KAWI

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PROFILE

Software Engineer, specialised in Full Stack JavaScript Development. Tech and Open Source enthusiast, who is Versatile and a Team Player. Enjoy problem solving and generate ideas. Aspired to use his skills to do meaningful work that brings humanity forward.

EXPERIENCE

Software Engineer, Qanvast Pte. Ltd; — Jan 2016 - Present
Mainly work as a full-stack developer for various products and platforms, from front-end (Web, iOS, and Android) to back-end (API, SQL Databases, Worker Engines, and etc) in an agile team.

Qanvast Website - Revamp

- Qanvast Website was up to a total re-design as the business started to scale up with more features and content. This provides us an opportunity to re-structure the code base to be more maintainable and scalable in a long run.

- I was tasked to architect and structure a codebase with ReactJS, while keeping these requirements in mind:

  - SEO Friendly - achieved by Server Side Rendering
  - Maintainability - UI components and de-coupling of model (Redux), view (ReactJS), and controller (Redux Saga)
  - Security - such that no sensitive data (such as access token) could leaked to stolen within the browser

- As new features were added and more developers collaborated within the codebase, ReactJS Component-based characteristic ensure that a change in a UI component introduced by a developer does not affect another UI component maintained by another developer.

- De-coupling model, view, and controller layer ensure that each developer can work on each layer independently. Though, collaborators need to agree on a common data structure to work on.

- Proxy server act as an additional layer to manage authentication/ authorisation and other sensitive data (OAuth Tokens, Refresh Tokens) and store them within the server in a persistent storage (Redis). Any request made by the client is sent to this proxy, which then either forward it to an actual API or reject non-authenticated request.

- With this setup, browser only need to know if a session is authenticated or not (which is provided by the proxy) and show the appropriate UI. This ensure that no sensitive data could be stolen or leaked in case of a compromised browser/computer.

- With all of the requirements met, tech team has experience improvement in productivity when working with the codebase. This structure was eventually published as a GitHub project - https://github.com/xkawi/react-universal-saga.

Qanvast Web - SEO Optimisation

- The new Qanvast Website did not perform well in terms of SEO. It was ranked above 15 for a simple google search of "hdb renovation ideas".

- I was assigned to improve the organic search traffic to our website using some SEO Optimisation strategies

- With the help from an external Digital Marketing Specialist, here some of the strategies implemented:

  - URL re-structuring to remove Ghost URLs
  - canonical URLs for similar pages
  - targetted keywords, and more.

- Qanvast Website now rank top 10 on Google Search for more than 200 keywords

Qanvast Pro - Revamp

- Qanvast Pro is an internal web application used by internal users to manage contents (e.g. articles, projects, RFQs).

- Internal users often complained that a task would take between 5 to 10 minutes to complete (due to repetitive work). This reduces their productivity and efficiency.

- I took the opportunity to reduce the repetitive work and improve their productivity

- Actions taken involves:

  - User requirement and feedback were gathered to better understand the underlying problem and needs
  - Qanvast Pro was re-designed and re-implemented from ground up to address those needs with new UI and UX that's more streamlined. For maintainability purpose, code structure of the new Qanvast Website was adopted for this project.

- I led this project with the help of 2 others, and managed to deliver it within 3 months. Overall feedback from internal users were positive as they experience 80% increase in their productivity.

Qanvast Pro - 2nd Phase

- One of the customer experience team's needs was to be able to track the status of a customer's RFQ at every stage of the business process (e.g. has the assigned ID contacted homeowner?) and act upon it quickly. The new Qanvast Pro was not optimised for this.

- Action taken involves:

  - Proposed an additional "status" field that can be adjusted depending on the stage (e.g. Called, Assigned, or Not Contacted Yet)
  - Implemented a new UI flow that provides all the necessary details of an RFQ for the customer experience team to act upon quickly

- The implementation was completed within 1 month with 1 manpower. Overall feedback from them was positive as they experience increase in their productivity and customer satisfaction.

Qanvast Mobile (iOS & Android)

- Qanvast Mobile Team occasionally encountered lack of manpower for some of their priorities.

- On top of my main responsibilities (maintaining backend and web), I was given the opportunity to assist them on these features:

  - Production section (iOS and Android)
  - Cashback Redemption flow (iOS - Objective-C)
  - Board Sharing functionality (iOS - Swift)
  - Some parts of Article re-design (iOS - Swift)

- It resulted in timely delivery of their priorities, while equipped me with more experience in mobile development (Objective-C and Swift for iOS, Java for Android).

DevOps - Research on Container Orchestration for Microservices

- Qanvast was looking for a more automated way to scale up deployments with microservices. Some of the requirements includes:

  - High availability
  - Auto-scaling
  - Active monitoring
  - Ease of database migration
  - Faster development and deployment cycle.

- I researched and presented on a few technologies, namely:

- Docker, rkt by CoreOS, and Kubernetes (container orchestration)
- Continuous Integration (Jenkins)
- Continuous Delivery Solutions (Codeship, Shippable, Buddy.works)

- It was concluded that most of the container orchestration technologies were still young and not really suitable for production use yet (e.g. no standard interface in managing storage and databases). Hence, no action was taken, though I gained valuable lesson from this research.

DevOps - Continuous Integration

- In an attempt to improve productivity of tech team and quality of the code produced, I initiated and configured a local 'WIP' server with Jenkins and Xcode Server in place.

- It's mainly used for automated testing for various projects such as API, Web, Qanvast Pro, even Android (Jenkins) and iOS App (Xcode Server).

- It resulted in a faster development cycle and batter quality control, as we can quickly deploy new and work-in-progress features into this local server, test it, and break stuffs without any risk of disruption to end user.

Server Administration

- Qanvast users encountered high network latency due to a spike increase in traffic. An additional API server is required to handle this traffic spike.

- Within less than an hour, I managed to spin-up a new Ubuntu-based server with proper user permissions, firewall, Nginx web server setup, and deployed our NodeJS-based API into it.

Software Developer, GlobalSign.In Pte. Ltd; — May 2014 - Jul 2014
Developed in-house iOS Application that utilises existing API from scratch within 2 months; Other ad-hoc duties include configuration and deployment of Jenkins CI on Amazon EC2 instance, and Unit Testing using PHPUnit.

System Administrator, PSA Corporation Limited — Feb 2011 - Apr 2011
Involved in Software Development Lifecycle process in managing and administering 2 to 5 UNIX-based servers; Other tasks includes automate server health monitoring and analyse more than 1000 log files to identify certain pattern using Bash script.

EDUCATION

Singapore Management University - 2016
Bachelor of Science (Information Systems) - Merit

Republic Polytechnic - 2012
Diploma in Information Technology (with Merit)

PROJECTS

Singapore Management University - 2014

IS480 Final Year Project - Integrated Course Management System

- Developed and hosted an integrated course management system that allows our sponsor, skillseed.sg, to streamline their course management process (e.g. accepting and rejecting course application, auto-reminder for incomplete application, document management, and customised mass email reminder)

- Technical Exposure: NodeJS, ExpressJS, AngularJS, MongoDB, Server Deployment, DigitalOcean

ACHIEVEMENTS

Singapore Management University - Nov 2014

Lien Centre Award for IS480 Final Year Project

Awarded to IS480 Project that benefit an organization working for the social services/non-profit sector. Team need to show an element of innovativeness and sustainable thought in the long run, taking into account the needs of the social services sector targeted and how the project will address the needs in an innovation & socially responsible way.

Republic Polytechnic - May 2010 & May 2011

Good Performance in Diploma in Information Technology

An annual awards given to students who belong to the Top 10% of all students within the course (Diploma in Information Technology) in terms of its GPA and consistent result.

SKILLS

Technical - ReactJS, NodeJS, Mobile Development (iOS, Android, React Native), PostgreSQL, MongoDB, Redis, RESTful API Development, Server Administration (Linux), JavaScript, HTML, CSS, Java, Objective-C, Swift, Python, MySQL, NoSQL, AngularJS, Bash Script

General - Microsoft Office, Linux Server Administration, Basic OS and Network troubleshooting and configuration, Presentation