



KHONGCHAI G.

APPLICATION DEVELOPMENT ANALYST

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LANGUAGES

Thai
English
German

PROGRAMMING LANGUAGES

TypeScript
JavaScript
HTML/CSS
Dart
Rust
Python
GLSL
Java

PROFILE

As an aspiring web developer who loves learning and solving problems, working as a team, or in any collaborative project, I seek always to inspire and motivate myself and others. The challenges software engineering posed are exactly what I craved. Every bug is lavished, and every line of code relished (sometimes), I enjoy every single step of software development. I work both on the front end and back end, but my focus is primarily on the former as I do create random animation-heavy frontend projects using WebGL, web assembly, and HTML canvas in my spare time.

I AM

- An avid learner.
- Adapts fast to new changes.
- Really passionate about software development.
- Someone who values time management
- Comfortable working with any frontend or backend technologies.

HOBBIES

- Creating random libraries and projects
- Reading sci-fi and fantasy books
- Playing video games
- Learning languages
- Playing violin

EXPERIENCE

Notable Recent Projects (sorted by technologies)

Flutter

CardX (Nov 2021 - Present)

Designed and implemented several new features, including enhancing and building upon the already existing app foundations such as:

- Global error handling architecture -- implemented from scratch a Flutter life-cycle-aware, multi-subscription model that only calls the last subscriber (last active page) in the subscription stack (page stack).
- Helped design a new UI common components structure.
- Co-led a squad as a frontend lead while designing and developing several of the app's core features and private UI libraries.
- Developed 2 open-source libraries to help solve some specific UI problems as side projects (the dropdown and the navigation library below).

Open Source

- **Dynamic Routes (2022):** A flexible mixin-based Flutter navigation library that focuses on runtime data-driven navigation. The navigation logic can be easily overridden or extended. The library itself is an abstraction of Flutter's Navigator library.
- **Modular Customizable Dropdown (2021):** yet another dropdown library but designed to address specific problems lacking in Flutter: a functioning dropdown that exposes everything to customization, both the UI and the basic dropdown features such as position wrapping when overflow, alignment adjustment (using Flutter's Alignment property), and animation properties.
- **Dotted Line Array (2021):** Drawing dotted lines in Flutter is hard. This library is one of many but allows drawing dotted lines using HTML5 canvas's array syntax.

Spring WebFlux / MongoDB / Kafka

CardX (Nov 2021 - Present)

Many frontend features or bug fixes entail also that changes be done on the backend. I worked on several microservice features, touching slightly on the databases and the caches.

React / ThreeJS / r3f

Serenade on a Dream (2021 - 2022)

Made with r3f, this is a 3d website made for the promotion of my EP "Serenade on a Dream". The UI controls are made with React and ChakraUI for CSS. The audio controls are made from scratch as I could not find anything on the market that provided me with the smoothness of Spotify's scroll-on-mouse-up feature

React / WebGL / WebAssembly / NestJS / MongoDB

Web-Spirograph (2021 - Present)

An ongoing experimental, virtual-spirograph project. The project started off as a small React side project which grew into the largest personal project I have ever done. The main UI controls run in the main thread, the animation is computed on worker threads with WASM, and leveraged WebGL's parallelism to help ensure minimal rendering time for computation-heavy tasks. More details about the project can be found in the project's repo on GitHub.

Django / GraphQL / PostgreSQL

Musical-Companion (2021, on-hold)

A now-paused e-commerce-like project where musicians can come and download accompaniment tracks to practice with. The UI was made with NextJS and the backend with Graphene-Django.