SIMPLE BATTERY CHECKUP

Summary:The assignment is to create a web interface for displaying characteristic information about a battery cell. The interface should include features such as generating a unique 10-digit Cell\_ID and Barcode, entering meta information about the battery cell, and uploading data from a file. Additionally, it should transform the uploaded data to produce a Bode plot using the ImpedancePy library.

This program serves as a graphical user interface (GUI) for displaying battery cell information and performing various tasks related to battery analysis. Here's a breakdown of its functionalities:Upload Image: Users can upload a representative image of the battery cell. Upon upload, the program generates a unique 10-digit Cell\_ID and a barcode for identification purposes.Fill Battery Details: Users can fill in meta-information about the battery cell using a form. Information such as cell condition (new or recycled), manufacturer, model, type, chemistry, shape, weight, dimensions, and volume can be provided.Upload CSV and Process: Users can upload a CSV file containing frequency and impedance data of the battery cell. The program then processes this data to produce a Nyquist plot, providing insights into the battery's behavior.Display Information: Throughout the process, relevant information such as the generated Cell\_ID, barcode path, and prompts for actions are displayed to the user.Error Handling: The program incorporates error handling to alert users if any issues arise during the process, ensuring a smooth user experience.Overall, this program facilitates the analysis and visualization of battery cell data in an interactive and user-friendly manner, enhancing the understanding of battery characteristics and aiding in decision-making processes.