

# Andi Semler

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## PROFILE

I have been interested in making websites and apps since I was young. I am a self taught developer, passionate about software and programming. I care a lot about the products I build and the code behind, using the best practices and modern technologies, striving for the best user experience.



## SKILLS

### APIs

- **GraphQL API** made with **Node.js** and the Apollo GraphQL server library
- **JSON REST APIs** made with **Go net/http** and **Node.js express.js**
- **Go gRPC API** used by clients running from multiple different programming languages

### Web front-end

- **Websites** using **HTML, CSS, JavaScript (ES6+)** and **TypeScript**
- **HTML templating** using **Go html/template**
- **Optimising delivery size** using minification tools and module bundlers, such as **Webpack, Rollup** and **Gulp**
- **Single Page Applications** built with **React** and **React Router**
- Styling React apps using **styled-components**
- **React state management** using built-in APIs and **Redux**

### Mobile Apps

- **Native iOS apps** using **Swift** or **Objective-C**
- **Cross-platform** apps built with **Flutter** and early versions of **React Native**
- Building **Flutter plugins** with **native Swift and Java code**
- **Firebase integration**

### Design

- **Designing user interfaces** using **Sketch, Adobe Xd** and **Figma**
- Iterating on design and user experience based on customer feedback

### Server administration and back-end software

- Creating, maintaining and securing **Linux server** instances
- **Building back-end applications** serving HTTP requests and executing background code using **Go** and **Node.js**
- **Deploying applications** on **on-premises-** and **cloud servers running Linux**, as a system service or in a container using **Docker** or **Kubernetes**
- Deploying on **Google Cloud** and **DigitalOcean**
- **Storing data** in **PostgreSQL** and **MongoDB** databases

### General programming

- Version control using **Git** with **GitHub** and **GitLab**
- **Protecting users' personal data** using encryption and hashing



## EDUCATION

- STU degree (Magleby Skolecenter 2017 - 2018, Individualisterne ApS 2018 - 2020)
- Type B driver's license (2019)



## EXPERIENCE

### Freelance work

#### Probono Skills

I designed, built and maintain Probono Skills' on-demand video education platform, providing law students in Scotland who do pro bono work access to high quality training materials and events. The service runs on it's own subdomain with a Go webserver which sends generated HTML using the built-in *net/http* and *html/template* packages and stores data in a PostgreSQL database, all running on it's own Virtual Private server.

[www.probonoskills.com](http://www.probonoskills.com)

#### Løbsportalen

Løbsportalen.dk helps Denmark's marathon runners find their next marathon event. First designed in Sketch, then built using Next.js for the front-end, Go for the back-end and PostgreSQL for the database.

[www.loebportalen.dk](http://www.loebportalen.dk)

### STU Education

Individualisterne ApS, 2016 - July 2020

#### Customer app

I worked with the customer to come up with a suitable design for the app using Sketch, and single-handedly developed the app for both iOS and Android using React Native, and Node.js with the Apollo GraphQL server library for the back-end, which stored it's data in a MongoDB database.

#### Customer app

I helped rebuild the app with Flutter after another team was experiencing issues with React Native, which the app was previously built with. While rebuilding the app we decided to replace the back-end with Firebase which worked very well for our use case.

The app has a physical product accompanying the app which required the production of physical QR codes. I built internal tools to help generate unique identifiable QR codes for print and save their identifiers in a database.

The existing app used NFC to communicate with the physical product with QR codes as fallback. However, the NFC packages published for Flutter did not work well for us so I developed our own in-house solution. This required me to learn about NFC and the Java and Swift programming languages in order to integrate with the platform's NFC APIs.

#### RFID product

I was part of the team assigned to create a new product using RFID technology. I helped research how to integrate RFID into our product and choose the initial equipment. I went on to integrate it with our back-end services, using the equipment vendor's C# SDK and later wrote a custom SDK using C and low-level POSIX APIs, greatly expanding our tooling options.

### Open source

#### Anchor Scroller

I developed Anchor Scroller as browsers lacked native functionality to smoothly scroll down a page. It is written in TypeScript and is published on NPM.

[www.github.com/semlette/anchor-scroller](http://www.github.com/semlette/anchor-scroller)

## **NFC in Flutter**

NFC in Flutter is the successor to the internal NFC library I previously wrote for a customer app, built on my experiences and draws on what I learnt developing it. The original NFC library was written in Swift on iOS, where as this one is written in Objective-C to avoid possible build problems. NFC in Flutter is now the most popular NFC library for Flutter and has multiple external contributors.

[www.github.com/semlette/nfc\\_in\\_flutter](https://www.github.com/semlette/nfc_in_flutter)

## **Flutter to MobilePay**

I developed and released Flutter to MobilePay to allow Flutter apps to more easily accept payments using the MobilePay payment system. Flutter to MobilePay is written in Objective-C and Java, and uses the MobilePay AppSwitch SDK.

[www.github.com/semlette/flutter\\_to\\_mobilepay](https://www.github.com/semlette/flutter_to_mobilepay)