WWU Department of Computer Science

POINTCHECK

RESPONSIVE LAYOUT RE-DESIGN

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ABSTRACT

Over the last two school quarters, I've had the privilege to work on a responsive layout for an enterprise HVAC installation and maintenance company, HTS Toronto, on their internal logging app, Pointcheck. Pointcheck allows on-site technicians to read detailed measurements on equipment. Before my work on Pointcheck, field technicians were limited to a web interface, forcing them to carry laptops around with them when they were on the job. I took their web interface, written in Flutter and Dart, and re-designed it to work on mobile browsers.

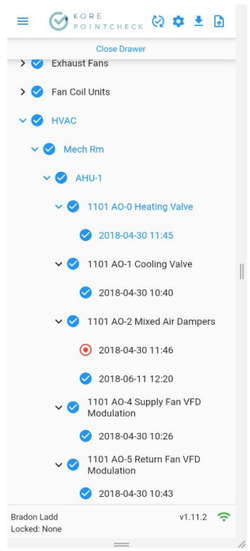
INTRODUCTION

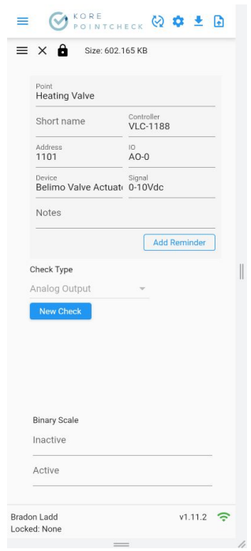
As a graphic designer on the side, I was able to make informed decisions on the visual layout of elements on the page. Most of the technical work went into understanding Flutter's rendering tree, widget states, and the connection between the application's domain and presentation layers. Widgets were previously not able to flex and would simply not render when given a small screen, removing the ability to enter crucial data. Currently, the project is now in a functional state on mobile devices, and will soon be deployed to users.

DATA AND ANALYSIS

The project started out with a simple task. Can I change the header logo to respond to the change in screen size? Of course, the answer was yes. Thanks to Google Chrome's ability to set any resolution you want in its debugger mode, I was able to test this, and many other responsive features out on the fly. From there, I moved on to more complicated tasks. The main questions were: how can the information be displayed clearly and easily without any loss of user interface quality?

The first major decision was how to stack the various UI panels. In its default state, the logging information was stacked vertically on the right, and on the left was the list of checks. Shrinking the screen size down to 400 pixels wide showed that these two could not coexist at the same time, so I had to collapse the information on the left into a drawer that could open and close, much like how menus operate on mobile devices. Below, you can see the two panels.





Past that design challenge, most of the work went into designing an optimal way of stacking the check information where no visual information was being lost. As a graphic designer with experience designing user interfaces, I was able to come to a user interface solution I believe fits the needs of the user. The new vertical layout is intuitive, responsive, and no information is lost between different screens sizes.

CONCLUSION

My time at Pointcheck has taught me quite a lot on designing responsive layouts, and how to design them such that they fit the needs of the user. I was also able to gain more experience in soft skills such as: talking directly to a customer, learning how to discuss and define the goals of an enterprise project. After developing a responsive user interface for mobile devices, I feel much more comfortable working in Flutter, and hope to work on projects like this again

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Mentor: Professor James Foster