

Chris Carstens

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SOFTWARE PROJECTS

Issue Tracker

- A web application for software professionals to manage feature development, bug-fixing, etc.
- Authentication and authorization provided by Auth0 using the OAuth 2.0 authorization code flow with PKCE. Credentials shared between frontend and backend using JSON Web Tokens (JWT).
- Role-based access control allows users to submit, modify, and assign users to issues with the appropriate permissions.
- Single-page application (SPA) frontend using Typescript, React, and Next.js, styled with Tailwind CSS.
- REST API backend server using Java, Spring, and Spring Boot, backed by a PostgreSQL database.
- Backend unit and integration tests written with JUnit, AssertJ, Mockito, and Spring MockMvc.
- Development environment runs in Docker containers using Docker Compose.

YelpCamp

- A web application that allows users to share and review campgrounds.
- Authentication and authorization provided by a username/password database and Passport.js.
- Campground image upload and storage using Cloudinary. Geocoded map view using Mapbox GL JS.
- Developed with Javascript, Node.js, Express. Data stored in a MongoDB NoSQL database. HTML pages styled with Bootstrap and server-side rendered with EJS templates.

Water Quality Dashboard

- A prototype water quality dashboard for the Lake Worth Lagoon showing canal flow rate and salinity data for use by water management professionals.
- Synthesizes data from multiple sources, transforming API requests into a unified JSON format on the backend.
- Prototype was used by the County's IT department to develop the production application.
- Developed with Javascript, Node.js, Express, Chart.js, Mapbox GL JS, and a custom Webpack configuration.

PROFESSIONAL EXPERIENCE

Palm Beach County Dept. of Environmental Resources Management
Project Manager

West Palm Beach, FL
August 2019 – Present

- Successfully managed multiple \$1-2M environmental restoration construction projects from start to finish.
- Secured \$5M+ in grant funding from state and local governmental agencies. Complete all monitoring and reporting requirements, and submit reimbursement requests in a timely manner.
- Drafted technical specifications for two \$10M+ dune and beach restoration annual construction contracts. Reviewed bid packages prior to awarding contracts, coordinated with contractors, and supervised work performed under contract.
- Negotiated construction access easement agreements with nine private coastal property owners.
- Acquired five coastal construction permits from two state governmental agencies.
- Supervised a team of four employees during manager's two month leave of absence. Attended staff meetings, communicated time-sensitive decision-making information to upper management, and assisted teammates to work through blocking issues, all while continuing to complete regular work assignments.
- Completed FAA training and certification requirements to establish an unmanned aerial vehicle (UAV) program for the department. Draft a 23 page operational plan for the UAV program, and collected data that was used to support requests for \$15M+ in emergency funding from federal and state agencies to repair hurricane-related erosional damage to County beaches.

EDUCATION

FLORIDA ATLANTIC UNIVERSITY
B.S. Geology, *summa cum laude*

Boca Raton, FL
August 2018