Course Hub

Part 1: Project title: “Course Hub”

Part 2: Project Summary

Course Hub is a web application aiming to provide users with both objective and subjective information about the courses provided at the University of Illinois at Urbana-Champaign. Besides basic facts, users can view others’ comments and post comments from their own perspectives.

Part 3: Description

The University of Illinois at Urbana-Champaign provides students with a systematic education and incorporates diverse courses in different categories. For each subject, there are hundreds of courses focusing on various topics. Due to a large number of courses offered, it may not be very convenient for students to find useful information about a particular course in a short time. Furthermore, it might be even more difficult to search for comments and reviews of a course from the perspective of students who took the course before. Inspired by such concerns, we came up with the idea of Course Hub.

We would like to create a platform where information with a high dimension can be displayed. When students register for a course, they usually know very little about the information other than the title and description. With Course Hub, they are able to see more features of the courses and have a better understanding of them.

Part 4: Usefulness

As mentioned above, Course Hub offers information about courses with a high dimension. Such integrated information is very useful for students to make decisions on whether they would like to register for a certain course. For example, other than basic facts, statistical data such as the average GPA of a course will be listed so that students can have an overall understanding of the difficulty of the course. In addition, learning from other people’s experiences makes it easier to obtain subjective information. For example, by viewing the overall quality of a course rated by another student who has taken this course before, a student can better predict if the course is worth taking.

In fact, there are websites with similar ideas to Course Hub. For instance, Rate My Professor includes students’ ratings for the professors at different universities. However, Course Hub emphasizes ratings and comments for the courses provided at UIUC. On the other hand, UIUC Grade Disparity by Prof. Wade provides visualizations of the course GPAs. In fact, besides average GPA and other statistical information, we also would like to incorporate introductions to the courses. In a sentence, Course Hub

integrates a variety of data sources and provides users with more functionalities than the existing websites.

Part 5. Realness: Describe what your data is and where you will get it.
We classify our data into two categories: Course Information and User Reviews. Course information is objective, factual data which we will directly collect from known datasets and display in our application. User review data are provided by users through interaction with our application; users may put a review/comment about a course, which we will gather and display.

We gather course information published by the University of Illinois, including but not limited to course subjects, course number, course CRN, credits, course description, grading scale, etc. (Please find the full list of attributes about course information in 6.1.) Essentially, we track every course offered at the U of I and their public records.

Our user reviews data are information provided by users through our applications. For example, users may rate the courses through several attributes, such as course quality, grading, workload, difficulty, etc. These rating attributes are based on a scale from 0 (least) to 5 (greatest). In addition, users may post a comment under each course, which will be stored as characters. Please find the complete data that we gather from users in 6.1.

Data Source: We have contacted the maintainer Professor Wade Fagen of GPA Disparity and received permission for using his dataset in our project. Specifically, we will use the course-catalog dataset:
https://github.com/wadefagen/datasets/tree/master/course-catalog
This dataset includes all necessary information we include for course information.

Part 6: Functionality

6.1. (This is based on our classification of data, not the database table structures)

Course Information:

Year	Term	Subject	Number	Course Name	Description	Credit Hours	Professor

User Review:

ID	Course Quality (INT)	Grading (INT)	Workload (INT)	Difficulty (INT)	Student Support/Service (INT)	Engagement (INT)	Grade Received (CHAR)

Online / In-Person (INT)	Would Take Again (INT)	Comments (CHAR)

6.2. As Course Hub focuses on enabling users to check information of their interested classes, the most important and the most basic function of Course Hub is searching courses. Similar to Course Explorer and UIUC GPA disparity, by typing in the subject code, the user can have a table of all courses under this subject. The table will include some basic information about the courses, such as course name, instructors who taught this class, and average GPA of each instructors' section.

Besides, users are able to rate the course with multi-dimensions, such as course quality, workload, and difficulty. Also, they can access the data analysis of other users' ratings. Users can have a more specific understanding of courses with the mean, standard division, and some other statistical aspect information. These ratings can also be visualized by statistical graphs to illustrate data and changes clearly.

6.3. Course Hub will not only provide users with basic information and ratings of different courses but also become a forum for users to discuss the courses. Under each courses' rating bar, users can leave comments, and similar to rating, they can also read others' comments. Users can like and dislike other users' comments and then the comments with the three highest number of absolute likes (#likes - #dislikes) will be marked as trending comments and will be placed at the top of the class forums. Finally, comments can be modified or deleted by users after it was posted as users might change their opinions or make some mistakes when editing the original posts.

Part 7: UI Mockup

(Home)

Log in

Course Hub

(Search Result Display Page)

CS

Course name	Professor name	CRN	Average GPA	Course Hub Score
CS 100 : Freshman Orientation	Pitt, L.	31018	3.66	5.0/9.0
CS 102 : Little Bits to Big Ideas	Cunningham, R	63225	3.52	6.0/8.0
CS 105 : Little Bits to Big Ideas	Zilles, C	31127	3.23	6.0/8.0

Computing as an essential tool of academic and professional activities. Functions and interrelationships of computer system components: hardware, systems and applications software, and networks. Widely used application packages such as spreadsheets and databases. Concepts and practice of programming for the solution of simple problems in different application areas. Intended for non-science and non-engineering majors.
Credit Hour: 3
Prerequisite: MATH 112.

Students review score:
4 stars

(User Rating/Commenting Page)

Students review

Alice: CS105
It is a great course, I enjoy taking it.
Course Quality : 4/5 Workload: 2/5 Difficulty: 1/5 Grading: 5/5

Tim: CS100
Meaningful course, little hw~
Course Quality : 3/5 Workload: 1/5 Difficulty: 1/5 Grading: 5/5

Make your own review

Course name

Comments

Quality ?/5 | Workload ?/5 | Difficulty ?/5 | Grading ?/5

Part 8: Project work distribution:

Web Front End/UI:

Functionality	Ruipeng Han	Houze Yang	Zhuofan Jia	Kailiang Chen
Home Page	✔	✔		
Search UI (Bars, etc)	✔	✔		
Course Display Page	✔	✔		
Course Detail Display Page			✔	✔
Rating/Comment UI (pictures, animations, etc)			✔	✔
JS Logic (Data Visualization, etc)			✔	✔

Backend:

Functionality	Ruipeng Han	Houze Yang	Zhuofan Jia	Kailiang Chen
Database Construction	✔	✔	✔	✔
Course Search Result SQL (Pull out facts about courses)	✔	✔		
Rating Logics			✔	✔
Commenting Logics (Like, dislike, trending, edit, etc)			✔	✔
Initial Data Collection	✔			