

Classify

CSE 403 Project Proposal

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Vision

Selecting which classes to take can be a complicated process for college students. It often requires planning ahead for several quarters and drawing upon information from a variety of sources. Students have to take into account their graduation requirements, which courses they have the prerequisites for, which courses hold class at the same time, and many other features in making their decision.

Unfortunately, the currently available tools to help students in this process are poor. For students at the University of Washington, the course descriptions, major requirements, course evaluation catalog, and time schedule are all difficult to use and not integrated together. Most of the information is presented in large blocks of plain text and there are no capabilities for searching or filtering down to relevant courses. Classify, a scheduling assistant for college students, will provide a more effective way for students to choose classes by combining all of the relevant information and providing a faster and more intuitive interface.

Although we will start by building this tool specifically for University of Washington students, we hope to create a flexible system that can later be used by other universities as well.

Minimum Viable Product

This web interface will provide more user-friendly search and sorting functionalities on several course attributes, such as departmental or prerequisite restrictions. The application will display results as a list of course information that will be retrieved and updated regularly.

Students create accounts to record information about their curriculum, including majors/minors and progress toward their intended degree(s). The application will use the student-provided data to assist with search queries on the course catalog to retrieve courses with the most relevance (e.g. courses belonging to the user's major, courses for which all prerequisites are satisfied).

Additional Features

- Schedule builder to manage a list of courses of interest.
- Notifications (e-mail, text message) of any changes to courses of interest, such as room, instructor, closed/open status.
- Saving common search queries.
- Course suggestions based on other users' past/current schedules.

- Option to upload degree progress by file (DARS reports, transcript) or, if feasible, to give the app access to that information through UW NetID authentication.
- Extending the application's functionality to other schools.
- Facebook integration to show which classes your friends have liked or are planning to take.
- Review system for classes.
- Topological visualization of class prerequisites.

Technology Stack

We'll be programming in Python, using Django as our backend framework. Front-end development will be done in HTML, CSS, & JavaScript. All scraped course data will be stored using Django models backed by a MySQL database. The content itself will be parsed from the course websites using lxml, and parsing will be performed at regular intervals via a cron job or Celery task queue.

Risk Factors

Some of the data we'd like to access (up-to-date enrollment numbers for instance) requires a UW login. Hopefully we can find reliable methods for getting around such restrictions.

There is the possibility that the course catalog webpages will change in the future and our parser will therefore require substantial maintenance. While using these webpages may not be the best data source, we would also face permission issues to get direct read-access to UW's/other schools' backend databases - a better alternative, however, if possible.