

Bryan Kok

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EMPLOYMENT

KatyWorld | Software Engineer

Jul 2018 - Present

eRecruitment – Sun Life Malaysia’s nationwide recruitment platform from POC to production | bryankok.com/#erec

- Architected and implemented the **RESTful** backend with **Java Spring Boot**, **MSSQL**, **Flyway**, **MapStruct** and **Hibernate** for the app and web dashboard serving **200+ monthly active users across 9 agencies** with role-based access control.
- Refactored SQL queries using **QueryDSL** to improve maintainability and reduced load by caching intensive queries in **Redis**.
- Supported **300+ more users** with domain accounts and granted access to other teams by extending eRecruitment to act as an **OAuth2 resource server** with **Keycloak**; wrote extensions exposing endpoints to query for users based on custom attributes.
- Set up a **GitLab CI/CD** pipeline that built and deployed **Docker** images into production using **docker-compose** and Traefik.
- Implemented income calculation logic for the organizational hierarchy as a **TypeScript** library; 100% unit test coverage with Jest.
- Singlehandedly developed the **React Native** mobile app for recruiters in the field, using D3 for an interactive calculator and charts, **Redux**, and Realm for offline-capable forms with complex, cross-section validation requirements.

Drug Formulary - Comprehensive drug reference app for the **National University Hospital of Malaysia** | bryankok.com/#formu

- Parsed and cleaned data of 1000s of drugs from assorted Word and Excel documents into **MySQL** with **Python**.
- Integrated Sentry to identify performance bottlenecks; **reduced the average response time from seconds to sub 500ms** by hashing each Drug entity upon modification and implementing a delta-sync endpoint for the mobile app in Laravel.
- Increased ratings of the **React Native** mobile app to **4.7 on the App Store** and **5.0 on the Play Store** after optimizing a phonebook-style alphabetical scroll view. **40% retention rate** since launch (**5.5K monthly active users** / 14K downloads).

KKPGEN – Added 10 high-net-worth products to **Generali Thailand’s** Spring insurance CRM portal

- Drove the adoption of documentation-driven API design by writing **OpenAPI** specifications and using **swagger-codegen** to generate native clients and server stubs for other teams for complex CRM-to-bank API calls with 100s of fields.
- Interfaced with external systems by issuing JWTs and storing generated assets in **AWS S3**.

OneTokio and TokioAcademy – Customer and internal **React Native** apps for **Tokio Marine Life Insurance Malaysia**

- Increased user retention from before the rewrite in **React Native** with **Redux** by over 2x after implementing push notifications with Firebase, an in-app inbox, and geolocation of surrounding panel hospitals and clinics. **20K+ total downloads**.

EDUCATION

University of Nottingham

Sep 2014 – Jul 2017

Ningbo Campus

- BSc. in Computer Science, 1st class honors, 2x annual Dean’s scholarship (top 10%) recipient
- Thesis: [ExPo2](#) (Optimizing a stock market simulator. Java, JMH, VisualVM, ZeroMQ, Python, Protobuf, WebSocket)

PERSONAL PROJECTS

DeployApp – A beta app distribution platform allowing users to attach their own cloud storage | bryankok.com/#deployapp

- Created this utility with **Spring Boot**, **React**, and **PostgreSQL** to solve real-world hurdles encountered during enterprise app beta testing, such as data handling requirements and more reliable installs in a corporate network environment. **100+ builds delivered**.
- Wrote and unit tested Java wrappers for an existing Ruby app binary parsing library, leveraging the **GraalVM** polyglot runtime.
- Designed a horizontally scalable **microservice** architecture to parallelize CPU-intensive operations with workers, using **event-driven** inter-service communication over **AMQP / RabbitMQ**.
- Ran integration tests against external services, containerized and deployed to **Kubernetes** in a **GitHub Actions CI/CD pipeline**.

Radically – A component-based Kanji search engine | radically.bryankok.com | github.com/Radically/radically

- Created ETL pipelines with **Python**, **Node.js**, and **AWS Lambda** for Unicode data of all 93000+ encoded CJK characters.
- Used Workbox to manage the lifecycle of the service worker, enabling offline installation as a **Progressive Web App**.
- Used the Adobe AFDKO font creation toolkit to create [an OpenType font with 100% CJK Unicode codepoint coverage](#) as a bonus.

OPEN SOURCE

Contributed various bugfixes and features to **Mozilla Firefox’s Developer Tools** | bryankok.com/#devtools

- [Added support for the SignalR protocol to the WebSocket Inspector](#).
- [Added a clickable stack trace](#) to identify the [initiator of a network request](#) in the network monitor.
- [Improved the UX of multiline input in the browser console](#).

PUBLICATIONS

[Online Community-based Design of Open Source Software for Voice Training](#): Proceedings of the ACM on HCI, Vol. 4, CSCW '20