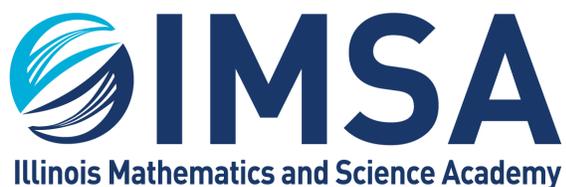


CIVICLY INVOLVED INTERNSHIP

Working on the Candidate Profile Screen



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September 2019 - April 2020

Mentored by Joe Weston, Owner

EXECUTIVE SUMMARY

Going into any situation, I think I'm always a little overconfident. This was no exception. I had previously made an (unimpressive) app, had talked to people before, and knew how to work with a team; so this would be all the same, right?

I thought going into this that I would probably do something around 80% working and 20% learning. The very first day I realized how wrong I was. I learned that in this internship, I was going to, well, learn. At first, I felt kind of bad; I mean, I knew barely anything and had to be taught from the ground up. But, in the end, this was a great experience that I will build off of for the rest of my life.

This report serves as a summary and a reflection about an internship at Civicy Involved by Patrick Hultquist, mentored by Joe Weston, Owner. This internship was done from September 2019 until April 2020.

The [Business Context](#) section explains what the industry was, and all the work that had been done beforehand in building the app.

The [Business Project Description](#) section outlines the exact work that I did for Civicy Involved, including screenshots of some of the tools I used and examples of issues I faced and things I learned.

The [Business Project Research](#) section examines a couple of questions that I wanted to answer, and in doing so throughout the year, became a better programmer and team worker.

The [Business Project Key Learnings & Recommendations](#) section discusses crucial takeaways from the internship and gives insights about what could be done to improve the app, from my point of view.

The [Reference List](#) section provides several references that I used in this report.

The [Appendices](#) section provides proof of attendance to the internship throughout the year.

BUSINESS CONTEXT

Civicy Involved (www.civicyinvolved.com), at its core, is an application to help users understand the political system better. Civic involvement can be confusing and certainly unclear. The app is meant to clear things up for all the users. More specifically, Civicy Involved is set out to meet three goals:

1. Personalization

2. Simplicity
3. Involvement

These three goals were stated to me from the beginning and are something that, no matter the work I have been doing, has been kept in the back of my mind.

There's a famous theory that says any app can be said as "[Traditional App Name] but for [Industry]." Civicy Involved certainly follows this rule, as it can be described as *Tinder but for Politics and Civic Engagement*. The app is a swipe-based user interface, where users swipe to agree or disagree on anonymous primary-source statements. For example, a tweet from a politician might be presented to the user, in which they swipe right to agree, and swipe left to disagree. After they state their opinion, the source is revealed. Additionally, the app stores the user's response in the database. Right after that, they're presented with another statement. Every opinion gathered goes into building a user's profile. All these statements are presented on the **home page**. There are a couple important factors with what goes on the home screen:

4. Anonymous. In a fair political system, the user should not be influenced by who thinks something as that would be biased.
5. Primary source. All statements will be from tweets, interviews, other online platforms, or even speeches and events. This is important, because, as we all know, second hand sources can often skew the meaning of something by the nature it is written in.
6. Multiple races. The race for mayor of your town would show on the home screen, or maybe the governor of your state, or the president of your country. Disregarding which race means building a stronger user profile.
7. Local, not global. You're presented with items that matter to you. After all, who cares if you disagree with what some Brazilian politician said about the Brazilian political system?
8. Fair. Everything on the home screen should be fair, in that it is not meant to lean a user one way or another, but rather record their opinions. During my interview for Civicy Involved, Joe Weston, Owner, ensured that I would be fair and not looking to skew a user politically.

All of these factors build in to creating the best user profile possible. When I talked with Joe Weston, Owner, he stated that Civicy Involved does not intend to sell the data collected on users while exposing their information, to protect privacy. Rather, the company may share data with outside sources to help them make better decisions. With the data, the app automatically determines which candidate for each race fits best with your beliefs. When I talked to Joe Weston, Owner, he stated that one purpose of the app was to help "the middle" on who to vote for. This means that, of course, on the political spectrum, some people will know who to vote for and won't change no matter whether or not they agree on the policies. Rather, there are a large sum of people who don't exactly know who

to vote for. This is the app's target audience and who is intended to be influenced the most.

Of course, this is only the core of the app. There is a lot more; for example, a calendar page tells users important dates in the upcoming couple of months. This includes election dates, rallies for candidates that a user fits well with, or even conventions like the Democratic National Convention. There's a values page which tells users what they seem to value in a political candidate, and what policies they agree or disagree with. Of course, each candidate has a profile screen, where how the candidate fits with the user is revealed. The app will even tell a user where to vote and how to start, as it is involved with voter registration.

It is clear the power and potential this app has to create real influence in helping citizens form the world they power, with the power of their vote. The app turns the typical uneducated voter, who doesn't really know who to vote for into a politically-ensured person with specific views. However, the app is not fully developed yet. The company has less than 20 employees who are all working hard to develop the app, whether it be in terms of marketing, user interface design, or just straight development. The company uses Slack for business communication and GSuite for file management. The app, specifically, is built on React Native, a platform made by Facebook to help developers with JavaScript experience build apps on multiple platforms, while only writing code once.

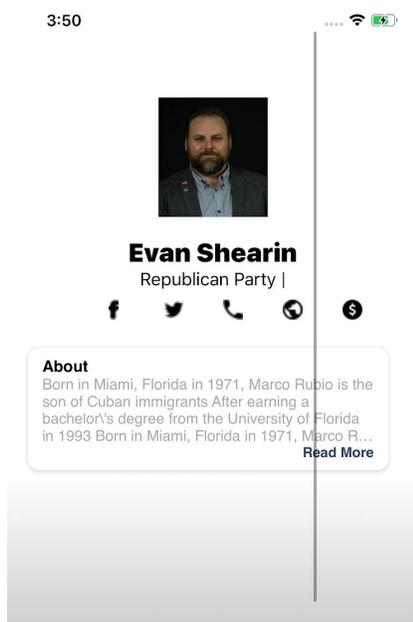
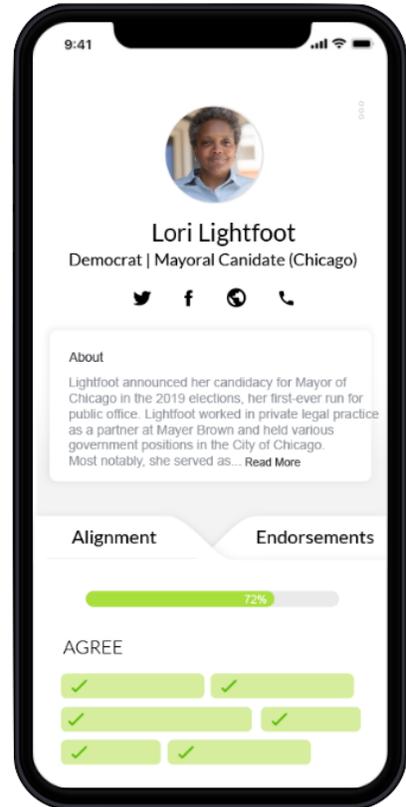
Civically Involved is a great idea and it is amazing to think of the possible influence. Right now, it is funded largely on investors and we are hoping to launch it soon, on the App Store and Android. Joe Weston, Owner, had this idea and assembled a great team of developers to make this happen.

BUSINESS PROJECT DESCRIPTION

When looking at the work that I had done, it is important to consider my previous experience. I had decent JavaScript development practice and had previously made an app with Swift in seventh grade. I applied as an intern to Civically Involved for a couple of reasons: it seemed like a great opportunity for me to gain coding experience, and it seemed like a complete company with an inspiring and amazing goal. Upon my interview, I quickly found out about how little I knew about the development experience. It is a huge difference going from a small, personal developer who made a couple of quick apps to working with a relatively large development team to create a great app with great expectations. I had never worked with React Native; in fact, I had barely heard of it. I simply didn't know a lot about app development. I think I did something dangerous here: I overestimated what I knew about the subject. And, the very first day on the job, when I went to 1871 to work with Joe, I think I (slightly) disappointed him; I hadn't known how to use Git coherently; I hadn't known correct business communication; I hadn't even known how to correctly use the command line

thoroughly. And I think he was completely right to do this — looking back on the day, I knew practically nothing. This was slightly embarrassing to me, but at the same time optimistic, as I was (virtually) surrounded by highly skilled developers who could teach me a lot of what I didn't know.

That day, Joe had told me that I was going to start working on the **candidate profile screen**. This is exactly how it sounds — every candidate that is running for some office has their own profile, including their name, political party, the office they are running for, and some primary source statements from that respective candidate. Additionally, on the candidate profile screen, policies and statements are matched to the user, like, for example, that you both agree that marijuana should be legal. This page likely won't be visited too often, and certainly is not a main, crucial screen for the app. However, it certainly is necessary for a user to get the full experience that the user deserves. To the right is the initial example of the candidate profile page that I was given. This was made in a tool called *invision*, which helps app makers plan out their app without actually having to write out any code, which can be way more time consuming. Plus, this allows app makers to play around with different views easily to help them see which one works and looks best. As you can see, the example is with current Chicago Mayor Lori Lightfoot. Of course, on this page, nothing actually works. It is basically just



an image mockup. Thus, I was responsible for replicating this view in the React Native development environment. With very little experience with react native, I knew this was going to be a heavy task. It is what I worked on all year and still did not completely finish, although there were some changes and heavy obstacles along the way. I started with a small template that had a couple of the key features, like the candidate's picture and the spot for their name and supporting info. The first day, in fact, I just spent trying to *reach* this screen, as there were some issues in a couple of pages leading up to this page that rendered this page impossible to uncover. I was glad to be able to overcome those issues and started actually changing the page itself.

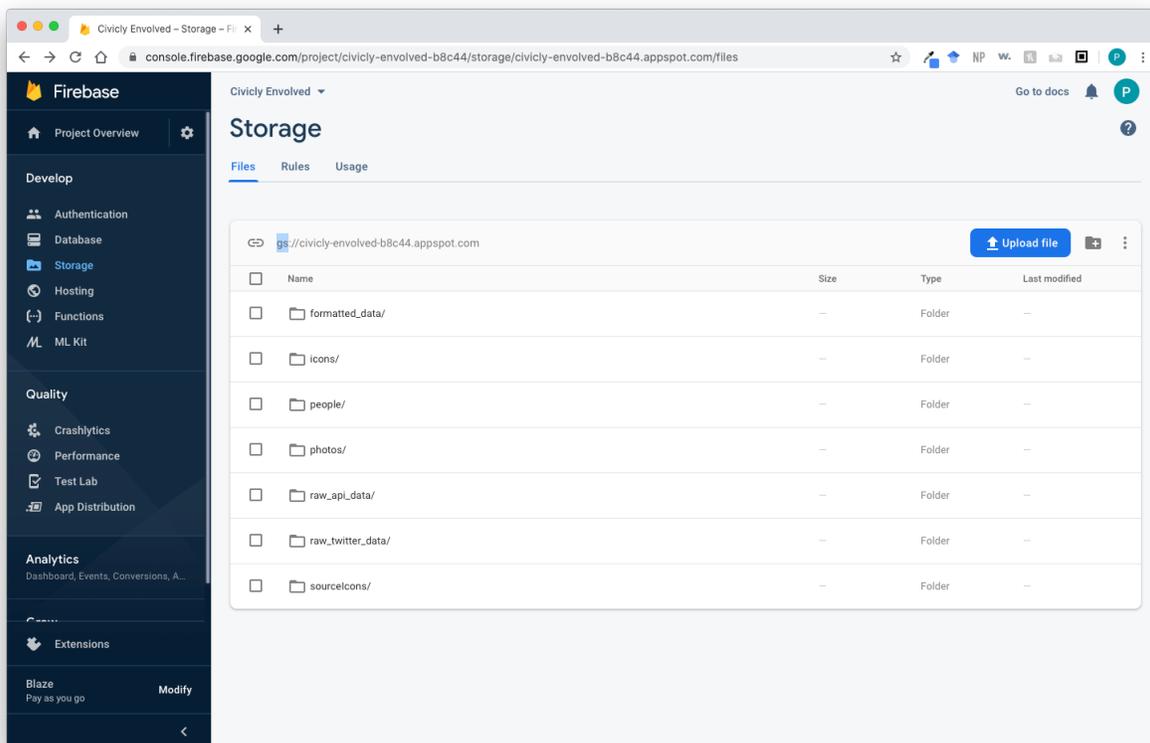
The first major change I made was to make the social buttons at the top. I gathered icons from

www.thenounproject.com as the icons that a user would press to get to the candidate's social page. Importing these into the app was a familiar process that I didn't really have a lot of trouble with. I remember spending about an hour (which isn't too bad) fixing the buttons on the right location on the screen. Finally, I got to the JavaScript programming part of the job. Here, I created an array of objects, that, given a candidate's twitter username or facebook username or website domain, would generate the link (basically just placing "<https://twitter.com/>" before the twitter name, etc.). I made a couple of important decisions here as well, like, for example, for the donation button (which isn't pictured above), *what happens if we don't have a record of a candidate's donation page?* In this case, I believe the app would check to make sure that the candidate's website concatenated with "/donate" would work, and if not, would search Google for "Donate to [Candidate Name]" on the client side. Pictured left is an example of the candidate profile screen after this change.

Unfortunately, while doing this, I failed to consider a very prevalent issue: *how am I going to get the data?* This wasn't built in, and previously, I had been using hard-coded information that would, well, show the same Evan Shearin data for every candidate (which obviously would be quite useless). This was what I spent a very long time on, and had great difficulty and frustration doing. Eventually, I found the right code sequence. Funny enough, right after I had done this, another developer changed the backend code structure which then rendered my data-grabbing code useless. Fortunately, I made this change quickly as I just had to change the database that I was grabbing from (we started with one database structure then switched to another). Getting data from a database was certainly something that was new to me. Most of my development experience had been with offline or static web pages that never really interacted with any outside sources.

One crucial step I learned in the app development process was communication with other developers on the team. My very first day, when I went into 1871, I remember sending a screenshot of an error that I had to other members of the development team, and then Joe telling me how un-descriptive it was and useless. After all, if you were a developer and just received a random screenshot of an error with no context, would you know how to help? Of course not. I gradually developed into becoming better at working with a team as I interned at Civicly Involved. I am especially glad that I had this opportunity; coding was one outcome I gained, but business communication was probably the greater of the two. And even more general, working with a team (outside of school) was important to me as well, and taught me a lot about what goes into making a good developer and team member.

Anyways, a lot of the data I pulled was from previous pages, in that I passed a lot of information on from previous pages that the user would have had to visit in order to get to the candidate profile screen. And this worked for the most part, although I had some struggle working with navigation techniques in the app.

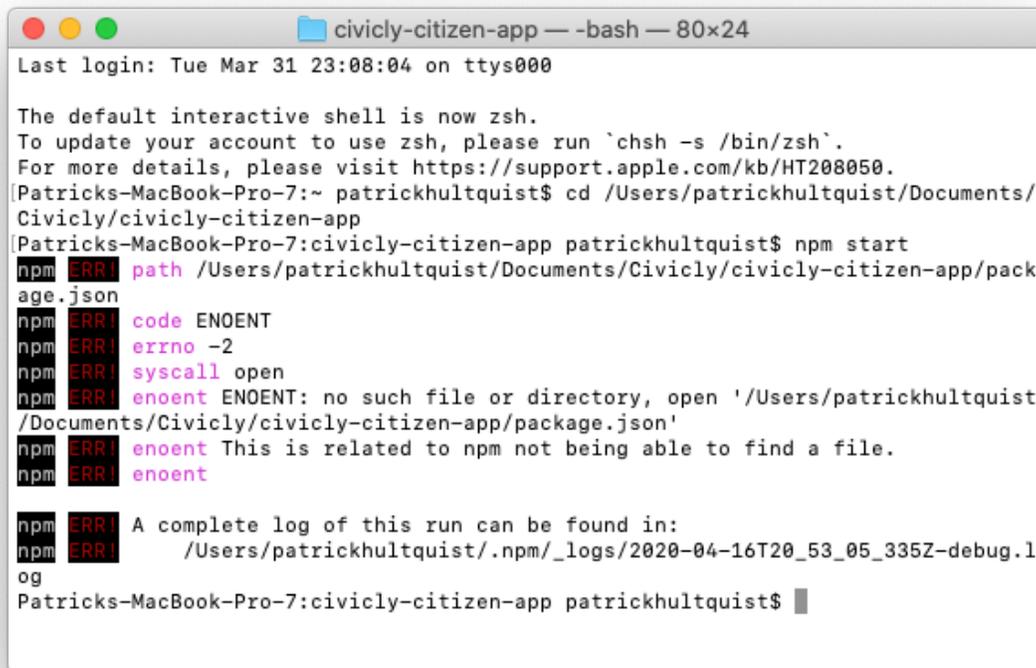


I previously had never worked with a database, and it was really nice to start with one of the widest-used developer tools/databases of all time: Firebase. Firebase is made by Google, and intended as a developer tool to help developers, in all development fields create better products. It held all the data we used very securely, something that, although annoying when working with it as a developer, is crucial, as it protects extremely valuable user data. Firebase is gigantic, important, and I will likely be using it for the rest of my life. This experience using the tool correctly (as I was guided by other, talented developers) will certainly shape my development experience and influence me greatly.

Soon after, I started working on getting candidate/user alignment to show up correctly on the screen. I remember navigating Firebase for hours to do this correctly. The challenge (that I hadn't totally realized) is that every item in the database has an ID which can be hard to understand and to find. For example, a user's data object may say they align with candidate `zAs79A343j912xy3j21aq9sdfaACmvM` (yes, the ID's really looked like this). I was having trouble, given this ID, finding the candidate's data object. It ended up being a file structure issue, as I had the wrong file structure integrated into my code.

Eventually, I got the user interface to look pleasing, at least similar to the example above. Small things like rounding out the corners of the image and adding a more dramatic gradient surprisingly affected the screen more than I had thought it

would. It transformed the mood of the screen and added a bit of the design language that I was used to.



```
civicly-citizen-app — -bash — 80x24
Last login: Tue Mar 31 23:08:04 on ttys000

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
[Patrick's-MacBook-Pro-7:~ patrickhultquist$ cd /Users/patrickhultquist/Documents/
Civicly/civicly-citizen-app
[Patrick's-MacBook-Pro-7:civicly-citizen-app patrickhultquist$ npm start
npm ERR! path /Users/patrickhultquist/Documents/Civicly/civicly-citizen-app/pack
age.json
npm ERR! code ENOENT
npm ERR! errno -2
npm ERR! syscall open
npm ERR! enoent ENOENT: no such file or directory, open '/Users/patrickhultquist
/Documents/Civicly/civicly-citizen-app/package.json'
npm ERR! enoent This is related to npm not being able to find a file.
npm ERR! enoent

npm ERR! A complete log of this run can be found in:
npm ERR!     /Users/patrickhultquist/.npm/_logs/2020-04-16T20_53_05_335Z-debug.1
og
Patrick's-MacBook-Pro-7:civicly-citizen-app patrickhultquist$
```

One other goal of my internship project that I succeeded at, for the most part, was learning how to use Git. Git is a tool for collaborating on code with multiple people as it allows files to be synced and shared. Specifically, we used GitLab. With this comes the successful use of the command line to navigate and upload code. Many mornings would start like the above, with an error of some kind uploading the code. There, I am starting the react native development environment, which launches a web page (which was not successful!). In this case, I would need to run the command “npm install” which would install the necessary packages that other programmers on the team have been using in their projects. This is a tool that I’ve been using since I first learned it for other projects that I’ve done throughout the academic year and is an example of something that I will take away from this internship and use for the rest of my life.

BUSINESS PROJECT RESEARCH

Research for my internship was heavily guided by the code that I was writing. The first couple of weeks, I researched a lot about Git, GitLab, and React Native to

try to better understand these tools. The following were key business questions that I had done research to answer with their respective portions:

1. Why is Civicyl Involved's mission important to me and society?
 - a. Methods: This question was in my mind since the very first time I saw the intern offer on the company web page. It was too late, probably 1 or 2am, and I somehow found their site and was immediately interested in who they were and what their mission was. On my video call interview with Joe, I was able to gain important insights into why this company should exist.
 - b. Insights: If you look at the Facebook page for Civicyl Involved, one simple banner comes up: "Democracy is hard, let's make it easy." And I think this explains a lot; I believe true Democracy, to be run fluently, relies on the all-knowing voter. I know America isn't a true Democracy, however the point still stands for picking representatives. But too many times, I've seen my parents filling out the mail-in voter page, me looking over their shoulder and asking, "who's this running for senator" or "this guy is the mayor of Bartlett?" Of course, I'm just a kid, so why would I know? The problem I see is in my parent's response: "oh, I don't know, but he's a democrat so we will vote for him." At this point, it's dangerous to classify as the voter's choice; the voter is unfairly persuaded towards one side based on a label put on the candidate. This is why Civicyl Involved *needs to exist*, and hopefully would be extensively used. It might help solve this madness.
 - c. Limitations: Civicyl Involved isn't a super old company, nor a super well-known company. Thus, very little if not none is written about them online. Fortunately, I was able to gather first-hand observations about the company to better understand its purpose and possible influence on society.
2. How can I develop to be a better team programmer?
 - a. Methods: I feel throughout my life I will be programming with others, as a team, working together to achieve a common goal. As stated previously, this was the first time I had the opportunity to do this. Naturally, I was excited to learn the tools and techniques to pull this off. Even more so, I was working remotely with this team, which gave me more things to learn — and look how useful that has become now.
 - b. Insights: As working with any team, communication is crucial. Our work wasn't super integrated, but we used Slack for serious business communication, which was fitting as this is a common method. I remember learning simple things about communicating on a business team and how power dynamics worked out and things like that. Slack was a really cool platform that I had never seen before, and I really liked the use of channels and such. I'm sure in the

future, such as in LEAD, I'll continue to use Slack, as it is really helpful. Here, I researched quite a bit about Slack and effective business communication, which, fortunately, has a lot of articles and pieces written about it. I found out little things like how to start messages and some things about writing documents as well.

- c. Limitations: There were few limitations here, fortunately. One limitation is, however, that this was only online communication, so I didn't get any insights about real life business communication, or at least very little. I met up with Joe Weston one time at 1871, where I was able to communicate in person a little bit.

Some of the second, and most of the first, would be based off of first hand primary observations by me, the intern. This is because I, and people, generally like to learn rather than to be taught. Although, for many other intents and purposes of my internship, I still did do external research.

BUSINESS PROJECT KEY LEARNINGS & RECOMMENDATIONS

My key learnings lie in the industry and the field. I would say I learned a lot across everything I learned; but have not mastered anything; I'm no GitLab master; I'm no business communication extraordinaire; I'm no react native whiz; and I'm certainly no political genius; but on each of those I improved slightly. Reflecting on the internship, I totally wish that I had done more to work to improve greatly at one of these subjects, but that's okay. I'm happy with the work I have done and am happy to have helped out on what will soon be such an amazing app.

In terms of recommendations, I certainly recommend continuing with the work. By the looks of the current situation, it's going to be difficult to finish this app. But to the people I've told about my school internship, like my grandparents, all seriously enjoy the idea. Additionally, speaking from my citizens "armchair," I would be a little more concerned about user privacy. Although I rarely dealt with the backend, I know that data is something that might be sold. Especially in such a political, and therefore politically charged application, the impact could be massive. And with great power comes great responsibility. I don't mean to seem like this isn't happening — but it's just a couple of things that I have thought about. One concrete concern I have is user engagement; and, again, maybe this has already been considered. I see this app is like news that knows who you are. And I think this is one way that it might be able to engage users; almost everyone is up to date with the news.

REFERENCE LIST

1. <https://civiclyenvolved.com/>

2. <https://reactnative.dev/>
3. <https://slack.com/>
4. <https://www.facebook.com/CivicyInvolved-631991507302245>
5. <https://firebase.google.com>

APPENDICES

Below is a time table from the second half of the year proving attendance. Early in the first semester a physical piece of paper was used, which I no longer have access to. Slack messages, phone calls, and computer activity also support my attendance.

02/19/2020	8:56 AM	4:06 PM	7 Hours 9 Minutes	Details
02/12/2020	8:56 AM	3:59 PM	7 Hours 3 Minutes	Details
02/05/2020	8:55 AM	4:04 PM	7 Hours 9 Minutes	Details
01/29/2020	8:58 AM	4:03 PM	7 Hours 5 Minutes	Details
01/15/2020	9:04 AM	4:05 PM	7 Hours 0 Minutes	Details
12/11/2019	9:00 AM	4:02 PM	7 Hours 2 Minutes	Details
12/04/2019	9:00 AM	4:03 PM	7 Hours 3 Minutes	Details
11/20/2019	8:56 AM	4:06 PM	7 Hours 10 Minutes	Details
11/13/2019	9:01 AM	4:02 PM	7 Hours 0 Minutes	Details
11/06/2019	8:57 AM	4:00 PM	7 Hours 2 Minutes	Details
10/30/2019	9:14 AM	4:11 PM	6 Hours 56 Minutes	Details

I'll forever remember August 2019 sitting on my roommate's bed, at maybe 2 am, looking at potential internships I could get involved in, and finding Civicy Involved on the 1871 jobs page. Of all the app ideas that I saw, this one stood out, and I knew I wanted to engage. Mr. Weston, if you're reading this, sorry that my initial message was so late at night, and thank you for the opportunity!