340 Project Proposal

CorrugatedPaper

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https://github.com/cs340-25/CorrugatedPaper

I. Introduction

Project Overview

This project is based on Paper.nu, a class scheduling tool for Northwestern University, in an effort to improve the University of Tennessee, Knoxville's (UTK) class scheduling interface.

Motivation

This project was motivated by the collective dismay at UTK's class scheduling interface. Currently, UTK's interface is riddled with an unfavorable design, making class registration difficult and frustrating to use. The interface is also visually unappealing and causes severe distress to the user's retina and lacks modernity.

In addition to the list of motivators, this project is also motivated by the common goal amongst the team members, Madina Mirusmanova, Mung-Shu Shen, Ashwin Vinod, and Jonah Weston, (henceforth referred to as the "Group") to pass the COSC 340: Software Engineering class in attempts to graduate. The thought of failing a class and thus delaying graduation was deemed too devastating to even consider. Therefore, the Group jointly decided to propose the project, CorrugatedPaper, in order to prevent the destruction of each individual team member's grades.

Team Member Backgrounds

- **Madina Mirusmanova**

  Madina is a current Junior in Computer Science here at the University of Tennessee, Knoxville.
- **Mung-Shu Shen**

  Mung-Shu is currently a Junior at the University of Tennessee, Knoxville majoring in Computer Science.
- **Ashwin Vinod**

  Ashwin is a Junior majoring in Computer Science at the University of Tennessee, Knoxville.
- **Jonah Weston**

Jonah is currently a Senior at the University of Tennessee, Knoxville double majoring in Computer Science and Mathematics.

II. Customer Value

Customer Need

CorrugatedPaper is aimed to be used by college students, like ourselves, to have a better experience of planning out their classes. As aforementioned, our intention is for the customer to have a better organized and visually comfortable method of registering or planning ahead their classes. The current class scheduling interface of UTK, which students access through their myUTK accounts, in our opinion, is outdated and can be drastically improved.

In the context of a market, we believe that there would be a significant need for CorrugatedPaper. The paper.nu project that we intend on modeling ours upon has already been well-received by Northwestern University students, according to online reports.

Proposed Solution

From our customer's point of view, we hope that CorrugatedPaper will be a revolutionary alternative to the current myUTK class scheduler interface allowing for a much easier and simpler method of creating a class schedule for upcoming semesters. As mentioned earlier, since we already have this model of a class scheduler for Northwestern University students, this "idea" has been tested and proven to be quite popular.

Measures of Success

We plan on making CorrugatedPaper available to all students at the University of Tennessee, Knoxville. We plan on announcing it through our Discord class group, so that all who want to are free to test it out. The overall success of the project will then be measured by the feedback provided through this testing.

III. Proposed Solution & Technology

System

CorrugatedPaper will allow users to select classes from a list of classes in the EECS department and will create a schedule from the classes. It will also allow users to create schedules for future semesters using extrapolated class time data. With any application, the main components include a frontend, backend, and a database. Our proposed CorrugatedPaper is no different. CorrugatedPaper will contain a frontend that enables and enhances the user interface and experience. A backend will also be required in order to effectively and efficiently deal with all the logic and data control. The database will be a storage point for all the data involved in the application.

Tools

The frontend will be built using the React Framework in JavaScript, the backend will be built using the Django Framework in Python, and the database will be utilizing MongoDB. React will allow us to create a dynamic single-page web application. Django will provide an easy and efficient way of designing the application. MongoDB will allow for safe storage of large amounts of data.

IV. Team

Skills

Our Group represents a wide spectrum of skill levels. Some of the members have had experience with software development while others do not. The tools we have chosen are new to the team, ensuring everyone walks away with newfound knowledge.

Roles

Each group member's roles will be on a rotating basis and decided based on what needs to be done that week. This ensures that every member is exposed to different technologies to maximize learning potential.

V. Project Management

Schedule

The Group proposes to have completion of the project done by the first week of May. By maintaining realistic expectations given our skills and time, we believe the completion of the system by the aforementioned deadline will be feasible. We have established multiple channels of communications to ensure proper dialogue. Out of respect for the Group member's time, meetings will be online. However, should the need arise, we will conduct face to face meetings at a predetermined location.

At the time of writing (02/13), there will be 12 weeks before the first week of May. The week-by-week schedule will as following:

Week of 02/17: Installing tools, setting up workspace, learning usage of tools.
Week of 02/24: Establish design of specific components (front/backend, database)
Week of 03/03: Implementation of bare-bone application
Week of 03/10: Integrating components
Week of 03/17: Adding functionality
Week of 03/24: Adding functionality
Week of 03/31: Adding functionality
Week of 04/07: Adding functionality
Week of 04/14: Design UI
Week of 04/21: User testing and inputs
Week of 04/28: Improve based on user inputs
Week of 05/05: Applying finishing touches

Constrains

For our project, we expect to encounter no constraints. Since automatic registration could cause security issues, we will not allow for automatic registration. Instead our software will only create a schedule for the user and provide the CRNs for manual registration.

Resources

Class schedule information will be scraped from the UTK class catalog and the class search feature in myUTK. By using historical data as well as current data, more accurate class times can be predicted for future semesters.

Descoping

Pragmatic expectations will be set for this project. Progress will be linear, meaning addition functionality will only be added after the previous function is functioning as expected. Using this principle, progress will be slower, but in return, ensures application functionality.