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Project Proposal - Class scheduler

My Proposal for the term Project is a class scheduler tool. This tool would allow a student to register for a term of classes same way we currently use Ban web here at Portland State to register for classes. I want to work on this assignment because I find it interesting how this system is currently in place on our schools website. The project touches on multiple areas: task scheduling, time-management , data analytics, and CLI uasge. It also uses with concepts relevant to Rust development, including workspace structure, testing discipline, and documentation practices. The goal is to build not just a tool, but a code base displaying what I have learned in Rust so far.

In a typical school term, students must organize a large number of deadlines, readings, exams, and outside commitments. These responsibilities often linked across may platforms, including campus learning-management systems(Canvas), calendars, to-do apps, and class notes. Class scheduler aims to centralize academic organization into a single CLI application, implemented as a Rust CLI application. The project will provide a streamlined command-line interface that utilizes library crate. The tool will allow students to register for classes, manage coursework, track deadlines, and schedule study sessions. At its core, Class scheduler will define structured models for courses, assignments, deadlines, study sessions, calendar events, and progress statistics. Users will be able to create tasks, associate them with courses, note the expected effort, and set due dates.

The CLI design displays a user interface for the user. For example, users will be able to run commands like:

add-class <class #> <title...>
add-class-meeting-time <class> <day> <starttime> <endtime> <location>
delete-class <class>
list-all-classes
showweek
showconflicts
gethelp

Currently class scheduler uses RAM to store user data, when the application is closed, entries are deleted. I am trying to come up with a solution that would allow us save the user data to a file and retrieve the information at a later date when the file is saved and loaded from disc.I expect this project to be at the minimum of 500 lines as outlined in the project requirements.

Overall, Class scheduler aims to deliver a academic assistant similar to Ban web but at a CLI level without a UI. I believe this would be a great tool to build in Rust and will allow me to use the what we have learned in class so far to implement this project.