

Surreal Engine

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We are building a course management system, called “CourseCraft”, to combine all activities related to course scheduling and administration into a single online tool.

Webreg and Canvas are two important tools at Rutgers University, and other universities use similar software. We want to combine their fragmented functionalities into one program to offer a more centralized resource and better user experience. We will be adding features to allow students to be more informed and prepared when selecting their classes for an upcoming semester, as well as provide warnings for course selections, assignments, upcoming exams, current academic performance, etc. Course administrators would be able to provide SPNs through the site and organize their pages in a user-friendly and clean format.

This problem domain is significant because millions of students across the country need access to online resources at their university. Students need to be able to organize a class schedule that respects constraints like class start/end times and prerequisites. They also should be able to easily access their courses and any relevant course assignments/information. Additionally, professors/course administrators should be able to communicate in a convenient way with their students. CourseCraft will solve the problem of having to navigate between two different software programs, instead merging them into one. We will also improve communication between students and professors via an automated email update system. When we are finished with the project, we expect to be able to offer universities a platform that students and professors would enjoy using because of its simplicity and wide range of features that improve and simplify student life and communication between professors and students. Furthermore, we expect to learn how to connect the front end and back end in software, learn algorithms that can handle scheduling conflicts, and create a robust database schema.

The user roles that we will have are students, professors, and deans. Students will be able to register for courses, submit assignments, receive updates on their academic progress, and calculate their GPA. Professors will be able to choose their time slots for their courses, grade students' work, possibly override enrollment for students, and allow students access to course materials. Deans will be able to create courses, assign professors to courses, and assign class capacity - whether that is increasing or decreasing the total number of seats in the course. A constraint we will need to address is likely not having access to Rutgers's course schedule database to use for the server. It is also possible that less critical features may be cut from CourseCraft if we believe we can't finish their implementations before the final deadline. CourseCraft will be a web application, so while it should be able to run on most platforms, it will be restricted to running within a browser.