

Final Report, September 2020
Nikhil Dharmaraj
Software Engineering Intern, Ameelio

Over the past four months, I have been working part-time as a software engineering intern at [Ameelio](#). Founded in January of this year out of Yale University, Ameelio aims to disrupt the exploitative prison telecommunications industry by creating a free digital platform for communication between incarcerated people and their loved ones. Through team meetings, software deliverables, and more, I have been able to immerse myself in the incredible work Ameelio is doing, even as all my work has been remote due to the COVID-19 pandemic.

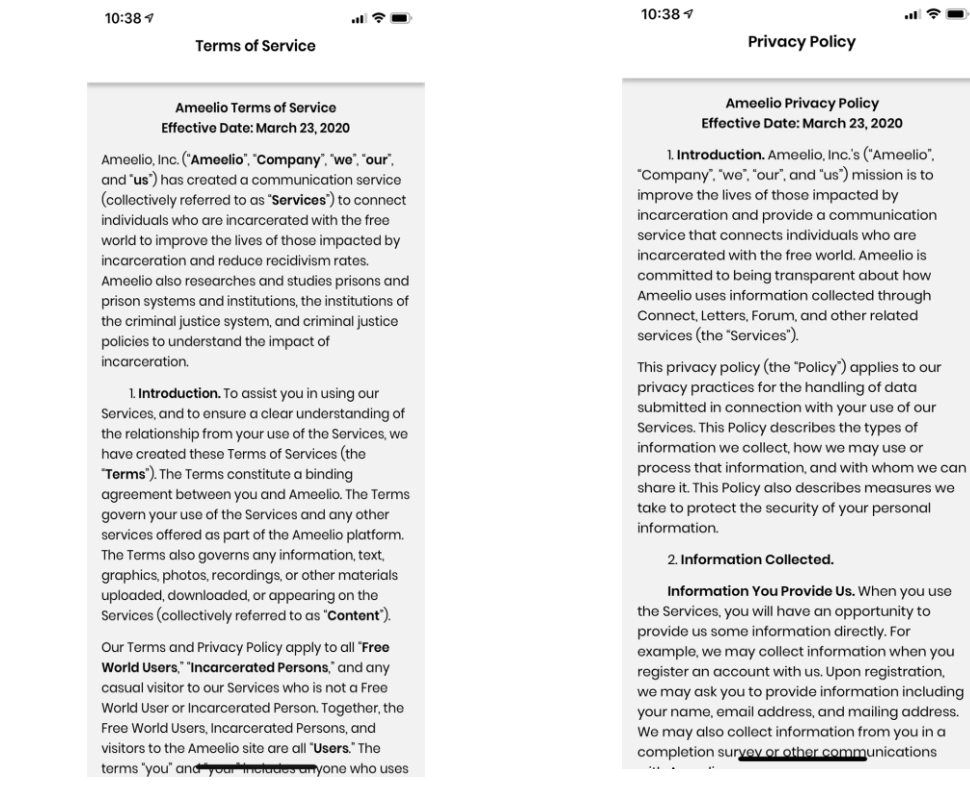
I began by writing a few web crawlers as a member of the Nationwide Inmate Locator team. This team works on creating a seamless, searchable database of incarcerated individuals within the United States. Currently, no such thing exists, which can make it difficult for loved ones and rehabilitation organizations on the outside to locate incarcerated people. To accomplish this goal, our group set out to compile handwritten crawlers that would scrape each state's penitentiary directory to collate all individuals' biodata, logistical information, and more into one large standardized database. I personally spent the first few weeks of my internship writing out the crawlers for Mississippi and Pennsylvania.¹ In keeping with the programming framework of the team, I utilized the BeautifulSoup and Requests libraries in Python.

At the start of June, I briefly pivoted my time towards the Social Media team. As the Black Lives Matter movement gained traction around the country and world, our team at Ameelio felt it was only right to publicly support and uplift these efforts; the struggle against mass incarceration and the prison-industrial complex is fundamentally inseparable from systemic racism and anti-Blackness. Given that I had personally been reading, protesting, and more to contribute to the contemporary moment of activism, I took it upon myself to create a resource guide for Ameelio's followers to engage with on Instagram (linked [here](#)). It included readings, organization boost lists, political action items, and protest maps, with the hope that these resources might serve as a starting point for viewers to join Ameelio in a lifelong fight for Black liberation.

For the remainder of my internship, I worked on the Letters Mobile team. At its founding, Ameelio offered its services entirely through the web (at [Ameelio.org](#)); this team worked to improve accessibility by creating a mobile application for users to send letters, postcards, and more to their incarcerated loved ones on-the-go. Technically speaking, we programmed using React Native, Typescript, and Redux. With this team, I worked on a few main tasks. Firstly, I worked to finish the "Terms of Service" and "Privacy Policy" screens. Given two lengthy legal

¹ Note: the revisions for the Pennsylvania crawler ended up being taken over by a fellow software engineer at Ameelio, as I moved on with my internship work.

Google Docs, I formatted text into mobile screens with scrollable paragraphs and embedded hyperlinks. The final versions of these screens are depicted below:



After the submission of my interim report, I worked on a few miscellaneous refactoring tasks. Like any mobile project, our application spans several directories, subdirectories, and files, each of which is chock-full of Route strings — navigational pointers and references to other Screen views (corresponding to the user experience of navigating through our app). In light of that, one task I completed was creating a centralized enum (a data type in computer science that maps a set of identifiers to values) for Route names, such that all Route strings are imported from one place rather than hard-coded each time. This sort of refactoring ensures robustness in our software, because, moving forward, specific navigational file names will only have to be changed once in the centralized location, rather than in each instance they might appear throughout the project. The second task I finished was creating a utilities file for cancelling notifications; previously, the functionality for doing so had been repeated across a few different places. Again, in the name of robustness, I centralized this logic in one place, thus eliminating duplicate code and improving design standards.

Throughout my internship, I garnered myriad new skills. In terms of software development, I learned how to work with Python Requests, code in React Native, solve TypeScript errors, and refactor for optimal code design, among several other things as well.

Simultaneously, though, I deeply appreciated the chance to immerse myself in an organization committed to disrupting the prison-industrial complex, as I gained invaluable experience thinking about technology as it relates to social justice and grounding my work in the lived experiences of incarcerated people and their loved ones. Overall, my summer at Ameelio both confirmed and increased my drive to dedicate my life's work to the intersection of technology and social justice.

I am incredibly grateful to JJCF for funding my internship with Ameelio. Now, as I enter my sophomore year of college, I know I will take the expertise I gained over the last few months with me to all future pursuits, in the realms of both computer science and advocacy.