BSOE Course Scheduler
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Team members:

Andriy -Product Owner Harmeet Sohal -Scrum Master Nathanael Chow

Arthur Weimholt Lucas Tung Shiyuan Huang

BSOE Course Scheduling Web App

- A lot of students have a hard time meeting with counselors and it could sometimes take weeks to hear back from them.
  - This ends up leaving students trying to figure out what classes they need to take for graduation and that can be a lot of piecing together for the students
  - Our app would automate this process and help students figure out schedules personalized for them

Project Scope

- Make a functional web app that recommends classes based on previous classes taken by the student. Students should be able to login, save their courses taken, and have suggestions updated as more courses are finished.

Sprint 1

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User Stories

- As a user, I want access to the website and see some UI.
  - draft a basic interface
  - Create HTML draft Style it with css
- As a developer, I want to create a database of classes, so that I can easily access, retrieve, and modify data.
  - Create a database in MySQL to store data

Spikes

- Figuring out how the database and backend need to be configured

Infrastructure tasks (acquiring tools, setting up environment)

- Setting up github, planning the overall design and how to piece everything together.
- Developing a very basic frontend and backend and get them to communicate.

Sprint 2

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User Stories

- As a user, I want access to the website and ability to input my classes
  - have a list of all CS classes offered at UCSC
  - implement drop down-menu allowing user to select classes already taken
- As a developer, I want to add functionality to the backend
  - simple algorithm to find out all of the classes the user can potentially take
- As a developer, I want to use the database to store data.
  - Input data from school website into our database

Spikes

- Figuring out how to allow the frontend and backend to talk to each other

Infrastructure tasks

- Host the webpage online

Sprint 3

User Stories

- As a user, I want to be able login to a website and see my data.
  - ability to create user account and retrieve user's classes from their account
- As a developer, I want to use the database to store and modify data.
  - store the list of classes taken by the user in the database

Spikes

- Figuring out how to allow users to create an account to save their information

Infrastructure tasks

  - Figure out how to host the backend and database on a server

Sprint 4

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User Stories

- As a user, I want features to help me pick the right schedule for me
  - view multiple possible schedules
  - ability to specify number of upper divs and electives wanted
- As a developer, I want to add extra features
  - algorithm to smartly recommend 4-5 possible classes to take
  - have the ability to exclude certain classes
  - have the ability to filter classes by meeting times and meeting days

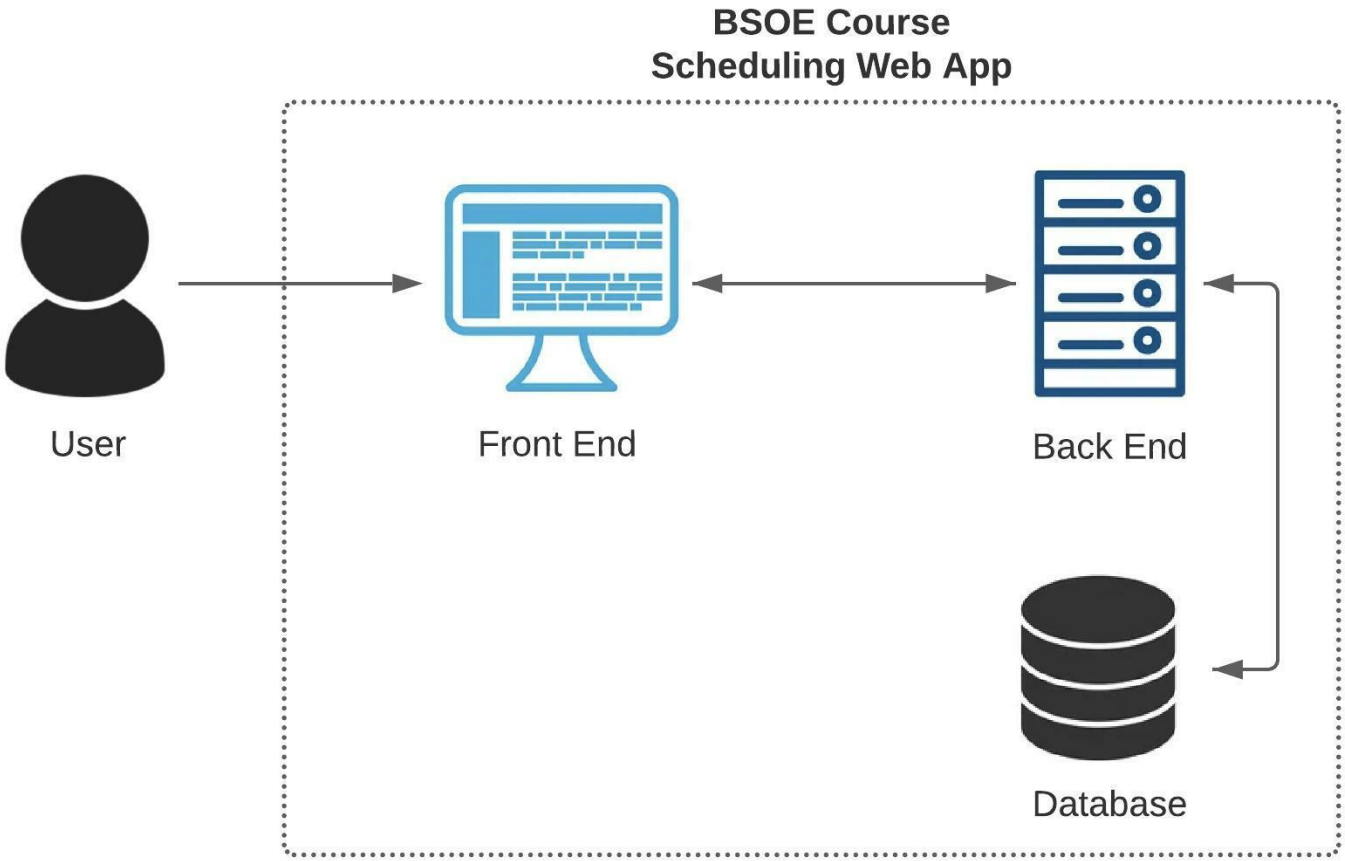
Spikes

- Figuring out how to make an algorithm smart enough to recommend the best possible classes the user can take

Infrastructure tasks

- Have the website be hosted and be fully operational and accessible by everyone

Architecture



Technologies

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Programming Language(s) - Javascript, HTML, CSS, Python, C, SQL

Web Framework - Bulma.css py4web

Development Environment - MySQL, Visual Studio, Github

Challenges/Risks

Challenge 1 defining the database schema so it is extensible

- to make it more extensible by loosely coupling data, it might make our queries more complex, on the other hand, designing it for simple queries might make the database less flexible/extensible which means new features might require a lot of rework

Challenge 2 working remotely and having different schedules between team members

Challenge 3 Balancing functionality with user friendly UI.

Minimum Viable Product (MVP)

The minimum viable product would allow a computer science student the ability to input their classes into our website and return them a personalized schedule they could potentially take.