

Capstone

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Jury LookUp

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Part 1: Project Status Update

Our industry mentors at the Superior Court of California in Monterey Bay viewed the initial project difficulty to be relatively challenging due to the issues faced by previous capstone groups from the California State University of Monterey Bay. The initial objective was to build a summon lookup web application. The web application would allow a summoned juror to see their juror state by entering a badge and pin number. The state can be “completed,” “unable to postpone,” or “possible to postpone.” If you are able to postpone, a selection of days is available. The jurors would also be able to switch locations between different Monterey County Courthouse locations, such as Salinas, Monterey, King City, and Marina. The project would not be used in production, but It would serve as inspiration and prototype to the Monterey Courthouse team for future implementations.

The project was expanded due to the expertise of the Jury LookUp group. Two of the four members of Jury LookUp are currently working in the industry. One member struggled with the project, but adjustments were made. Our industry mentors currently utilize Angular and DotNet and advise that they would be most helpful with those technologies. However, our mentors encouraged us to use any modern technology we are interested in so long as the frontend and backend are decoupled. Our team agreed that a decoupled MERN stack (MongoDB, Express, React, and NodeJS) would be the best suited for the job due to familiarity and interest in these technologies.

The team consulted with the industry mentors to make the project more challenging and added additional features. The following was added as changes to the deliverables: Admin portal with Auth0 authentication, event logging, and language translation. During a class

presentation on the project, a fellow classmate raised a question regarding security. Our group collaborated with Monterey Courthouse members to plan a solution that involved implementing measures to prevent potential attacks. This included abilities to block and ban an IP address if they are seen as misusing the app through brute force techniques. Logging also helps with legal audits and asserts that people who have issues logging in to the web app actually made an attempt.

The state of the project is going well beyond initial expectations. Currently, all the basic functionality is complete. The juror can look up jury duty status with badge and pin, postpone jury duty, and change the city in the Jury LookUp web application. The admin can also change the city along with other fields as needed. Additionally, there are backend unit tests and end-to-end testing.

The Auth0 allows authorized individuals to sign in to the admin portal using GitHub, Google, or credentials. Furthermore, we can easily implement role-based access control to only admins with proper roles to edit certain fields. The Admin portal allows searching of data and the ability to view or change data on the individual user, such as name, address, email, badge, summons date, and reporting location. Additionally, the postpone flag can be toggled from true or false.

David organized meetings, wrote about the project, took notes, wrote emails, and completed special mentor-assigned tasks. Yavik, Alonso, and Layla were full-stack developers. Individual highlights include Yavik writing about the project, connecting the front and backend, documentation, containerization, deployment, domain securing, MongoDB commissioning, logger implementation, Auth0 implementation, backend APIs and unit tests, admin dashboard implementation, and repository maintenance. Alonso wrote about the project and created the components for login, frontend design, and translations with end-to-end testing. Layla created backend APIs and unit tests, frontend components for postponement, and overall cypress end-to-end testing for login, postponement, and the admin dashboard.

Part II: Project testing

We have two target audiences, the potential jurors utilizing the badge lookup and postponement and the court employees managing the admin portal and audit logs. The general population that makes up eligible jury members is enshrined in California law. The juror needs to be over 18 years of age. Jury duty requires basic English proficiency to follow along and deliberate the case. Jurors also need to live in the county they are summoned, and they can't serve more than once per year.

The requirements affect the demographics of the jury and impact who is in the target audience. The Juror will most likely have a high school education due to the minimum requirement of 18 years. Jurors need to speak English due to the proficiency requirement, but they don't necessarily have to be fluent speakers. Jurors may feel more comfortable utilizing Spanish or another language due to the lack of fluency requirements. The target audience for the admin portal is more narrow, admins most likely have a college degree and familiarity with technology.

Jury Lookup will be utilizing Client based testing with the courthouse mentors of Brian, Eric, and Will. These mentors have expertise in developing Jury Look-up portals and will provide valuable feedback and mentorship. The main tasks include: Can the user change the language? Does the webpage render correctly on any device? Are the webpage instructions confusing? Is the webpage pleasant to view? Can the user sign in to the admin portal? Is the user able to perform a search in the admin portal?

Jury Lookup chose to do client-based testing. We conducted testing with industry mentors Brian, Eric, and Will. Brian, Will and Eric provided the bulk of the observations. Alonso, David, Layla, and Yavik were present. Due to the difference in location, Jury Lookup decided to conduct the test Via Zoom. Our mentors expressed genuine satisfaction with our project.

Jury Look-up provided various tasks. These steps include using the app in a foreign language, trying it on mobile, and signing in to the admin portal. The industry mentors narrated the steps they took and verbalized any issues that arose. In addition, the mentors helped troubleshoot a 400 error related to the Cypress testing suite. The mentors could not complete all the tasks and became stuck on various subsections along the way or stopped to provide important feedback. Most often, the program was functioning, but adjustments were suggested.

The mentors tried the main juror focus page. The mentors emphasized that the number one focus is the badge and pin lookup. They noticed that while using the web app on a cell phone, the hamburger menu goes away. They suggested that the language selector be more visible. They stated that the best way is to make a drop-down with language on it, but there are many ways to do it.

The mentors had a hiccup when trying to access the admin portal. The mentors proclaimed they needed a password. Jury LookUp stated that they just needed a Google or GitHub account and might want to use GitHub. The SSO was open to everyone at the moment. Once they realized how to sign in to the portal, the process with Auth0 was seamless.

The mentors looked at the appearance of the app. One comment was that the search is not very contrasting. The mentors pointed us toward official/unofficial styling rules for creating UI for contrast. The mentors suggested that we look into accessibility. After reviewing the application's appearance, the mentors commented on the text. They acknowledged that the summons details appeared wordy. When Jury Duty pressed the mentors if it should be kept as text, the mentors suggested writing a sentence on when and where the juror must report rather than a paragraph.

While looking at the data fields of the application, the mentors suggested making the location, date, and time their own individual fields to avoid any confusion. An additional add-on would be to integrate Google Maps for the reporting location. The mentors finished troubleshooting the errors with Cypress end-to-end testing and logging into Auth0.

The testing was a success. We learned many takeaways on issues such as language selection, hamburger menu, design, correct verbiage, data fields, and maps. The language selection needed a drop-down, and the hamburger menu in the navigation bar needed to work on mobile. The design could have more contrast, and the amount of text can be reduced. The data fields can be split, and a map can be added. Their only other hiccups were on the search and logging in with Auth0. Jury Lookup could clear up any confusion by adding a note about what the search performs.

Due to time constraints, we could not implement split text fields and Google Maps before completing our presentation. We fixed our front-end layout on mobile devices, added a dropdown for language selection, and added contrast to our layout. In the long term, we will add all of the suggested features, a data lake, and timestamps for user actions.