps API to create custom maps containing markers responsive to filter criteria and linked to detail pages; an optional navigation feature allows users to geographically search listings while moving around the map
- Implemented user authentication using BCrypt to hash and salt passwords, and SecureRandom to generate session tokens
- Uploaded photos are stored using AWS S3 cloud services to affordably reduce server load, allowing for future scalability

Kids Work (React, Redux, MongoDB/Mongoose, Express.js, Node.js, MERN, Webpack, HTML, CSS) live | github

Original full stack single page web app providing incentives for task completion in a parent/child relationship

- Developed a scalable and efficient backend by utilizing nested schema in Mongoose modeling that takes advantage of non-relational data storage in MongoDB to achieve fast—O(1)—lookup time for querying account data
- Collaborated with a team utilizing Git to develop branched features concurrently and merge into a central repository
- Used Passport with custom jwt payloads to build a unique authentication pattern; a family account includes privileged login credentials for parents that have access to supervisory features, while child accounts only access pertinent features
- Built backend API with RESTful routes using Express router to deliver data to frontend

Color Clench (JavaScript, Webpack, HTML, CSS) live | github

Mobile-friendly brain teaser game

- Created virtually unlimited variation in gameplay by devising an algorithm that generates game levels by creating a binary node tree with adjustable constraints using a breadth first search
- Utilized object oriented programming to structure game logic, webpack for modular code, DOM canvas for fast rendering, and the WebAPI's asynchronous functions for real-time animation
- Triggered real-time updates to scoreboard by using functional programming technique with asynchronous animations
- Built with responsive CSS using media queries, flex-box, css variables and more, the game is ideal for mobile touch-screens

EXPERIENCE

Operations Engineer, *California Resources Corporation* June 2014 - July 2017

Lead engineer responsible for operation and optimization of field equipment generating revenue of $12 million/month

- Spearheaded a joint team between operations and engineering that increased revenue by $180,000/month; this involved developing a custom tool that provided automated and real-time data using Excel, VBA, and SQL to make optimizations
- Assessed user needs and configured front end of new operations software; required writing hundreds of SQL queries
- Directed a team of three well-analysts to manage and optimize the field; developed processes and work-flow for team

EDUCATION

Web Development - *App Academy, Spring 2019*

BS Mechanical Engineering - *University of California, Berkeley, 2010-2014*