Introduction

This Course Registration System is a web-based program aimed to make easier and more convenient the class registration process, a hassle through which students go every semester.

As it stands, here at Brown University, in order to officially register for classes, each student must fill out a course registration form manually, bring it to the Registrar’s Office at University Hall, stand in line (often for upwards of twenty to thirty minutes), and finally have the form officially approved and stamped. In order to change anything about one’s current schedule, such as dropping or adding a class, changing grade option, or showing official permission from a professor, the student must go through the same tedious process.

Course Registration System (CRS) attempts to alleviate these hassles by providing several services to students through the internet. CRS provides a way to search for classes without having to open a course catalog, a way to “shop” around and view various possible schedules, and finally, officially register for the chosen classes. All this can be done in the privacy of the students’ own rooms and without the stress and time it takes to stand in line in University Hall.
The System

Basical sketch of the system model

The various parts of the system are:

- Login/Security – Login using NetID and password – will connect to Brown’s Kerberos server (at this point I am not quite sure how Kerberos works)
- Course Search – This will be a database system fairly similar to the current version of BOCA (Brown Online Course Announcement) – with the ability to search for courses with search keys: course number, professor, meeting time, department
- Course page – for each course in the database, there will be a view that will give the following information:
  - Course number, title
  - Instructor
  - Meeting Time
  - Location
  - Description
  - Number of credits
- Number of students already registered
- Number of open slots
- Waitlist if applicable
- Exam Group
- Grade options
- Web site of corresponding Critical Review page

● Each course page will have option to “Add to Cart,” which adds the given course to the student’s list of potential classes and, as well, to the visualized schedule
● Schedule Visualizer – At any point during the student’s session, he can view the potential schedule of the classes in the “Cart” – this will be a schedule identical to those given out on paper at the Registrar’s Office – the potential class slots will be colored in, using a legend

User Interface

Login
There will be a login screen into which the student enters a NetID and password

Search
For each of the possible search keys there will be a radio button and either open field (for course number) or pull-down menu of options (for department, etc.)

Course Page
Information displayed:
- Course number, title
- Instructor
- Meeting Time
- Location
- Description
- Number of credits
- Number of students already registered
- Number of open slots
- Waitlist if applicable
- Exam Group
- Web site of corresponding Critical Review page
- Grade Options – see below

Next to each of the two grade options will be a checkbox where the student must check one of the two before “adding to cart”

- button titled “Add To Cart” – will add given course to list of potential courses (as described earlier)

**Schedule Visualizer**
Schedule identical to those currently given at the Registrar’s Office
- along side : list of classes and corresponding grade option in “cart” with color coded legend, also with radio buttons –
  - buttons to “Release” a class (no longer consider it) and to “Change Grade Option” (buttons pressed apply to the course that has been marked with the radio button)
- “warnings” section – will display warnings about possible class interference (two classes meet at one time, etc)
- large button at bottom – “Register” – this will register the student for all classes in “cart”

**Non-Functional Requirements**

**Performance** – course search should be fast, despite many students accessing the database at once
**Testing** – must test the database search
  -- make sure the schedule visualizer can handle multiple classes for the same time slot
  -- login/security
Reliability – Make sure still reliable with large number of users!
Ease of Use -- make user interaction easy and obvious so that non-computer-proficient students can use the system
Outside Dependencies – connecting to Brown Kerberos system for login
- accessing course information, or make dummy database

Requirements
(taken from Requirements Document with some updates)

Basic Features:

- search classes offered (similar to current BOCA)
  - search by: class code
  - instructor
  - time slot
  - department
- links to each class's page in Critical Review online (for those classes with reviews)
- "Add to cart" button - will add that class to your list of potential classes
- add to visual time schedule (like the blank ones they give at the registrar) with classes in "cart" filled in on schedule with color or pattern (legend at bottom of schedule)
- keep current schedule (anything in cart -- allows for multiple classes in same time slot - incase considering multiple classes) shown on screen entire time (once you log in - while searching, etc) – or at least accessible the entire time
- can delete class from schedule/cart
- in search-page for each class -- have info:
  - course number
  - description
  - instructor
  - credits
  - # people already registered for class / # slots open -- or if full -
notification of waitlist # if available
- location
- exam group
- grade options:
  - must choose one before "add to cart"
  - if mandatory S/NC - option should be filled in for you
- once you are satisfied with potential schedule - press "Register" -
- will enroll you in classes in your cart
- if multiple classes for same time slot - will not let you register -
  will notify you of the conflict
- must log in using login name (NetID) and password
- accessible on internet from both on and off campus
- can login at any time until deadlines:
  - click on a class on the visualized schedule -
    - can drop class
    - can change grade option
  - "Add a Class" option

Optional Features:

- depending on your year of graduation - if you haven't declared a
  concentration by end of 4th semester - won't let you register
- if registering after "last day to add a course without a fee" deadline -
  possibly can pay fee by credit card or maybe must go to Registrar's
  Office to add class
- if there are changes in a class you registered for (class cancelled /
  change of instructor / meeting time / location) -- you are notified
  of the change by email
- can search by timeslots by directly clickin on the visualized schedule
- if a freshman - when you register, your advisors are notified of your
  class choices by email
- if non-freshman - concentration advisor notified of class choices
- be able to access other personal information -- grades, financial info,
  etc
- once registered - show Final Exam schedule
Risky Parts

- database hacked into/changed
- login security
- limiting number of classes registered for/overlapping classes