1. Create Schedule

Introduction

This feature is the main purpose of the software. This feature will use the information provided by the user, either manual input or a file, to generate a final exam schedule to be used by UNA during the exam period.

Input(s)

The user will provide two sets of input, referred to as the Schedule Constraints and the Enrollment Data.

The Schedule Constraints consist of five numerical inputs representing the following:

1. Number of days in the schedule (1 - 7 days)
2. Start time for the first exam of each day (24-hour time with no punctuation, no earlier than 0700)
3. Length (in minutes) of each Exam Time Block (90 - 120 minutes)
4. Length (in minutes) of the break span between each Exam Time Block (10 - 30 minutes)
5. Length (in minutes) of the lunch break (0 - 60 minutes)

Output(s)

The application will run using the provided input to generate a final exam schedule. The new schedule will display on the monitor, and will be in a generalized calendar view, as depicted in **Section 4.1.2**.

2. Save Schedule

Introduction

This feature will save the generated schedule into an encrypted XML file that can be opened for later manipulation by an authenticated user. The user will save a file by navigating to the File menu in the top-left portion of the GUI, and then selecting either “Save” or “Save As”. If the user is editing a schedule that has been opened from an XML file and the user selects “Save”, then the existing XML file will be replaced with a new one with the new changes. If a user selects “Save” and is not editing a schedule opened from an XML file, then the user will be prompted with a file browser to name and select a location for the new XML file. If a user selects “Save As” and is editing an already existing XML file or is editing a schedule that has not been saved, then the user will be prompted with a file browser to name and select a location for the new XML file to be saved to.

Input(s)

Besides the input needed to generate a schedule, there are no other inputs required to save a generated schedule.

Output(s)

The output will be an encrypted XML file containing all the necessary information to reconstruct the generated schedule that is saved.

The application will also produce a metadata file. The metadata will indicate what files were provided for schedule generation, and what numerical schedule timing constraints were provided.

3. Manipulate a Schedule

Introduction

This feature will allow the user to manually drag and drop classes to make changes to a schedule that has been produced using a given set of schedule constraints and class enrollment data. See **Section 4.1.2** for more information on the manual adjust feature. This allows the user to make minor adjustments to a generated exam schedule rather than generating an entirely new schedule.

Input(s)

The application will display the current generated final exam schedule. The schedule will display on the monitor and will be in a weekly calendar view. The user may interact with a graphical interface to make adjustments to the displayed schedule.

Output(s)

The application will display the current generated final exam schedule with incorporated user adjustments. The schedule will display on the monitor and will be in a generalized calendar view.

4. Export a Schedule

Introduction

This feature will generate a PDF that contains the generated schedule in an easy viewing form. Note that a PDF file cannot be used in the opening feature.

Input(s)

The only inputs required are for the user to have a schedule loaded into the program at the time of selecting the export feature.

Output(s)

The output will be a PDF containing the information of the schedule in format that is easy for viewing.

5. Open a Schedule

Introduction

This feature will allow the user to open a schedule stored in an encrypted XML file that was previously generated by this program. To load in an encrypted XML schedule file, a user must first be authenticated. Once loaded into the program, the schedule will be able to be modified, and then saved back into the original XML file or saved into a new XML file.

Input(s)

The saved schedule encrypted XML file will be needed for input, and the user will also need to be authenticated. The Schedule Constraints and Enrollment Data needed to generate the schedule in the saved schedule will not be required for input.

Output(s)

The application will run using the selected encrypted XML file to generate a Generalized Calendar View, as described in **Section 4.** The schedule will display on the monitor with sorted Class Group list, also depicted and described in **Section 4.**

6. View Popular Classes

Introduction

This feature will generate a list of the coalesced classes' enrollment, sorted based on popularity. The data will be viewable in a side-panel which will allow the user to scroll through the classes.

Input(s)

The feature uses the enrollment data to coalesce the classes and provide an output.

Output(s)

The coalesced class groups are displayed in a side-panel window for viewing. This panel is presented on both the Generalized Calendar View and the Single Day View, as described in **Sections 4.1.2 and 4.1.3**. Class groups will be labeled with their total enrollments.

7. Authenticate User

Introduction

Upon starting the application, the user will be prompted to enter his or her Windows username and password. After entering the credentials, the user will be authenticated and will be allowed to open an encrypted schedule. The reason the user will be prompted for his or her Windows username and password is so that an unauthorized person logged in under the user's account will not be able to access the application without the original user's credentials.

Input(s)

This feature is to use the logged in user's Windows username and password to login to the application.

Output(s)

The user will be authenticated and allowed to use the software application. Once authenticated, the user will be allowed to open encrypted XML files containing previously saved schedules.