

# System Design

**Team Name:**

Slack Overflow

**Team Members:**

Amy Chung (chungfuk)

Anthony Gruskovnjak (gruskov2)

Anmol Joshi (joshianm)

Iqbal Khan (khanagh2)

Jessica Ly (lyjessi2)

Joshua Mazariegos (mazarie4)

Ibrahim Totten (tottenib)

## **Table of Contents**

<b>CRC Cards</b>	<b>3</b>
<b>Software Architecture Diagram</b>	<b>6</b>

# CRC Cards

Note: DAO stands for Data Access Object

<p>Class name:</p> <p><b>Event</b></p> <hr/> <p><b>Parent class:</b> N/A <b>Subclasses:</b> Course, Due Date</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"><li>• Act as a parent to CalendarEvent and DueDate</li><li>• Store date, time, place, and name of event</li></ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"><li>• DAO</li><li>• Timetable</li><li>• Calendar</li></ul>	<p>Class name:</p> <p><b>User</b></p> <hr/> <p><b>Parent class:</b> N/A <b>Subclasses:</b> N/A</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"><li>• Allows someone to save, edit, and retrieve their data</li></ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"><li>• WebApp</li><li>• Calendar</li><li>• Timetable</li><li>• DAO</li><li>• HomePage</li><li>• Notes</li></ul>
<p>Class name:</p> <p><b>WebApp</b></p> <hr/> <p><b>Parent class:</b> N/A <b>Subclasses:</b> Notes</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"><li>• Handle account creation, login, and account info modifications</li></ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"><li>• DAO</li><li>• User</li></ul>	<p>Class name:</p> <p><b>HomePage</b></p> <hr/> <p><b>Parent class:</b> N/A <b>Subclasses:</b> N/A</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"><li>• Display user information</li><li>• Allow user to navigate to all features</li></ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"><li>• User</li><li>• DAO</li></ul>

<p>Class name:</p> <p style="text-align: center;"><b>DAO</b></p> <hr/> <p><b>Parent class:</b> N/A  <b>Subclasses:</b> N/A</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"> <li>• Able to access database to retrieve and modify data</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• Web App</li> <li>• User</li> <li>• Timetable</li> <li>• Calendar</li> <li>• DueDate</li> <li>• HomePage</li> <li>• RateMyProf</li> <li>• Course</li> </ul>	<p>Class name:</p> <p style="text-align: center;"><b>Calendar</b></p> <hr/> <p><b>Parent class:</b> N/A  <b>Subclasses:</b> N/A</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"> <li>• Display events and due dates <ul style="list-style-type: none"> <li>◦ Notify users of events/due dates happening soon</li> </ul> </li> <li>• Display courses and timings</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• Timetable</li> <li>• Event</li> <li>• User</li> <li>• DAO</li> </ul>
<p>Class name:</p> <p style="text-align: center;"><b>Timetable</b></p> <hr/> <p><b>Parent class:</b> N/A  <b>Subclasses:</b> N/A</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"> <li>• Allow sharing</li> <li>• Add, edit, and remove courses</li> <li>• Suggest timetables</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• Course</li> <li>• User</li> <li>• DAO</li> <li>• Notes</li> </ul>	<p>Class name:</p> <p style="text-align: center;"><b>CalendarEvent</b></p> <hr/> <p><b>Parent class:</b> N/A  <b>Subclasses:</b> Course, Due Date</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"> <li>• Takes on responsibilities of parent</li> <li>• Allows user to specify time frame of event</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• DAO</li> <li>• Timetable</li> <li>• Calendar</li> </ul>

<p>Class name:</p> <p style="text-align: center;"><b>Rate My Prof</b></p> <hr/> <p><b>Parent class:</b> N/A  <b>Subclasses:</b> N/A</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"> <li>• Show the rating of profs from the Rate My Prof website</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• Course</li> <li>• DAO</li> </ul>	<p>Class name:</p> <p style="text-align: center;"><b>Course</b></p> <hr/> <p><b>Parent class:</b> Event  <b>Subclasses:</b> Rate My Prof, Notes</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"> <li>• Stores time, place, and name of class/course</li> <li>• Links to notes</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• Event</li> <li>• Notes</li> <li>• DAO</li> <li>• Rate My Prof</li> <li>• UserGrades</li> </ul>
<p>Class name:</p> <p style="text-align: center;"><b>DueDate</b></p> <hr/> <p><b>Parent class:</b> Event  <b>Subclasses:</b> N/A</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"> <li>• Store time, place, and name of due date</li> <li>• Remind user of due date</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• User</li> <li>• CalendarEvent</li> <li>• DAO</li> </ul>	<p>Class name:</p> <p style="text-align: center;"><b>Notes</b></p> <hr/> <p><b>Parent class:</b> Course  <b>Subclasses:</b> N/A</p> <p><b>Responsibilities:</b></p> <ul style="list-style-type: none"> <li>• Allow sharing of notes <ul style="list-style-type: none"> <li>◦ Allow collaboration on notes</li> </ul> </li> <li>• Allow notes to be added and edited</li> </ul> <p><b>Collaborators:</b></p> <ul style="list-style-type: none"> <li>• User</li> <li>• Course</li> <li>• Timetable</li> </ul>

Class name:

**UserGrades**

---

**Parent class:** N/A

**Subclasses:** N/A

**Responsibilities:**

- Store marks for courses that appear on the timetable
- Calculate averages and marks needed to achieve desired final mark

**Collaborators:**

- User
- DAO
- Course

# Software Architecture Diagram

## General:

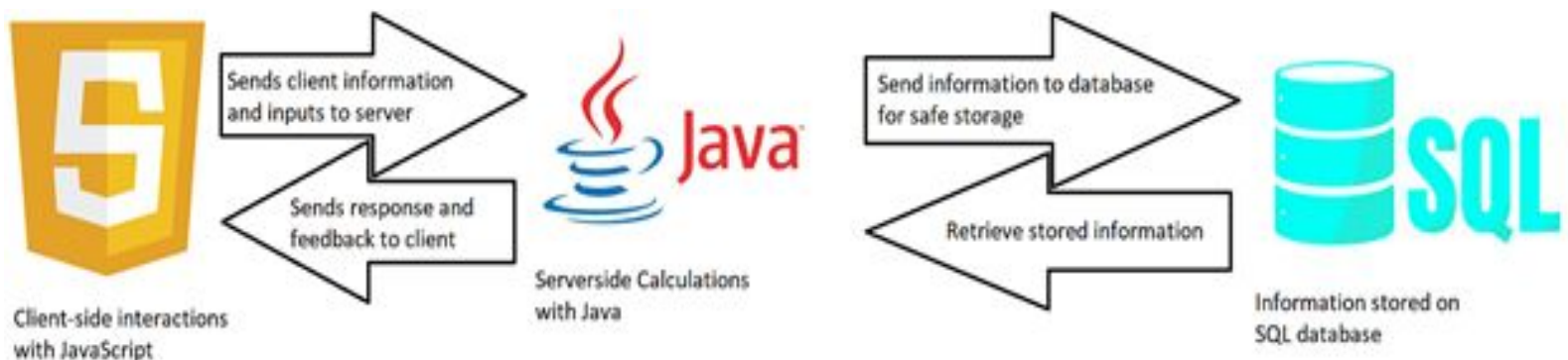
We plan to use HTML, CSS, and Javascript for the user's view. We assume the user will access our app through a website such as google chrome, mozilla firefox, or microsoft edge. The websites will either communicate with the database directly or pass information for processing on to the server for computation and storage.

The user's timetable and calendar data are displayed by parsing the user's relevant JSON files which are hosted on the server. Large calculations for tasks such as suggesting timetables will be done using Java.

## Database:

For the database/model we are using JSONs to save and retrieve data. We have set up a MySQL database hosted on AWS (Amazon Web Services) servers. This allows us to use SQL when necessary, specifically for account specific reasons, e.g. user registration, user login, email verification, password reset.

## Single level diagram:



<https://www.progress.com/documentation/sitefinity-cms/reference-architecture-diagrams>