

PracticeProcessor 2000

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A CS50 Final Project

The PracticeProcessor is a website that facilitates the assignment of practice times for crew athletes. It is simple and easy to use. To work around the busy schedules of Harvard athletes, coaches must assign practice times that are flexible and work around classes and other conflicts that arise from an athlete's strict time constraints. The PracticeProcessor allows for athletes to give their times of availability from anywhere, instead of needing to be at the boathouse, and reduces the amount of work coaches have to do daily to organize practice times.

For athletes, updating practice times takes only a moment. The PracticeProcessor is online at <http://cs50.seas.harvard.edu/~mcginn/>. Athletes simply go to the link, select their coach, and proceed to the practice update page. There, they select their names from a dropdown, edit their availability with a few more dropdowns with times from noon until 7 PM, click submit, and wait for the page to refresh. They can update their availability as many times as needed until the coach creates the practice times.

The Coach's Link at the bottom of index.php gives coaches access to the PracticeProcessor. After clicking and logging in, a coach has access to several options. The three basic functionalities of the coach's site are to generate practice times and add or remove athletes from the team. To add an athlete, the coach simply puts in their name and their rowing position, and, to delete an athlete, simply picks the athlete's name from the dropdown list and click delete. On the same site are several options that constrain the

program in generating practices to comply with the coach's requirements. The coach can modify these constraints as they wish, then click the generate button. This takes the coach to a webpage with several things on it: a string of text is generated in a textbox with a list of practice times and athletes for each time, according to the constraints given. A few tables list all of the athletes and their availability. The coach can edit the text as he or she pleases, using the availability tables if they wish to move athletes between practice times. Then, the coach can e-mail the message to a mailing list of the athletes that they have set up, so the athletes know when their next practice is. By clicking the E-mail button, the message is sent as is to the email provided in the "To:" textbox with the given subject.

To create an account, a coach only needs to click on the coach link and in turn the register link on the login page. Providing a desired username, password, and name (the last of which appears on the drop down for athletes to select their coach) a coach can setup an account easily and be able to add athletes. For testing purposes, a fake account is already setup with a list of athletes, the login for which is "coachz" and "jorb" for the username and password respectively.

In generating practice times, the PracticeProcessor accounts for several factors. A practice needs to have the right number of athletes to fill a boat, as well as a coxswain for each boat. Thus, each practice that is created must have a multiple of 8 ports and starboards, and a coxswain for each group. If the option to allow boats of 4 is selected, there may also be instances where there are 4 athletes and a coxswain in a practice time. The other options, like the length of and time between each practice, as well as the latest practice time, will change the output of the PracticeProcessor accordingly, so athletes will

still be placed correctly if practice times are longer, earlier, etc. Lastly, any athletes for whom the PracticeProcessor is unable to assign a practice time get placed in the “OYO” (on your own) category.