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CEN4020

Course project

**1.**  **Project title**

*Resistor Calculator*

**2.**      **Brief overview of what you are proposing**

The project we are planning to do is a Resistor Calculator. The tool calculates the ohm value and tolerance based on the resistor color codes, the total resistance of a group of resistors in parallel or in series, and the resistance of a conductor based on size and conductivity

**3.**      **Motivation**

We have talked to people who are in the FSU/FAMU College of Engineering and all have said that an app like this is very useful and can help out with their work. Talking to other students, they have said that if this kind of software were to be given to them, they would share it with other students that are in the same field.

**4.**      **Features to be implemented and types of users**

Resistor Calculation: Support of 4, 5, and 6 band resistor

User log in: Allows users to create an account and save their resistor history

Saved Resistor Values: User is able to group saved resistor values together for future use

Temporary saved history: User is able to see previous resistor values. Will wipe once refreshed

We are planning to do one type of user, but have been thinking about a professor/student type user.

**5.**      **Risk / Challenges**

Since there are a few apps that are similar to what we are planning to do, the challenge is to see how we can improve on them or make ours different. Lack of experience will certainly make this software harder to implement as a webapp. Implementing the UI might give us a harder time since none of us have experience with designing a UI.

**6.**      **Existing related projects**

Resistor Color Code Calculator - [*http://www.resistor-calculator.com/*](http://www.resistor-calculator.com/)

This resistor calculator allows a visual representation of the calculated value and tolerance of a 4 /5 band resistor. Our version will be different in the fact that it will have 4/5/6 band resistors. Our version will implement a history feature to view saved resistor values. We will also implement a better looking UI.

**7.**      **Intended platform / programming language**

Java, Webapp, HTML5, MySQL

We are planning to implement this software as a web app.

**8.**      **Third-party libraries / APIs to be used**

We will be using Github and Firebase Google.

**9.**  **Team members, expertise, project responsibilities, and team organization**

Vinzce Yadao(vpy18a), Ronald Nazaire(rn18p), Jorge Atencio(jea17c), Jacob Hobson(jrh17k), and Schmidt Jean(sjj18o), and we all are proficient in Java. We are currently using groupme as our main source of communication. The group will be making decisions together based on what we talk about and what we agree would be the best for the project*.* Jorge, Jacob, and Ronald will work on the UI, Vinzce will work on the math behind the transistor, and Schmidt will work on login capabilities for the application. We will use groupme for communication to set up meeting times and delegate responsibilities. We will meet in person at least once a week.