Architecture

Our system is designed in 3 layers; the database layer, the python layer, and the html layer.

The database layer is where the data lives. It is a relational database and is modified and queried using SQL commands.

The HTML layer is the front end, and is what the user will see and interact with. It contains numerous html pages linked together.

The python layer is the most complex part of the system. It facilitates communication between the html and database layers. It consists of 3 modules:

**Toolbox.py** – This module contains the code needed to define a connection object. Through use of the MySQLdb library for python, it creates a connection object that allows queries to be made and data to be extracted. It also defines a number of simple methods that may be used to facilitate the creation of python functions corresponding to simple SQL queries.

**Functions.py –** This module contains all of the functions used to execute SQL queries to the database, along with performing required manipulations of data. Many of these functions are comprised of methods from Toolbox.py; some require writing specialized SQL queries, however.

**Scheduler.py** – This module contains the code that drives the functionality of the website. It is powered by Flask, a powerful web framework for Python. It determines how HTML elements will interact with code from Functions.py.

Database

HTML

Functions.py

MySQLdb

Flask

Toolbox.py

Scheduler.py