

[illegible]

## Requirements Elicitation Process

The requirements elicitation process involved both team members and outside sources. The team collected data from individuals through the interview method and questionnaire method. To better understand the customer needs, questionnaire questions and interview questions were created and sent to potential users. This data could then be compiled and analyzed to create the requirements that will define the Civic Connect application.

The questionnaire method was chosen due to the ease of implementation and potential for an abundance of results. The questionnaire method is also more accommodating to the quarantine lifestyle that the world is in today. Since questionnaires and surveys are easy to send out to people and quick to fill out, there tends to be a high response rate, leading to the collection of more data. However, the downside to the survey method is that the survey questions must remain relatively short and may not be exhaustive, which leads to the data being less valuable than a comprehensive interview.

The questionnaire<sup>1</sup> was implemented using Google Forms and received a total of 18 unique responses. Participants answered 7 total questions, which are outlined in Table 1. The reasoning behind each question can also be found in Table 1 below.

*Table 1: Questionnaire Questions and Reasoning*

	Question	Reason for Asking
1.	Age of Participant	Participants were asked about their age to identify what demographic the data was from. This website should be accessible and appealing to all demographics and have to understand if certain demographics are missing from our data set. It is also valuable to see if there are trends among certain age groups.
2.	Have you ever contacted your representative about a political issue?	We included this question in the survey to see what set of our participants has actually contacted their representatives before. It is important to understand if they haven't and why they haven't so we can potentially increase usage of our app. It's also important to understand why they have if they have contacted them and what they liked and disliked about the process to make our app better. This question sets up question 3.
3.	Why or why not?	This was asked in order to get a better understanding of why people would not contact their representatives about political issues. This can help us design a web application that people are more likely to use and avoid the shortcoming of current methods of contacting representatives.
4.	If you answered yes to the last question, did you use an online template?	Since the core purpose on our website is to send personalized emails to representatives about political issues, we wanted to see how common this form of communication with representatives is. This was an additional way to assess the potential demand for our web application.

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5.	What did you like about it? What did you dislike?	Since the use of email templates is a major portion of our project, we wanted to understand what people generally find helpful about them. The feedback could help us to understand the benefits and flaws of other designs so that we can improve our system.
6.	How would you improve the service?	This question was asked to help us find ideas of how to improve upon already existing email template services. This was important to make the Civic Connect app an improvement of existing products, rather than a useless copy.
7.	Which issues would you be interested in learning more about?	Since we are looking to include resources in our project for users to learn more about issues they care about, we wanted to determine what issues people were most interested in learning about so that we could tailor the resources towards those issues.

The interview method was also used so that more detailed responses could be gathered from the interviewees. The questions included were longer and the interviewer was able to ask follow up questions during a live interview. The downside to the interview format, however, is that it is more time consuming to conduct live interviews. This takes more time from the interviewers and will likely lead to less responses than a quick questionnaire format.

The interview<sup>2</sup> was elicited to individuals in person or over the phone due to the current state of COVID-19, and received a total of 9 unique responses. Participants answered 6 total questions, which are outlined in Table 2. The reasoning behind each question can also be found in Table 2 below.

*Table 2: Interview Questions and Reasoning*

	Question	Reasoning
1.	Have you ever contacted your representatives about an issue? Which representatives? Which issue?	This question was used to grasp the participants' likelihood to reach out to a representative and understand the level of representative that potential users are interested in contacting. It also helps set up the other interview questions to help understand this users likeliness to use Civic Connect or similar apps.
2.	Which issues are you interested in learning more about? Which issues would you want to contact your representative about?	This question was important to grasp the topics that users would be interested in templates contacting their representatives for. It also helps give an idea of which representatives the user may want to contact. This was included to help us understand the resources users would want to see on Civic Connect.
3.	How informed are you about current political issues?	This question was included in the survey to assess the potential demand and potential audience for our web application. The design and delivery method of content on our website depends on the degree of knowledge participants of the survey have about current events. For instance, we may focus more on providing

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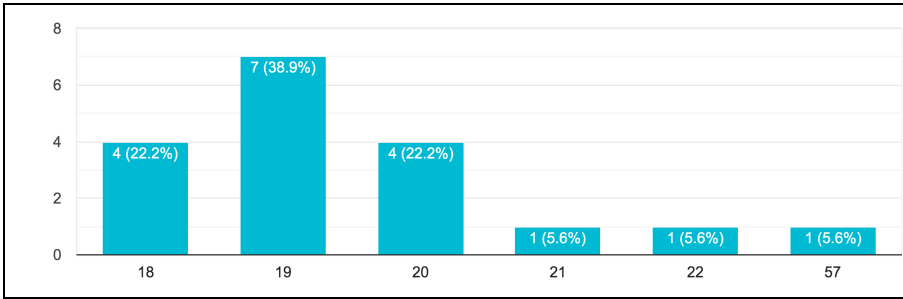
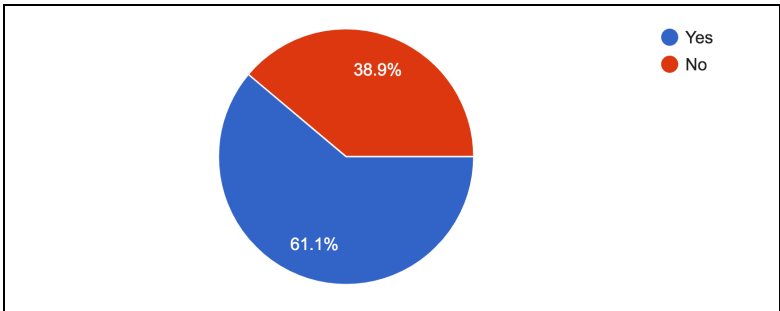
		resources relevant to current events if users tend to lack knowledge about current events. If our audience tends to be more politically active, we may focus less on information and more on tailoring our website to be a vehicle for political activism.
4.	Look at these websites and try using them: <a href="http://www.pb-resources.com/">http://www.pb-resources.com/</a> and <a href="https://democracy.io/#/">https://democracy.io/#/</a> ... What do you like about them? What do you dislike?	This question was included to assess what mistakes we can avoid and what we can learn from other websites similar to what our website might be like. Additionally, we're able to source potentially new and good ideas from others by asking a question like this. Our goal is to make our web application as user-friendly and functional as possible.
5.	What would you change about the above sites?	This question was the interviewers opportunity to hear from the client their direct suggestions for improving on prior art when making Civic Connect. This question is important because it provides insight on how to not only make Civic Connect different from the pre-existing technology, but also better for the user.
6.	What is the best method of contacting your local government?	This question was added to understand the users perception of the best method for contacting local government. This is important because it will help understand which features the user feels are most important to add to Civic Connect to make it effective in its mission of reaching local representatives and creating change.

## Requirements Elicitation Results

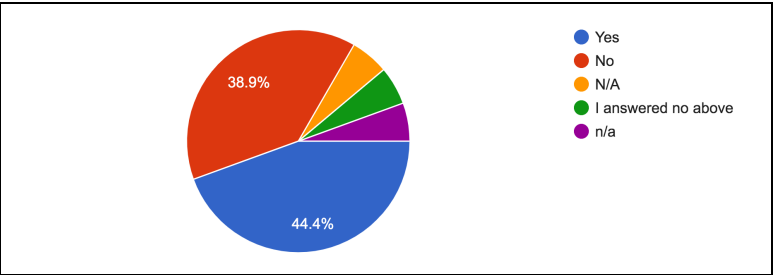
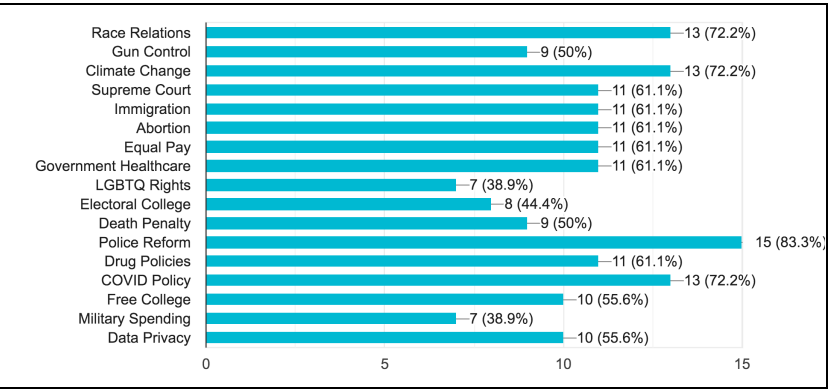
The requirements elicitation process yielded important results from the consumer base that aided in the development of user stories and requirements for the Civic Connect app. The questionnaire method yielded 18 responses and 9 interviews were collected to contribute to the data. Both the questionnaire and interview questions were asked strategically to gather useful information that would contribute to user stories for the app. The results from the requirements elicitation phase are summarized in table 3 and 4 below.

The questionnaire contained 7 questions, with the questionnaire responses<sup>3</sup> of the individuals surveyed are included in Table 3:

*Table 3: Questionnaire Results*

	Results Summary
1.	 <p>It is apparent that most of our participants were ages 18-20. This gives us context to frame the data collected from the survey.</p>
2.	 <p>From this data we can see a majority of people surveyed have contacted their representatives but there's still a significant population that have not. This shows that there's a large window for increased usage compared to similar websites/apps.</p>
3.	<p>According to our responses, people mostly contacted representatives because they either had to do it for a class or they felt passionate about the issue. Those who have not contacted their representatives tend to not know how to, are not politically invested enough to do so, or do not feel as if their message would be seen.</p>

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4.	 <p>As seen in the pie chart above, almost half (44.4%) of responses were “Yes”, indicating that the responder had used an online template.</p>
5.	<p>From those that took our survey who had used online templates before, the general consensus was that people appreciated the ease of using a template. However, both those who had used them and those who hadn’t expressed concern that templates could be too formulaic and that representatives would be likely to ignore emails written from a template.</p>
6.	<p>Many respondents did not have any suggestions, but those that did have input generally agreed that they would like more communication mediums offered other than just email (e.g. petitions, snail mail). They also stated that they would like the ability to see the template text ahead of time and make edits.</p>
7.	 <p>Based on the results of this question, it seems that the most popular issues include Police Reform, Race Relations, Climate Change, and COVID Policy.</p>

The interview elicitation technique involved more detailed responses from the potential consumers. It contained 6 longer questions, and the interview results<sup>4</sup> for each question are summarized in Table 4:

Table 4: Interview Results

	Results Summary
1.	<p>When asked if the interviewee had contacted their local representatives, roughly half of those interviewed expressed that they had not contacted their local representatives, or it had been years since they did. The other portion of those interviewed replied that they had contacted their local representatives because they were particularly passionate about certain, specific political issues.</p>

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	Some of these included net neutrality and gun control.
2.	Some of the issues that generated interest in the interviewed population were social justice, police reform, military spending, data privacy, COVID-19 policies, institutional racism, healthcare, gun control, political process, Supreme Court nominations, death penalty, equal pay, and drug policy. The most frequently mentioned of these were COVID-19 policies, data privacy, death penalty, and Supreme Court nominations.
3.	To summarize our results, a majority of interviewees considered themselves to be low to moderately informed about current political issues while only a few felt strongly informed about current issues.
4.	There were several recurring aspects of the websites that people liked. These included simplicity, aesthetics, clear purpose, and ease of use. These aspects were mostly directed toward democracy.io. Recurring dislikes include absence of a template, lack of ability to choose a topic, and the need to input a personal address.
5.	The interview data shows that the potential users would like to have the option of a template, preview the template before it is sent, have the option to write in their own thoughts, understand who they are speaking to, have more options for which representative to contact, look up representatives without putting in a full address, and see other articles with a generally pleasing site appearance.
6.	In summary, the results show that people believe the best way to contact their local representatives is by the phone or email. The other methods that were perceived as likely to succeed were contacting representatives in person or through public forums.

The results of the requirements elicitation process are important because they help to form the user stories using real data. The user stories will function as product requirements for the Civic Connect app and are formatted using a certain structure that makes them widely understandable to Software Engineers, clients, and stakeholders. Using the results in Tables 3 and 4, a list of 14 user stories were generated in Table 5:

*Table 5: User Stories and Product Requirements*

User Story ID	As a/an...	I want to / the system shall....	so that...
1	user	provide me with some built-in templates for common issues	I don't have to create my message from scratch
2	user	allow me to preview and edit the letter before it is sent	I agree with all the information being sent to my representative
3	user	be able to login to the system using my Google account	I don't have to memorize a new login
4	user	allow me to navigate between the various features of the site (contacting, adding templates, etc.)	I can easily find features offered by the site
5	user	store my contact information in the system	I don't have to enter my information every time I contact a representative
6	user	provide a text editor for the user edit an	users can easily edit their emails and

		existing template or create their own letter to email to an representative	write their message
7	user	allow me to submit resources related to the issues for approval by the site	The information available on the site will represent more than just the creators' contributions
8	admin	allow me to approve submitted templates	I can moderate for profane language and allow appropriate templates to be used by all users
9	user	allow me to create a template and submit it for approval	other users can use my template
10	user	display a list of my government officials and allow me to select which ones to contact	I don't have to look up my own government officials
11	user	include resources for learning about political issues	I can understand the context of the message I want to send
12	admin	Be able to moderate and delete inappropriate content with vulgar language	Other users can have the most pleasant user experience
13	user	allow me to print out my letter and supply me with my officials' addresses	I can choose to mail my officials as opposed to email
14	user	allow users to upvote templates they like	Other users can find the most popular templates

The questionnaire and interview methods provided the valuable data to generate the requirements in Table 5. User Stories 1, 2, and 6 were created using the insight gained from questionnaire question number 5 and 6 along with interview question number 6. Additionally, interview question 7 touched on a forum being the best way to communicate with government officials, which inspired User Story 14, allowing users to upvote templates they like in a forum-like manner. User story 11 was included because the results from interview question 3, which showed that many people who were interviewed did not feel adequately knowledgeable about political issues and were willing to learn more. All of the data gathered was taken into consideration when forming the requirements in Table 5.

Ultimately, the results collected from the requirements elicitation process helped immensely in the process of forming requirements for Civic Connect. The data collected from the potential users provided valuable insights into which features are important to include. This is important in making the app more useful to the users who will be interacting with the software. The data summarized in Tables 3 and 4 were utilized to generate the 14 user stories and requirements in Table 5 that will be followed in the development of the Civic Connect app.