**PROBLEM OVERVIEW**

The Engineering Career Fair at North Carolina State University collects data from its participants (Companies and Students). This data is given in the form of excel (.xlsx) sheets. This python program will digest the data found in these sheets and make it readable to anyone who would like to view the data. A UI wrapper will be placed around the functionality of the program to make the program as user-friendly as possible.

A user should be able to:

**BE ABLE TO IMPORT ANY EXCEL FILE INTO THIS PROGRAM**

**SELECT WHICH DATA THEY WOULD LIKE TO VIEW FROM A GIVEN EXCEL SHEET**

**VIEW THE DATA IN A DIGESTABLE FORMAT**

**Reference Images:**

**Text

Description automatically generated**

**Requirements**

**Startup**

**UC0: Start Data Analyzer**

**Managing Files**

**UC1: Load Data**

**UC2: Save Digested Data**

**Shutdown**

**UC4: Quit Data Analyzer**

**Data Digestion**

**UC5: Select Data category to display**

**UC6: Display Digested Data**

**Design Proposal:**

Since each Excel sheet is very unique in format only one file will be loaded at a time. A user will be able to open the Data Analyzer and select one excel file to load at a time. Once an Excel Sheet has been loaded the back end will take all of the columns of data categories and put them in a list. The class that will handle this will be the **Sheet** class, each **Sheet** will hold 0 to many **Category** objects. A **Category** will hold a name of the the category as well as the frequency of each element within that category. The data gathered from the **Sheet** will be parsed to the **GUI** in which the user will be able to select which **Categories**  of data they would like to view using radio buttons. This data will be displayed in the **GUI** and the User will have an option to save this data to a text file for later digestion.