Proposal

CMPT 276 - Group 20

FIC-Exam-Scheduler is an online web application allowing three different types of users to collaboratively schedule exams together. Users can sign up and login with three different types of access which include administrator, instructor and invigilators. These different types of users will see different aspects of the user dashboard. The features of the application will include creating exams with information such as course name, section time starts, duration, number of rooms, rooms assigned, number of invigilators (proctors), editing, deleting, verifying exam slots, and more future features. When an exam is finalized, an email will be sent out to all corresponding invigilators and this will show up on the list of invigilators. When logged in as the instructor, you can request an exam slot that contains the section of the exam, the duration of the exam, and three choices of preferred dates for the exam ranked from most preferred to least preferred. When logged in as the admin, the user has an enhanced list of things to potentially do. These include creating time slots and each time slot will include the course's name and section, the start time of the exam, the duration of the exam, number of rooms occupied for the exam, room numbers that are assigned for use during the exam, and lastly the number of invigilators/proctors present for the exam. Additionally, admins have the ability to delete exams, the ability to edit current exams, the ability to finalize an exam time, and the ability to add or change constraints on the exam courses. And finally, when logged in as an invigilator/proctor, the user can specify non-available dates for themselves, can see their pending exam times that they can either accept or reject, and have the ability to download a calendar file with their exam times. The problem we aim to address is the manual process of scheduling exams at FIC. Currently, the scheduling of exams involves a time-consuming and error-prone manual process. This process requires coordination among administrators, instructors, and invigilators to finalize exam times, rooms, and invigilators. There is a need for an automated system that allows collaboration among different user roles and streamlines the scheduling process. The FIC-Exam-Scheduler web application aims to improve the exam scheduling process by providing a collaborative platform for administrators, instructors, and invigilators. This application is meant to be an educational tool, it is intended to replace the current manual process that FIC uses to schedule exams.

Currently, the technological tools that our group will be using to create this project is React.js for the web framework and the database MongoDB that we will connect to using RESTful calls such as POST, GET, PUT, etc. An email API will be used to automate the task of sending out emails to invigilators.

Our group will be using the social media platform Discord to communicate and Google Workspace to collaborate together in an online setting. The GitHub platform will be used as our choice of source control management and we will be using GitHub projects there to manage our tasks for each individual. The method of choice that we will employ is the agile development method where we will meet every two weeks to go over what we have done since the last iteration and our progress so far.

User Stories:

Story 1: Professor Bobby wants to schedule the final exam for CMPT 276 however the exam time he wants is occupied (3 other professors also want the same time slot), but using the exam scheduler he is able to state 3 different preferred exam times which will allow him to have backup exam times that would work for him as well. Once the admin finalizes one of Bobby's backup exam times, he is sent a confirmation email stating his exact exam time, room number, etc.

Story 2: John is a new invigilator for one of his classes, he has a busy schedule making him only available on Tuesdays and Thursday afternoons. Using the FIC-Exam-Scheduler he is able to specify the dates he is not available (Monday, Wednesday, and Friday). After the exam dates are confirmed, he is able to easily check for the room in which he is placed in including the time and date it is scheduled for.

Story 3: Admin Craig gets a request from John to do a last minute change for an exam time, Craig edits the current exam schedule to incorporate the new change, and the new exam schedule is re-distributed.

Epic Stories:

1) Login and Sign Up system: Implement a secure authentication system that allows 3 different user roles which are administrators, instructors, and invigilators.

2) Database creation and usage: Set up a database (we plan to use MongoBD) to store user information, exam details, room assignments, and other relevant data.

3) Checks occupied rooms/times and throws an error: Implement a mechanism to check for conflicts between exam slots to ensure that rooms and times are not double booked. There will be a validation check while creating and editing exam slots to ensure no overlapping schedules.

4) Exam time creation, editing, and deletion: Enables administrators to create new exam slots. Administrators are given controls to create, edit, and delete exam slots based on invigilator and instructor preferences.

5) Notification and Communication: There is a notification system that will inform instructors and invigilators by sending a confirmation email.