Sam Holzer and Temuulen Sengedorj

2/20/2019

CS378H

EX03\_02

Project Breakdown

In our current iteration of our project, there are two main components to the program: a user interface and a cloud-based database. Ultimately, the program itself will be calculating the groups and keeping track of who has been with who before. Once it has configured this information based on the constraints entered by the user, it will be able to update the database and display the information to the user interface.

**User Interface**

The application will use a GUI and be a Windows application in order to allow professors to use the app wherever they access their computers. This user interface will be event-driven and will prompt the user for information. This includes: whether or not to continue an existing project or to start a new one (manually enter data or upload a document), information regarding group constraints (how many in each subgroup, gendered, mixed GPA, etc.), and if the user wants to close the application or go back to previous steps. Once the application obtains user input through the GUI, it can begin to calculate the groups.

**Back-end Application**

The application will need to generate the user interface and is responsible for processing the data. After initializing, the program will wait for information from the user interface. Once the user has entered all the information needed and wants to make the groups, the application will begin running. It will keep track of constraints and structure the groups. Information can both written to a text file for the user to save and displayed to the screen for instant access. In addition, the back-end application can communicate with an AWS database. This allows the user to be able to perform the main task of the application on this system alone, but perform additional tasks if an internet connection is made. These additional tasks might include: query requests by the professor to look at the roster information, allow text-to-speech, and also save the progress of the application so the user and access their information from any Windows device.

**Cloud Database**

We will need to learn more about AWS or Azure as a database solution. It would be helpful for the user to increase the functionality of the program if they have an internet connection but also to allow them to use the basic, central function if they are on-the-go. Our application would have functions to write information to the database as well as request information through queries based on user input from the user interface.