Senior Project

Design Document

Drop-in Tutoring Web Application

Team Members:

Timothy Baker, Jeremiah Caban, Eric Ray Carpizo, Aanchal Chaturvedi, Huy Ly, Christopher Mariani, and Bryan Nunez

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Summary

The group will design and create a web application that will assist various departments with the drop-in tutoring services that they offer. Tutors themselves will be able to log in to access a session logbook, which will help keep track of each individual tutoring session as they take place. They will also have access to a shared knowledgebase for passing back and forth useful information to other tutors as they see fit. Admins, typically a departmental chair or secretary, will be able to log in to view detailed reports of all sessions that have been held over any given period. The system will allow for admins to easily add new tutors or courses to the schedule to keep up with demand as time goes on. Basic features (no login required) will be made available for students, these include: home screen with scrolling news panel, survey/feedback form, and a schedule viewer for the drop-in tutoring services.

Technology Stack

# Bootstrap (HTML / CSS / JavaScript)

The team will utilize the open source Bootstrap framework to build the front-end of the application. Bootstrap is a CDN-accessible library containing predesigned stylesheets as well as JavaScript files.

# PHP

To communicate with the SQL database, the PHP scripting language will be used to perform the backend operations.

# MySQL

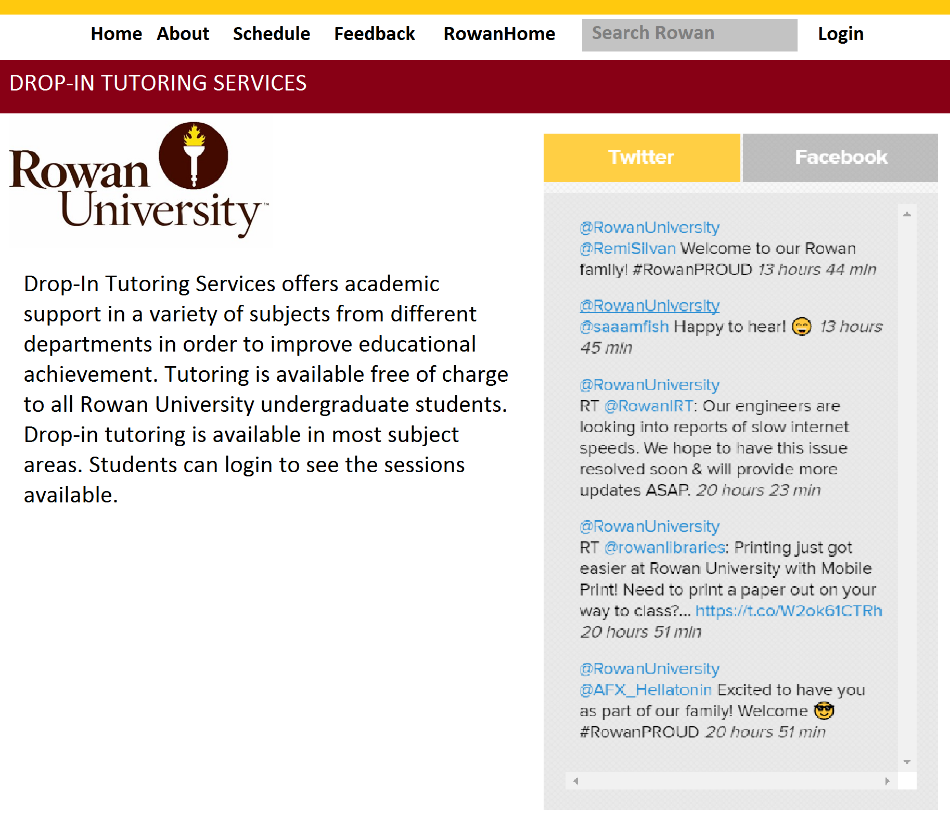
A MySQL database will be used for the storage of all data relevant to the application.

# Amazon Web Services

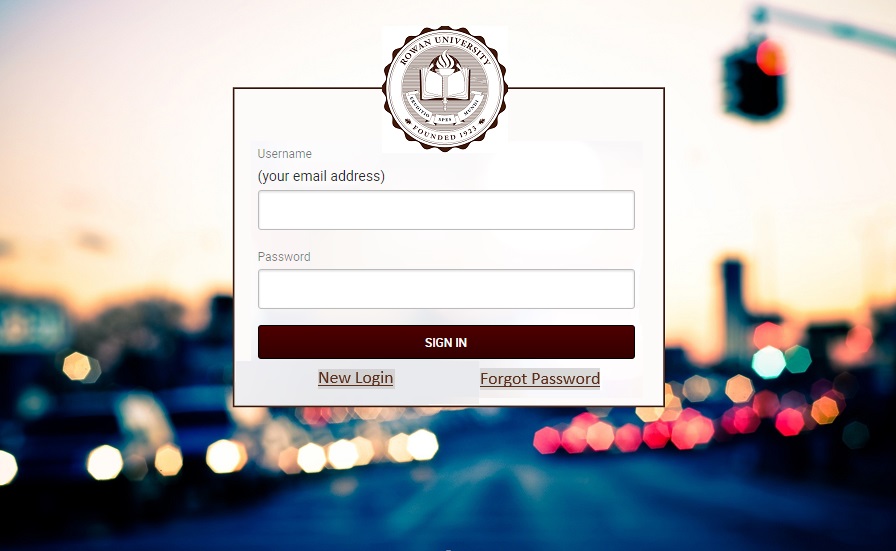
An AWS server will serve as the working environment for which the application will be designed in

Application Views

# Home



# Log In



# Drop-in Tutoring Schedule

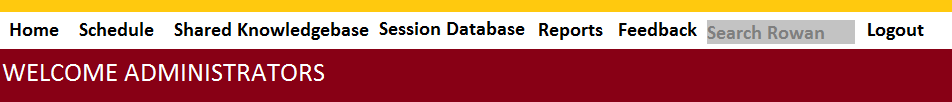


# Survey/Feedback Form

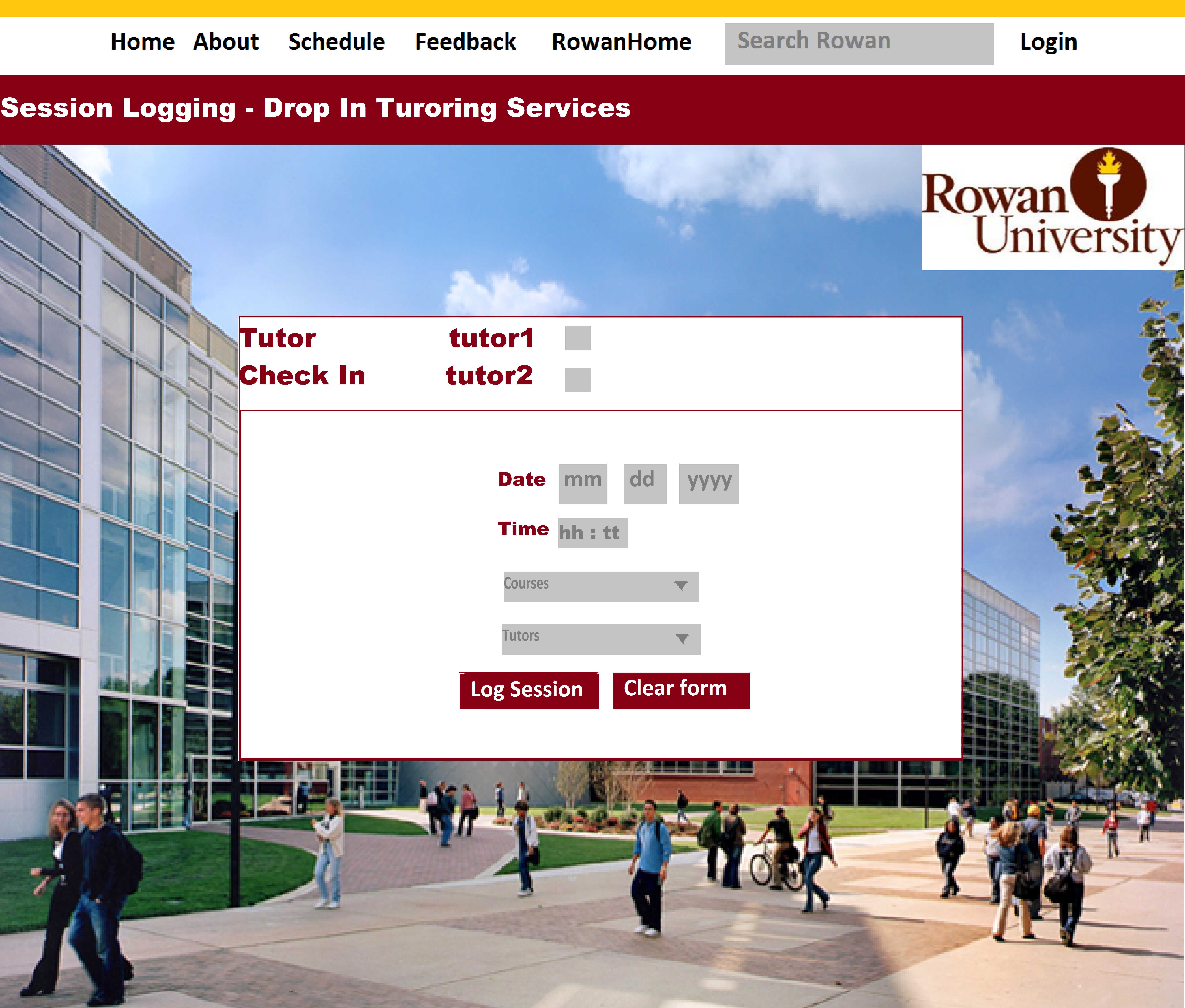


# Navigation Bar

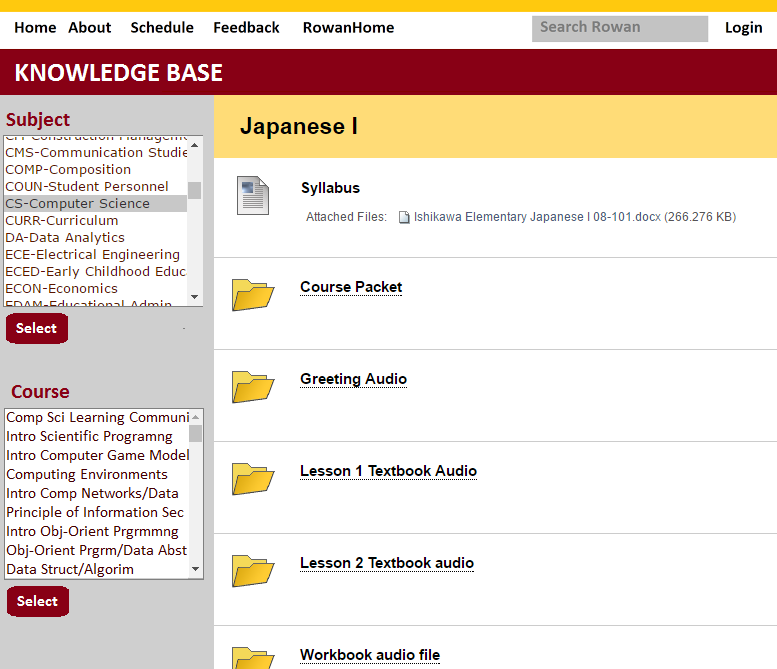




# Tutor Session Logbook



# Shared Knowledgebase



# Session Report Page



RESTful API

***Home***

**Endpoint: GET /home/getAnnouncements/:code**

Purpose: Retrieves Announcements for displaying on every end users Homepage. Can return the first 15 announcements (if input is zero) or all stored announcements (if input is one).

Input:

code: path parameter

Output: JSON array of:

announcement-number : Integer

announcement : String

Implementation:

    Construct a list from the announcements table starting from the bottom of the table and working up until desired number of announcements is reached (based on input).

**Endpoint: POST /home/addAnnouncement**

Purpose: Sends an announcement to the database. Functionality is only available to administrative users.

   Input:

announcement : HTML POST parameter

    Output:

confirmation : boolean

Implementation:

The announcement string will be part of the HTML POST request and be added to announcements table.

***User Login***

**Endpoint: GET /users/check/:username**

Purpose: Checks to see if a user exists in the database

Input:

username : path parameter

Output:

confirmation : Boolean

Implementation:

Checks the user table to see if the username can be found. Returns true if so and false if not.

**Endpoint: GET /users/type/:username**

Purpose: Checks to see if a user is a tutor or admin.

Input:

username : path parameter

Output:

user-type : String

Implementation:

Finds the user in the user table and checks the value of the admin column and then returns the appropriate string.

    Endpoint:

Purpose: Check Token?

    Input:

    Output:

    Implementation:

Endpoint:

Purpose: Validates whether an end user's session requires another login or not

    Input:

    Output:

    Implementation:

    Endpoint:

Purpose: Creates a token for validation.

    Input:

    Output:

    Implementation:

    Endpoint:

Purpose: Destroys a token

    Input:

    Output:

    Implementation:

***Schedule***

    Endpoint:

Purpose: Returns a List of courses available

    Input:

    Output:

    Implementation:

    Endpoint:

Purpose: Returns a List of the times available to be scheduled

    Input:

    Output:

    Implementation:

    Endpoint:

Purpose: Retrieves a List of courses which begin and end at a time

    Input:

    Output:

    Implementation:

    Endpoint:

Purpose: Retrieves a list of tutors which are available at a desired time.

    Input:

    Output:

    Implementation:

Endpoint:

Purpose: Returns the whether a tutor is currently available.

    Input:

    Output:

    Implementation:

Endpoint:

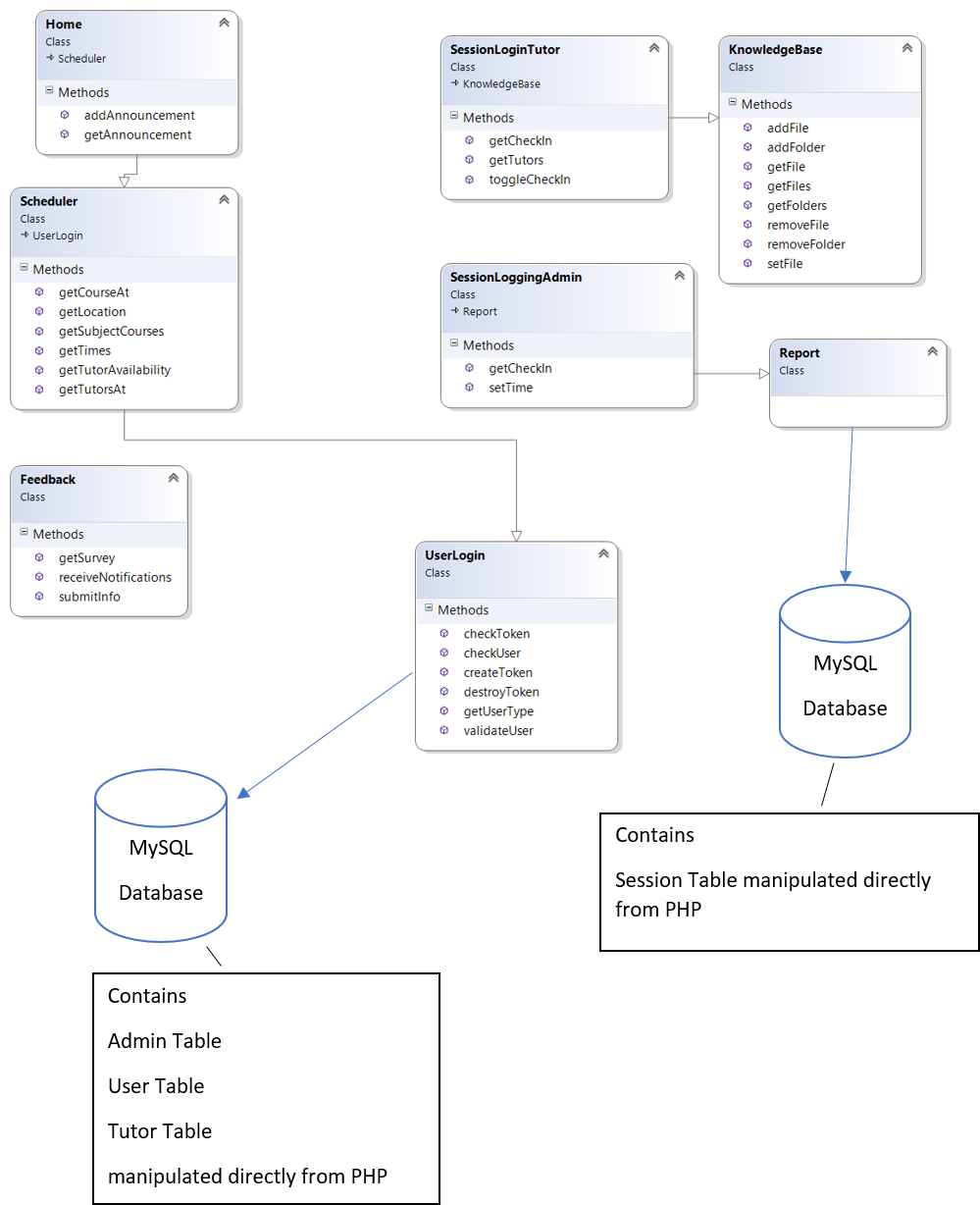
Purpose: Retrieves a List of building locations available for drop in tutoring.

    Input:

    Output:

    Implementation:

# Class Diagram



All endpoints in the RESTful service. For each endpoint, provide all inputs and outputs. Reflect briefly (in pseudo code) on how you will implement the endpoint. As an example, consider the “cities in a country” endpoint in my sample code. This might be written up as follows:  
  
Endpoint: POST /cities/:country  
Purpose: Returns cities in a given country  
Inputs:  
        country name: path parameter  
Output: JSON array of  
        city-name: String  
        population: integer  
Implementation:  
        Join the city and country tables listed in the database section and retrieve desired information

Database Design



Implementation Plan

Write am implementation plan for the first two weeks in the implementation phase. This must include all the action items for this time period and an assignment of responsibilities for individual team members. Note that I will use your writeup to assess how you have progress at the midway point in the implementation phase.

Features: Log-in, API implementation

Views: Home, Log-in, Navigation bar

Database instantiation