Tutor Planner: A better interface for scheduling

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Abstract
We designed an interface called Tutor Planner to help Tufts University students sign up for tutoring sessions run by the school. The current system for doing this (Tutor Finder) was not designed with the needs of the busy college student in mind, and many users find it tedious. Our interface seeks to remedy users' issues with the system to allow students to efficiently get the help that they need. After designing our system, we evaluated it based on a qualitative response survey given to experimental subjects who completed a task list with our interface.

Keywords: Tutor Planner, scheduling systems

1 Introduction
At Tufts University, students are paid by the university to tutor their peers through the Academic Resource System (ARC). To take advantage of this resource, students must sign up for a tutoring session posted by one of the ARC tutors. To do so, one must login into the university’s student resource portal known as Webcenter and then navigate to the Tutor Finder page. Here, students must select their course from a list of all courses with tutors at Tufts and then pick from a list of available times (Figure 1). This can be a lengthy process and is quite repetitive and tedious.

After examining this system, we believed that there was a need for an improvement in the interface. The ARC is an excellent resource for students struggling with their course material, and it would be very disappointing if students chose not to use it simply because they can’t easily navigate the interface of Tutor Finder. Therefore, we set out to design a more streamlined scheduling interface that would be efficient, intuitive and enjoyable.

2 System Description
One of the main goals of our design was to take better advantage of Tutor Finder’s (we called our new design Tutor Planner) integration with Webcenter. Webcenter keeps track of many aspects of a student’s academic career and this includes their course schedule. Since students only need to sign up for tutoring sessions for the classes they are taking, we realized the opportunity to use Webcenter’s “knowledge” of a student’s schedule to only show students tutoring sessions for the courses they are taking (Figure 2). This eliminates the need for students to search through all of Tufts’ courses to find which course they’re looking for. We believe this to be the primary innovation of our interface.

Another feature we added was the ability to save your favorite tutors and time-slots. Once set, students can simply click on one of their courses and then search for tutoring sessions that correspond to one of their predefined favorites. This feature helps frequent users of Tutor Planner circumvent the need to constantly enter lengthy time and date strings of when they’re available.

The third feature we added is the ability to set an email reminder at a user-defined time interval before the scheduled tutoring session. While this may not be a revolutionary feature, it is absent in Tutor Finder and has been expressed to us by ARC tutors as a useful feature because many students forget to go the tutoring sessions they schedule, which wastes the time of the tutor (they have academic needs too!). Thus, we felt that this was an important feature to include in our implementation of Tutor Planner.

Our prototype was created with HTML and CSS. For this prototype, we did not connect the website to a database or Webcenter, so all interactions with the system were hard-coded in the prototype.

3 Evaluation of System
To evaluate Tutor Planner, we gave 5 college-age Tufts students a task list to complete and then had them fill out a survey on their opinions of the system. All participants used the same 13” Macbook running the website on Firefox 12.

The task-list was as follows:
1. View your favorites
2. Tell me 2 of your favorite tutors and your favorite tutoring time.
3. Return to homepage

Figure 1: List of courses on Tutor Finder.

Figure 2: Homepage of Tutor Planner prototype.
4. Reserve a tutoring session for Chemistry 001 with Tutor A at any time. Be sure to request an alert for 1 hour before your session.

5. Start over

6. Now reserve a tutoring session for Chemistry 001 between 11am and 3pm. Be sure to request an alert for 24 hours before your session.

7. Now logout from the system.

The hardest task for users was using the favorites feature (Tasks 1 and 2). Since there was no way for the users to add favorites in this version of the prototype, we had to provide users with a list of favorites that we created. We hypothesize that this shortcoming made it difficult for users to understand the favorites page and its purpose, because it did not contain “their favorites.” Later on, when users could search by favorite (Tasks 4 and 6), the benefit of the favorites feature became more apparent to users as they could see its true function.

Similarly, it was also difficult to convey to users that the four classes listed on the homepage should be their classes generated by their schedule. Since users failed to see this feature, their belief in the usefulness of the system was affected.

Despite these shortcomings, most students still found the interface easy to use, and those that understood its key features, thought the interface would be useful to students (Figure 3).

Figure 3: Average rating for each subjective question asked of the testers, gathered after testing. A rating of 5 corresponded to “Strongly Agree,” while a rating of 1 corresponded to “Strongly Disagree.” Other options offered were “Agree” (4), “Neutral” (3), “Disagree” (2).

One of the clear winners in our interface was the inclusion of the email reminder feature. Everyone found this to be a useful feature and no one had any issues in using it.

4 DISCUSSION

Overall, despite some issues with our prototype, we feel that Tutor Planner is a promising interface and offers significant advantages over Tutor Finder.

In future tests of Tutor Planner, it would be helpful to make the prototype more interactive so users could actually begin to understand how the final version would work. For example, while it would be very time consuming to connect a prototype to Webcenter to access students’ schedules (it would require permission from the university administration), in the next iteration of Tutor Planner we could instead have students manually enter their courses once and then show them that the website remembers their courses even when they log out. This would begin to simulate the functionality we have envisioned for Tutor Planner and would allow us to get more specific feedback on our interface design.

Beyond simply improving this interface, other avenues of research have also been considered. One idea is to figure out ways that make it easier for students to access Tutor Planner in the first place. Only a very small percentage of students at Tufts University take advantage of the ARC, yet many more students struggle with their coursework. One reason this could be is that struggling students are unaware of the ARC and what they do, or maybe they don’t know that they could benefit from tutoring. To solve this, academic tutoring and other resources could be intelligently suggested to students, based on their grades or even on their mental workload with their current assignment. In the future, computer-users mental workload could be measured through technology like functional near-infrared spectroscopy [1].

Hopefully our research can one day help students get the help they need, not just at Tufts, but at all academic institutions.

5 REFERENCES