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University Student Assistant

Project - Phase 2

OOAD - C & D

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# Updated Class Diagram

# Class Descriptions

## TimeTable

Short Description :

This class would be implemented using the Singleton Creational Design pattern. It will hold an array list of Cell and one cell would consist, of course, its time and the instructor.

Methods:

1. **Create Optimal TimeTable**

This function takes an input list of User courses and finds the most optimal timetable using a stored algorithm

1. **Help in TimeTable**

This allows the user to select his own preferred courses at gives suggestions and warnings

1. **Evaluate TimeTable**

This takes as input from the User a TimeTable and outputs its score based on our matric

1. **Update TimeTable**

This takes input from Information class about the updated information regarding TimeTable

## Review

Short Description:

This is the abstract parent class for all review classes. Holds review information and defines basic review methods.

Methods:

1. **Add review**

Takes review text, reviewer and reviewee information as a parameter and stores it in the database

1. **Delete review**

Takes review id (fetched by search function) and deletes it from the database if the user it authorized to do so

1. **Search review**

Searches review database over some input parameter and returns a list of matching reviews

1. **Edit review**

Takes review ID and review details and updates the review in the database

## TeacherReview

Short description:

This class extends review class and implements review functions specific to teacher reviews

Methods:

Implements the methods in the aforementioned review class

## PlaceReview

Short description:

This class extends review class and implements review functions specific to place (classrooms) reviews

Methods:

Implements the methods in the aforementioned review class

## Place

Short description:

This class holds information about a physical place such as a garden or cafeteria. It is further extended to classRoom class

Methods:

This class does not define any methods

## ClassRoom

Short description:

This class extends place class and includes variables that add classroom specific information (department etc)

Methods:

This class does not define any methods

## Person

Short description:

This class represents a person in our app.

Methods:

This class does not define any methods

## Account

Short description:

The class is used to authenticate users when they use the app. An account object is created for every user that registers for the app.

Methods:

1. **Create Account**Takes username, email and password and enters it into the database
2. **Authenticate**  
   Takes username and password from user and checks if they are correct from the database
3. **Forgot Password**  
   Takes username from user and sends an email to the user with a password reset code.

## Swapper

Short description:

The class is used to swap to sections or courses in between 2 persons. A swapper object is created for those users which requests for swap. The swapper object will only keep the information about one user which has requested the swap, because on the time of creation, the information for only one user is available.

Methods:

1. **Request a swap**Gets the current and required username, section and course and creates an object of swap.
2. **Contact swapper**  
   Takes the username of a user and sends the user of swapper object a message to contact or confirm swap(The user will confirm from the confirm swap method).
3. **Confirm Swap**  
   Confirms the swap between 2 users and delete the swapper object form the database.

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## Course

Short description:

The Course Information would be extracted from the excel sheet, it would include its code, Credit hours, timing and sections(if any). These courses are selected by students and used in creating TimeTable.

Methods:

This class has a state method, used to change some information based on Section

**Section**

Short Description:

This is a state class of Course, which could exist for some courses. With different sections, some information about class changes.

## Swapper

Short description:

This class is used to find empty spots on campus for students to sit and enjoy/study at.

Methods:

1. **Best Rated Class**This function returns the best rated empty class available at the current time.
2. **Nearest Class**  
   This function returns the nearest empty class available at the current time according to the current location entered by the user.
3. **Empty Classes**  
   This function returns all the empty classes available at the current time.

# Sequence Diagrams



