

# Anderson Addo

## React Native Developer

Brown University, Expected Computer Science Degree, 2023

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## Relevant Skills

Proficient in **React Native** and **Firebase**. Decent experience in **Adobe Illustrator**, **Adobe XD** and **UI/UX** design. Some experience with native Android development

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## React Native Projects

### Biteup (2020 - present)

- Conceptualized, designed, developed and branded [a complete social media app](#) that is designed to make it easier for friends to physically meet and connect over coinciding meal-times.
  - **Heavily powered by Firebase** Realtime Database and Google Cloud Functions, with additional use of Cloud Tasks, Firebase Cloud Messaging, Cloud Storage, Firebase Security Rules, Firebase Authentication, Firestore and Codepush.
  - Realtime Database structure designed to make writes expensive but reads are very cheap (using **denormalization**). Allows for **better scalability** in terms of both cost and performance.
  - Used Android Flavours and Xcode Schemas to allow separate development and production builds (each with their own Codepush and Firebase backends) to **prevent data pollution of production backend**.
  - **Abstracted many commonly used components** (like scroll views with pagination, headers and loading modals) to allow for quick screen building and iteration.
  - Data read and write constraints are enforced on the front end JS logic, the backend cloud function logic and in Firebase Security Rules to **ensure client-side tampering doesn't affect data integrity**.
  - **Reduced chance of Cloud Function cold starts** by preventing https errors, data inconsistencies and security errors from throwing Error objects and shutting down the Cloud Function server instances. Instead, they are treated as successful function executions and error reports are sent and handled on the client side.
  - Implemented **automated on-demand user data reports** for GDPR compliance
  - **UX designed and evaluated** via interactive Adobe XD mockups.
  - **Became a maintainer** of [react-native-firebase](#) package in the process of development.

### Social Security and National Insurance Trust of Ghana (2018 - 2019)

- Designed and developed an initial version of the organization's official mobile app. Features of the app included a **Google Map based navigator** to locate nearby company branches and a calculator to calculate pension plans.
  - Calculated plans were stored in a **custom Realm object database**.
  - The app required SectionLists with grid layouts; no npm package supported this, so **I contributed to the popular [react-native-super-grid](#) package** to add support for gridded SectionLists.
  - **Held meetings with the organization's technical team** to discuss my design decisions for UX, and OTA updates for the database of branch locations. OTA updates worked by polling a public git repository every launch.

## Other Software Projects

- (2020-present) I am a **co-PM and a developer** for a team that is working with **Care International** (via [Develop for Good](#)) to develop an application to help farmers in Tanzania achieve better financial independence. It is powered by Firebase, AfricasTalking USSD and React.
- (Summer 2020) I **researched with Professor [Malte Schwarzkopf](#)** on making **GDPR-compliance** easier for databases. I designed, ran and vetted benchmarks in PostgreSQL for different system prototypes, and also analysed the schemas of open-source projects for some thought experiments. Repo of work can be found [here](#).
- (2016-2019) I have also **created several Unity video games** (both 2D and 3D; mobile, VR and PC) and **native Android applications** (a multithreaded calculator and a comic book trivia app powered by a local SQLite database). Some notable video game mentions: [The Room](#), [Aqua Chase](#), [Dimension Dash](#).