Topic: UPRM's Matriculation System

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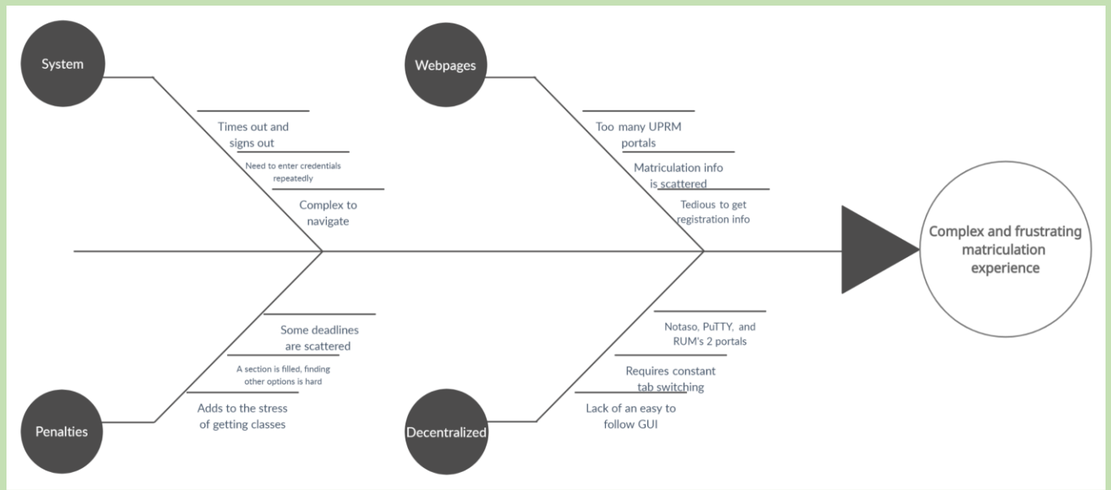
Problem Background

- Currently at UPRM, matriculation can only be done via an SSH protocol, which tends to time out after a short period of inactivity, isn't responsive sometimes, or automatically signs out instead of returning to the main PuTTY page after certain actions are completed, such as checking your GPA. This makes the matriculation period a very frustrating experience for students every semester.
- Additionally, information pertaining to professors, TAs, and course names are either obfuscated or require double checking on a web browser simultaneously, which could time out the session and invalidate the processes being performed.
- Finally, including PuTTY, UPRM currently utilizes a total of three portals for students. Unifying these would reduce them to a total of one or two external sites at maximum.

Target

- Students will be able to painlessly register for their courses via a web browser without worrying about system time outs or entering the right SSH host name and passwords every time.
- Furthermore, next to each class section, the professors' *Notaso* rating shall be displayed along with whether the class section is a lab or not.
- Students can view an unofficial version of their transcript along with their major and overall GPAs without having to sign in and out of UPRM's PuTTY system.
- Finally, students can obtain a copy of their schedule and see matriculation times and warnings without having to log into the web-based student portal.

Causes



Countermeasures:

1. Prevent the system from timing out by sending pings to system every so often.
2. Use the website's GUI in order to display relevant information about course details, facilitating the process and reducing clutter to a single, much more readable screen tab.
3. Save student credentials securely to reduce the required amount of sign ins and outs to an absolute minimum.
4. Sync with Notaso's and UPRM's backend in order to display professor scores, whether the section is a lab or a class, transcripts, and student schedules.
5. If a course is full, the system will automatically register students in UPRM's waiting list.

Check/Evaluate

- Initially, the system's success can be verified by checking whether it can display basic student info such as GPA, transcripts, and schedules.
- By searching up the current semester's course slots, the system should also be able to correctly preview the current semester's professors' *Notaso* scores, names, whether the section is a lab or not, and the current sections capacity. The latter should be full during initial testing since it'll take place during the semester.
- Finally, once matriculation rolls around, the system should seamlessly allow matriculation for all students, finally completing its purpose.

Act/Standardize

- Long term project success will be determined by whether matriculation each semester remains as seamless between students.
- Upon project completion, the team will have strong skills in continuous, full stack development of a service which shall be used by thousands for the semesters to come.
- These sorts of skills can be applied to any live server-based system and any product that involves communication between a database and a GUI.
- This project can also be extended to handle each student's matriculation payments and status all in a single page.