

The background of the slide is a photograph of the Iowa State University campus, featuring the Old Capitol building on the left and other university buildings in the distance. The entire image is overlaid with a semi-transparent red filter. Two thin, horizontal yellow lines are positioned above and below the main text.

IOWA STATE UNIVERSITY

EE/CPRE/SE 491

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Small Equipment Checkout Locker Software

LIGHTNING TALK

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PROBLEM STATEMENT

Engineering students usually need certain materials/components to complete numerous assignments.

Since their workload is very heavy, they often need to remember to rent this material when the ETG is open. So when they start completing the assignment, they realize they still need that certain component, but the ETG is closed. With this set of lockers, we hope to help these students when they are desperate to complete their assignments on time before the next day when the ETG opens.

UI REQUIREMENTS

- This checkout locker website has to use the same ISU HTML template.
- Users (students/faculty) and admins can log in using their ISU identification.
- Once the student is logged in, they will be able to see the main page, which will display a spinner containing all the available components to check out.
- They will be able to select the component and then specify how long they need this component.

UI REQUIREMENTS - CONT

- This will direct them to a confirmation page showing that a confirmation email was sent to the email address they used to log in, display a set of instructions they need to follow when opening/closing the locker, and the corresponding locker number. This email will contain the same information displayed on that confirmation page.
- Once an admin is logged in, they can see a list of components and the users that have checked them out. They can also see when they checked out the component and returned them. They can filter by user, check out/returning date, and component.
- Admins will be able to add and remove components in different lockers.

DATABASE REQUIREMENTS

- The database will need to be able to either hosted on the Raspberry Pi or be able to communicate with the Pi.
- The database has to be able to keep a of log equipment checkout information.

ENGINEERING STANDARDS

- IEEE 7002-2022 - IEEE Standard for Data Privacy Process
- IEEE 26515-2018 - ISO/IEC/IEEE International Standard - Systems and software engineering — Developing information for users in an agile environment
- IEEE 23026-2015, Systems and software engineering- Engineering and management of websites for systems, software, and services information

INTENDED USER AND USE CASES

- Electrical/Computer Engineering Students:
 - ◆ Students will be able to check out small equipment and be able to access this equipment after hours
 - ◆ This allows students to be able to check out equipment quickly.
 - ◆ These students care about this project because it will allow them to work on projects at all hours of the day.

- Electronics and Technology Group (ETG) Staff:
 - ◆ The staff of ETG care about this project because it allows them to not have to stop their main projects to checkout smaller equipment, which allows their productivity to not get interrupted.
 - ◆ They will use this project to help students and make a better use of their time.



QUESTIONS?