

# Project Alda: Proposal

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## I. General Goal

myUChicago is the University's official web portal for students, faculty, staff, and alumni and is designed with a purpose to provide a wealth of campus and community resources in a centralized location. All current students would visit myUChicago frequently during the quarter in order to register for courses and to modify current schedules. Although the current portal could fulfill administrative purposes such as course registration and schedule modification, it is poorly designed when students try to generate tentative schedules based on their course selections. It is because the portal does not support schedule visualization, and course evaluation pages are unorganized and inconsistent. These poor features could potentially let course scheduling phase difficult and they would likely to cause students unable to obtain the ideal schedules they want and unable to take a course with an instructor best matched to themselves.

Project Alda is initialized to complement myUChicago's poorly designed course scheduling function and is aimed to eliminate the difficulties of course scheduling issues stated above. Our main goal is to design a course scheduling program that would allow all UChicago students to obtain ideal schedules they desire and to take classes with the professors they want. Our current objectives include:

1. Re-designing and integrate course evaluation pages
2. Adding a schedule visualization function: the program would visualize all possible schedule combinations based on the courses students select. Students can click through all possible tentative schedules and select the favorite one(s) they want.
3. Sending an email of notification to students and tell them that a previously fully-loaded course now has an empty seat.
4. Integrating the above three features into one program.

## II. Functionality Goals

The following are the main functions of our program:

- Integrating Evaluation Information

We plan to firstly compute overall average rating of different courses and professors across different years and different sections; and secondly enable users to rank and compare different professors.

But there are several potential obstacles for obtaining evaluation information: firstly, different departments use different rating criterion; secondly, within each department, every course and instructor is rated on different aspects, an instructive way of computing overall rating is needed to weight different aspect equally; thirdly, an instructor's name can be recorded in different format, record linkage is needed to match their names. These involve the following tasks:

- (1) Study the html structure of UChicago course evaluation website;
  - (2) Study different evaluation system used by different department;
  - (3) Construct an instructive and overall measure of computing average ratings of courses and instructors;
  - (4) Scrape and store rating information;
  - (5) Clean the evaluation dataset and match the same courses and instructors.
- Course and Final Exam Scheduling  
myUChicago "My Classes" system does not support schedule visualization. We're interested in visualizing all possible schedule combinations based on the courses students select. Students can click through tentative schedules and select the favorite one(s) they want. In addition, the program would also generate a final exam schedule at the same time so as to warn students possible conflicts of final exams.

- Empty Spot Reminder (Optional)

We plan to create a “wishlist” function, which would let students receive an email of notification if a fully-loaded course now has an open seat. In order for the program to detect the vacancy of the class, it would send request to myUChicago class site and retrieve information of selected classes in our “wishlist” at a regular frequency (e.g. 1 time/minute). If there is an open seat, this program would automatically send an email of notification to the user’s designated UChicago email address.

### III. Data source

UChicago has two official course evaluation websites: one is for college and the other one is for the Harris School of Public Policy, and they would be our primary data sources when creating our own evaluation interface. These two websites store course evaluation histories and more detailed course information, such as instructor’s evaluations, hours of work students spent, and the number of assignments or exams instructor assigned. Evaluation comments would be our primary focus.

- <https://evaluations.uchicago.edu/>
- <http://harris.uchicago.edu/courses/harris-insider>

For course scheduling function, we would design a program that could web-scrape and store all course information from myUChicago once it is officially released every quarter. Those information would include lecture time, lab sections, instructor, and the total number of seats.

- [my.uchicago.edu](http://my.uchicago.edu)

### IV. Time schedule

By week 5, we would need to finish studying selected websites’ data characteristics and to get familiar with their html structures. We would dissect the program into smaller parts, figure out logistics, and design specific algorithms in case of heterogeneous datasets from the websites.

By week 6, we would use a small sample datasets gathered from our sources to test project feasibility, and at the same time, to start interface design.

By week 7, we would need to finish crawler and to gather actual datasets.

By week 8, using the complete datasets we collected, we would change our project direction based on project progress and do further data cleaning, linkage and matching.

Past week 8, we would focus on testing and development.