University of Maryland College Park

Final Report
Prince George's County Election Hub

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Information Problem

Voting is a crucial process as voters collectively make selections intended to uphold democracy through candidates passing laws and legal measures addressing specific problems. Voters get anxious about what will they face at the polls on election day. Along with electing a president, we are voting for vice-president, Senate, House of Representatives, and many more. It is imperative to make informed decisions and know who we are voting for except the president as they all participate in making laws that ultimately affect us, citizens. A certain population of voters, the young generation and those with limited accessibility, in particular, are more likely to be undereducated, underprepared, or inexperienced with the voting process. When we reviewed Prince George's County(PGC) information pages, we identified limitations between voters and quick access to information. We realized that voters don't have enough resources related to the ballot for the upcoming election and what is expected from them for election day. However, there were sample ballots for voters from previous elections but they were only available in PDF versions. Voters can only view them but cannot experience it the way they will be experiencing on the day of the election as they are not interactive. This issue highlighted an opportunity for us to help citizens know who they are voting for and make their experience less overwhelming. We decided to enhance what is already available but transform into something that is more useful and informative for voters.

Therefore, we aimed to raise awareness of the voting process in Prince George's County (PGC) by providing interactive sample ballots and connecting users with resources associated with ballot contents. Our system is aimed to present interactive sample ballots that cater to users based on details they provide regarding their voting district. Our system could more closely align citizens with information related to expended resources that take users through the process

of voting in their general area while giving a glimpse of what would be seen on ballots on election day. This can help ease tensions of inexperienced voters by allowing them to rehearse ahead of voting and helping them find answers to questions that arise from practicing; these are things that there is currently no system for being used in PGC. In addition to informing about the voting process, we are informing them about specific less-known roles that voters would be voting for. All in all, our aim is to prepare voters with general information and digital ballots that are more informative and helpful in assisting the preparation of users with limited accessibility intending to vote.

Within the scope of our project, major stakeholders are the _Prince George's County Voting System_ and voters within this Jurisdiction. We targeted younger and less experienced voters in particular. Since candidates themselves are also our potential stakeholders, we ensured that our content is maintained as objectively and unbiased as possible. We expect users of our website to be using browsers on either laptops or iOS/Android devices. This means that laptops, iPhones, and Android devices are the target devices. Users who are on a laptop should use browsers such as Firefox, Google Chrome or safari. These are the best working browsers compatible with a laptop. Internet Explorer 8 and 9 are a little out of date. As for iOS/Android devices, the default browser can be used. We have styled our CSS so that the display and functionalities of our website can work for these browsers. We expect users of our website to be using browsers on either laptops or iOS/Android devices. This means that laptops, iPhones, and Android devices are the target devices. Users who are on a laptop should use browsers such as Firefox, Google Chrome or safari. These are the best working browsers compatible with a laptop. Internet Explorer 8 and 9 are a little out of date. As for iOS/Android devices, the default browser

can be used. We have styled our CSS so that the display and functionalities of our website can work for these browsers.

Successes

We were able to achieve most of our goals as we started working on the project right when it got posted. It's also feasible that the server is unnecessary and this site could be entirely front end. We self-designed our API strictly for the massive '.js' generated table in the middle of the page. This area could be vastly improved in different ways:

1) Create the table variations and copy the html into its own separate entities that are then stored added to localstorage. Use an iframe or facsimile to possess and scroll the elements still using the current switch method (separate doc ownership = more accountability = less overlap).
2) SQL, is a heavy contender as it is a parameter objective of stack integration and the course that generated this report.

We stored everything within our file structures as the compiling process helped to make it efficient within the system by preprocessing data, sorta…, more on that later. . . So it is ready for use when needed and we didn't have to fetch or retrieve processes from outside sources. For the libraries, we have used node and express which are class-mandated libraries. We were able to get detailed information with our research on the topic to get a better understanding of an information problem. Our website allows users to visualize the election process interactively with a widget simulating an election between three opponents. We have also crafted a practice bubble fill-in component that users can practice with if they desire. It allowed us to get some great experience furthering our understanding of document object modeling and javascript. We

are able to solve the information problem as we are providing users with interactive sample ballots that cater to users based on details they provide regarding their voting district. We are able to provide interactive graphics that are useable for a website or an application. They can use our website ahead of elections and use our website to learn how to the voting process work so that they are prepared during election day.

Shortcomings

There were times we were not able to achieve goals because of barriers in what is available; and we observed other more prominent voting sites that could reference the Maryland voting site but did not offer the service of simply presenting it. Added to this array of constraints, is that things *change* between election days, and information comes more available closer to election days; there is an API for this, or ways to build one, but we don't have them at the end of this project. Coding alone doesn't help build a website, the layout of the website plays a major role as well. We were able to create interactive graphics but making them presentable and more attractive was a struggle. We used iframe to display a nested webpage, however, our interactive graphics were showing a lot of whitespaces as it was hard to have them side by side. When we were able to have them side-by-side in desktop mode, they were narrowed and on top of each other on mobile. Also, initially we decided to have a Post request where the user will put their information in and it will show them their eligibility to vote and where they are supposed to vote. However, after trying multiple times we failed at getting the request from the server. Lastly, displaying data in tabular form was also difficult it was not displaying properly in the box. To fix this issue, we used flexbox so that the box expands the data to fill available free space or perhaps shrink to prevent overflow.

Technology

As far as libraries used are concerned, we haven't used any other libraries except node.js to build the webserver for our website and express helps us organize the back end of our application on the server-side. Lastly, Heroku, a recommended service, was used to host our website. It's likely that we could have used leaflet and done more with mapping, but even so; we have created a tool that will get a person directions from where they are so long as they have location settings on and access to google maps.

Demonstration

Unmentioned in previous submissions and our initial presentation, is the idea that we would like to not only inform voters and help connect them with resources but also excite them. Our solution to informing voters comes with our sample ballot that outputs information along with pertinent links attached to measures and options. This would most certainly help an uninformed voter, as the process scripting these links involved attentive audits of ballots and research into them.

Aesthetically, the navigation throughout the site is something of a collaboration that is very helpful along with the linked headers. Users can interact between all points of our site through links in this submission, this other pdf, and this current document. However, not all links will work depending on environment, and a few headers appear as links due to the cursor hover, but accomplish nothing, so if you're going to click away at nothing you may as well go to the ballot bubble simulator.

Next Steps

If we were to pursue it further to solve this information problem, we would perfect things that we want to change, for instance, post request, iframes, and reformatting the site to match the criteria of the pending election in PGC. The end goal of our project is and will be to provide an interactive website design to help users in making informed decisions during election day.

There is cause for optimism for anyone that wants to build from anything we have mustered in this project. For one thing, the information is there, but either the API/library needed has not been found by us, or doesn't exist yet. There are ways to grow from our end results that may well start with adding more event listeners and restructuring. The iframes are not necessarily a shortcoming an index.html may actually be best served by bundling iframes, because what they lack in flexibility, they make-up in assurance, and they could be more properly used as panels. Doing so could give further delineation over css-styling as well(which might make division of roles more manageable).

Acknowledgments

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