

Find My Major

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CISC 4900. Fall 2025

The Mission

Find My Major is an interactive, web-based quiz designed to simplify the college major selection process for students. This project integrates key computer science concepts, including web development for the user interface, software design for quiz logic, and data management for handling questions and results.

Guided by the goal of helping students find pathways that align with their interests, Find My Major uses targeted questions to identify passions and traits, providing users with a list of potential majors to explore.

Integrating Key CS Concepts

Full Stack Web Development: HTML, CSS, JS

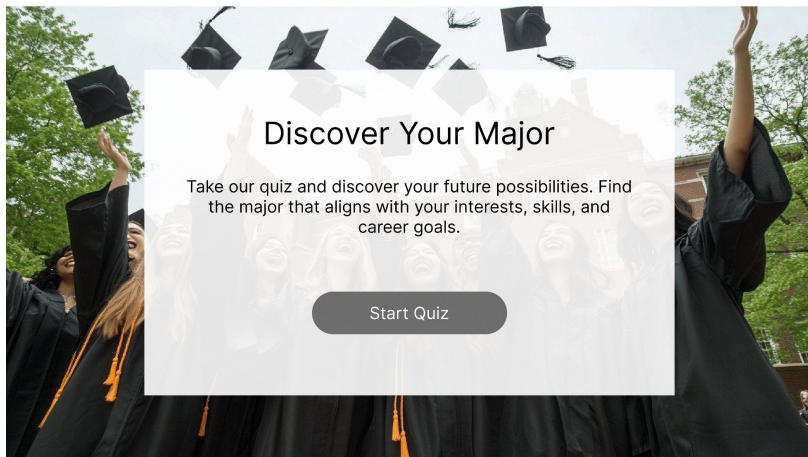
Algorithm Design: Matching algorithm for quiz results

UI/UX Design: Figma

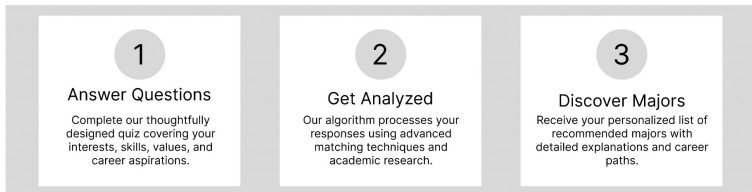
Version Control: Git/GitHub

From Mockup To Prototype

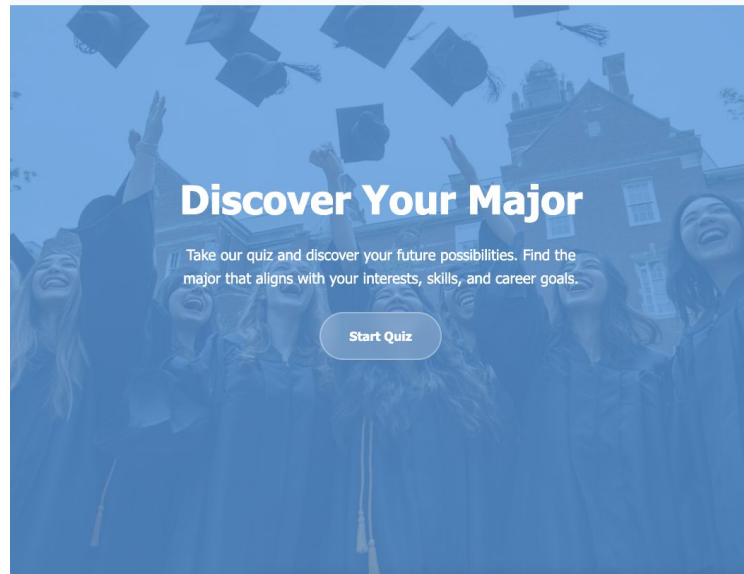
Find My Major



How It Works



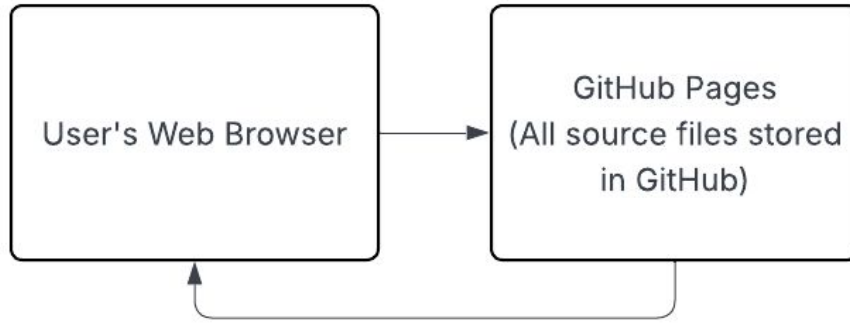
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How It Works



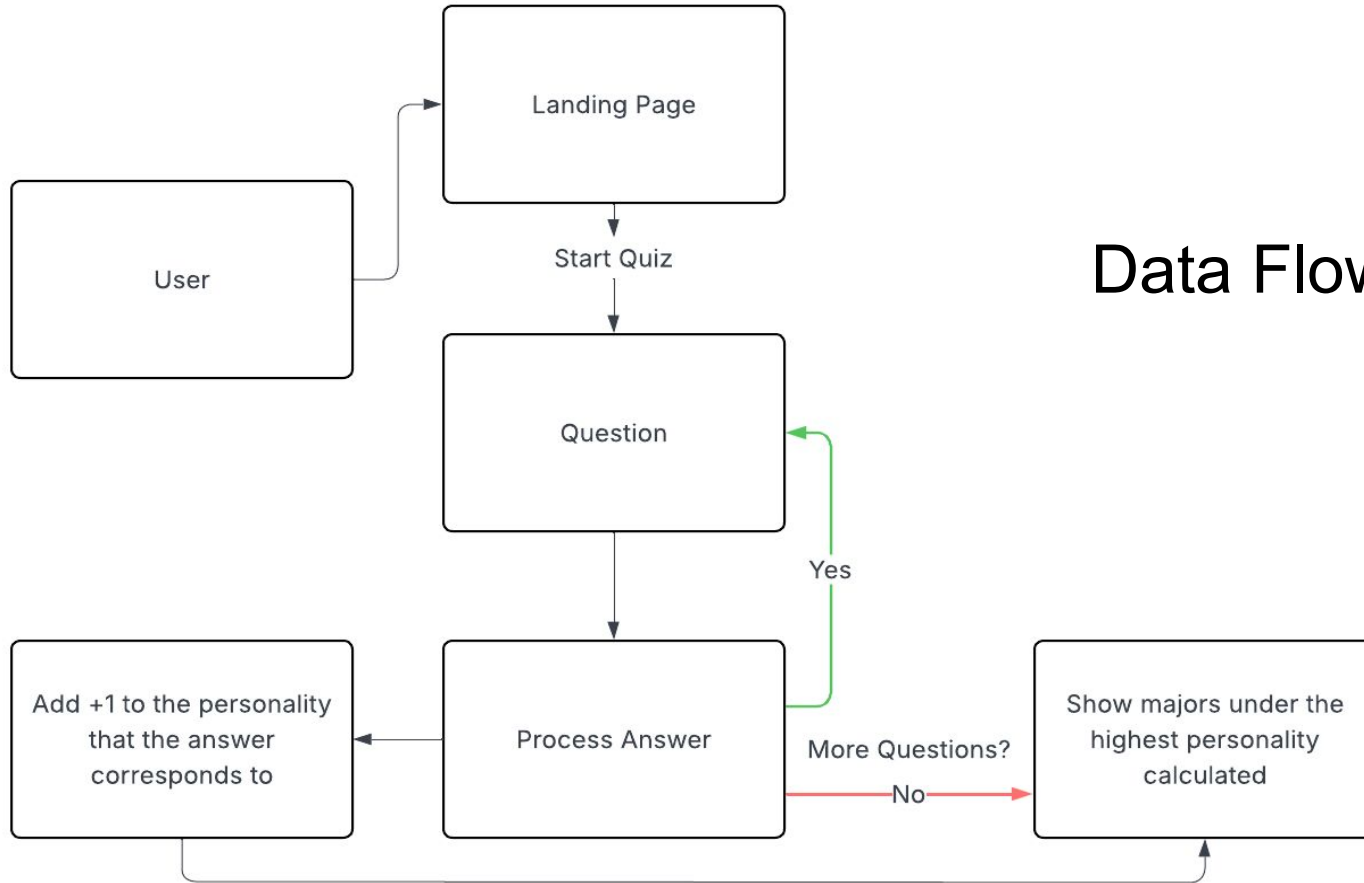
System Architecture - Static Site Architecture



Browser runs all JavaScript logic and reads data from JS files locally to display the quiz/results. (No server needed!)

1. The user's browser requests the website from GitHub Pages.
2. GitHub Pages sends all the HTML, CSS, and JavaScript files to the user's browser.
3. All application logic—like the quiz questions and scoring—is stored in the JavaScript files and runs entirely within the user's browser.

Data Flow



Algorithm - Major Matching Logic

Concept: I needed an efficient way to match quiz answers to majors.

Algorithm Chosen: Simple function that searches for the personality with the highest value.

Runtime: $O(1)$ because the algorithm only has to check 6 personalities for their values. It is extremely fast and will take the same amount of time to run every single time, regardless of the user's scores.

Algorithm - Code

```
function findHighestScore(scores) {  
  // Variables to keep track of the highest.  
  let highestScore = -1;  
  let highestCode = "";  
  
  // Loop through each code in the scores object.  
  for (const [code, score] of Object.entries(scores)) {  
  
    // Check if the current score is greater than the highest one so far.  
    if (score > highestScore) {  
      highestScore = score;  
      highestCode = code;  
    }  
  }  
  
  // Return the highest.  
  return highestCode;  
}
```

```
DEFINE scores = {  
  R: 0,  
  I: 0,  
  A: 0,  
  S: 0,  
  E: 0,  
  C: 0  
}
```

This is the personality profile.
It stores the running total for each personality which the algorithm will go through to find the personality with the highest value.

The Toughest Obstacle

Problem: This is my first time doing a project of this scale. Up until this point, my courses have required me to write code to solve smaller tasks. The challenge I faced was the organization and planning of the project itself. I did a lot of the project without planning in detail what was next which caused me to become confused at times.

Solution: I was able to solve this issue by creating a detailed schedule which outlines exactly what I expect to do in the following weeks.

Feature I Abandoned

The Feature: Originally my plan was to keep all the questions and answers for the quiz in a JSON file.

Why?: I downscoped this feature because after realizing that I needed a way to add values to each answer, it was way simpler to have the questions already stored in the JS. Since it is a static website, there was no need to have them in a separate file.

UI/UX & Design Choices

Find My Major

Discover Your Major

Take our quiz and discover your future possibilities. Find the major that aligns with your interests, skills, and career goals.

Start Quiz

QUESTION 1 OF 5

What type of activities do you enjoy most in your free time?

A Creating art, writing, or engaging in other creative pursuits

B Solving puzzles, coding, or working with numbers and logic

C Helping others, volunteering, or social activities

D Playing sports, outdoor adventures, or hands-on projects

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Next →

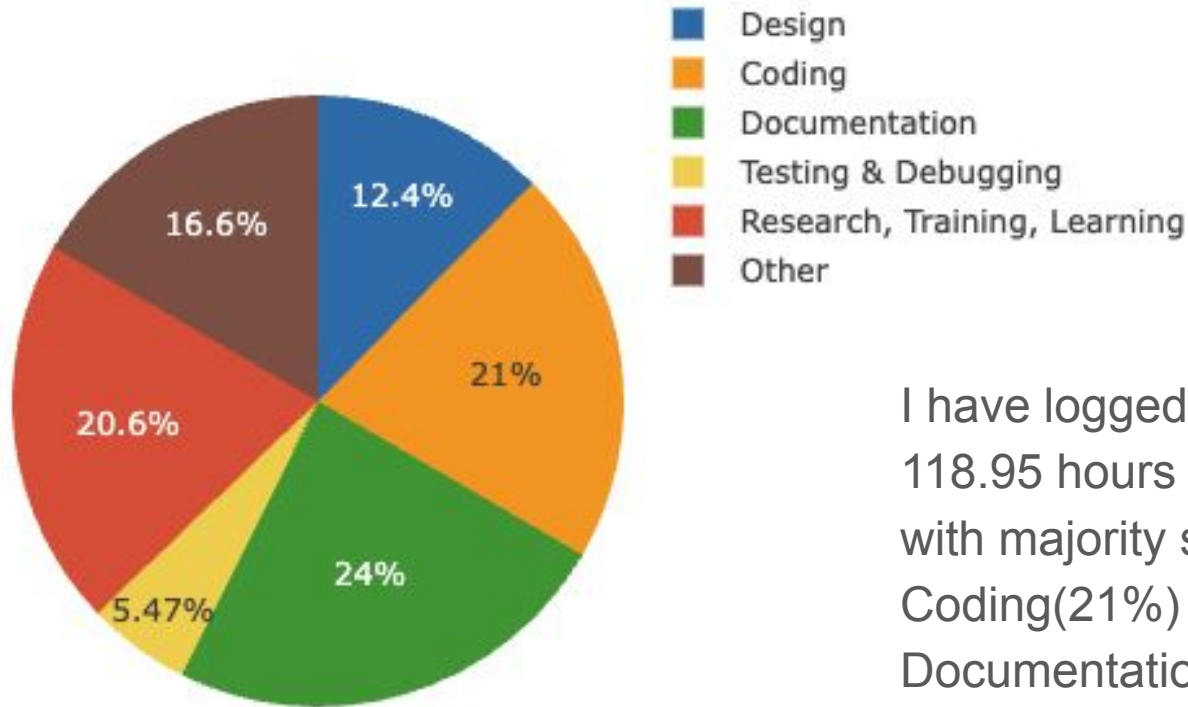
UI/UX & Design Choices

Color Palette: I chose a blue and white palette to invoke a sense of calm and trust.

Layout: A single-column, one question at a time layout minimizes cognitive load and keeps users focused.

Call-to-Action(CTA): The “Next” buttons are large and use the primary accent color to clearly guide the user through the quiz.

Documentation



I have logged a total of 118.95 hours on this project, with majority spent on Coding(21%) and Documentation(24%).

What's Next

The next steps will involve creating a profile page for each major. Each major will have their own page where users can go to get further information on that major.

It will provide articles, YouTube videos, and other websites that I feel will help users.

Information

GitHub Repo(Includes Time Log): <https://github.com/filipolz/CISC.4900.git>

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