College of Engineering

CS Capstone Problem Statement

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OSU CS Applied Plan Portal

Prepared for

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Abstract

Creating a CS Applied plan can be confusing and time consuming for everyone involved. Advisors also need to be able to easily create, review, and leave feedback on plans—features that the current web form-based planner does not support. Our task is to create a web application that streamlines the creation and review process for Applied plans. This application allows students and advisors to efficiently work on plans together and see a plan's status in real-time. Ultimately, the team's performance is measured on ease of use, aesthetics, security of student data, efficiency of the application, and the compatibility of the application with different devices.

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1 Problem Definition and Description

Creating an Applied plan can be complicated and time-consuming for students. Additionally, it is also not easy to see the current status of an Applied plan. If students want to make changes to their plan or figure out the status of their plan, they must email or meet their advisors in person. If an advisor is reviewing a student's plan, they need to start an email chain with the student to try to understand the student's decisions, and to provide feedback or request changes. This method of communication is slow, inconvenient, and increases the response time for students awaiting an approval or rejection.

The process of building a CS Applied plan is cumbersome, confusing, and time-consuming for everyone involved. The web form-based system the EECS department is currently using to accept student plans is a major factor in this. We believe that in order to create a smoother, more efficient process for both students and advisors, it is necessary to redesign and re-implement the system from the ground up in the form of a custom web app.

2 Proposed Solution

Our solution is to create a web application that will help to simplify and expedite the process of creating and approving Applied plans for students and advisors, respectively.

2.1 Student View

Students log into the web application via OAuth using their ONID username and password. Once logged in, they can create or view their Applied plans. When a user creates a new plan, they are greeted with a page that shows several text boxes. As users start to enter specific courses into these text boxes, the fields attempt to auto-complete with valid courses. Invalid courses are courses that are already entered somewhere else, courses that don't meet the Applied plan requirements, or courses that are already mandatory for the CS Applied plan. The application also checks for conflicts in prerequisites, schedules, and other restrictions. Users may also view detailed information about specific courses.

Once a student has created at least one Applied plan, they can view the details for that plan and its status. When in view mode, students can see any comments that an advisor has left on their Applied plans. They can also leave their own comments, modify courses, and see the current status of their plans.

2.2 Advisor View

Advisors can scroll through a list of students' custom Applied plans. They can sort by "Awaiting Initial Review", "Awaiting Final Review", "Awaiting Student Changes", "Rejected", and "Accepted". advisors can also search for plans with a student's name or ID number. When an advisor views a plan, they can leave comments, require a course to be changed, edit the plan, or change the plan's status. When an advisor views the plan, they can also see if a similar plan (same collection of courses) has been accepted or rejected. advisors can also directly message other advisors or students. Only the head advisor can handle the final review and accept or reject a plan.

3 Performance Metrics

3.1 General Features

- The application must make use of OSU's APIs, and do so according to all applicable university guidelines.

- The application must be secured and exclusive to admins, OSU students, and OSU advisors by requiring OAuth authentication via ONID. If the user is already logged into their OSU account through another ONID-enabled service (e.g., Canvas, MyOSU, MyDegrees, etc.), our login system should be configured to inherit that login, if possible.
- The application's functionality should be intuitive and easy to use.
- The application should be aesthetically pleasing on both desktop and laptop screen sizes.
- The application should feel complete. There must be no partially implemented features.
- Admins must be able to access and review all data that relates to students or advisors.
- If FERPA regulations are deemed to apply to this project, we must strictly adhere to them at every stage of development and testing. This is absolutely critical, as violating national, state, or local regulations could results in fines or lawsuits.
- In order to test our finished application with students, our team must obtain approval from the IRB to conduct a study. We cannot test our software with students until we have done this.
- The application should be compatible with mobile devices. This metric is not set in stone. Our client has requested that we focus on desktop and laptop screens first, then decide later if mobile compatibility is necessary.

3.2 Student View

- The application should make the process of creating custom Applied plans quicker than with the current form-based system.
- The application must allow students to submit custom Applied plans to a secure database. If data cannot be written to the database, the user must be shown a detailed error message (e.g., "Page not found", "Internal server error", etc.).
- Users need to be able to select classes that are available at OSU to add to their custom Applied plan.
- Users should be able to view a specific course to see its description and schedule.
- Selectable classes should be constrained based on specific Applied plan limitations (e.g., not being able to select the same course twice, not being able to select a course that is already required for their degree, etc.).
- Students should be able to see notifications from their advisors.
- Students should be able to modify their Applied plans at any time (May require re-approval if done after the plan was approved) including leaving notes on the plan for advisors to see.
- Students should be able to see their Applied plan status in real time.
- Users should be able to send a private message directly to their advisor.

3.3 Advisor View

- The application should make the process of reviewing custom Applied plans quicker than with the current method.
- The application must allow advisors to securely access students Applied plan data that is stored on the database. If data cannot be read then the advisor must see a detailed error message ("Page not found", "Internal server error", etc.).
- Advisors must be able to edit, review, and leave notifications on students plans.

- Advisors should be able to 'claim' or 'release' a student's Applied plan. Once an advisor has claimed a plan, other advisors should not be able to edit or leave notifications on the plan. Releasing the plan reverses this restriction.
- Advisors should be able to create their own Applied plans that students can select.