

GPA CALCULATOR PROJECT PRESENTATION

INTRODUCTION

Title: GPA Calculator: Track Your Academic Performance

Subtitle: A Modern, Responsive, and Data-Persistent Web Application

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AGENDA

3

Project Overview

Heading: The Goal: Simplifying GPA Tracking

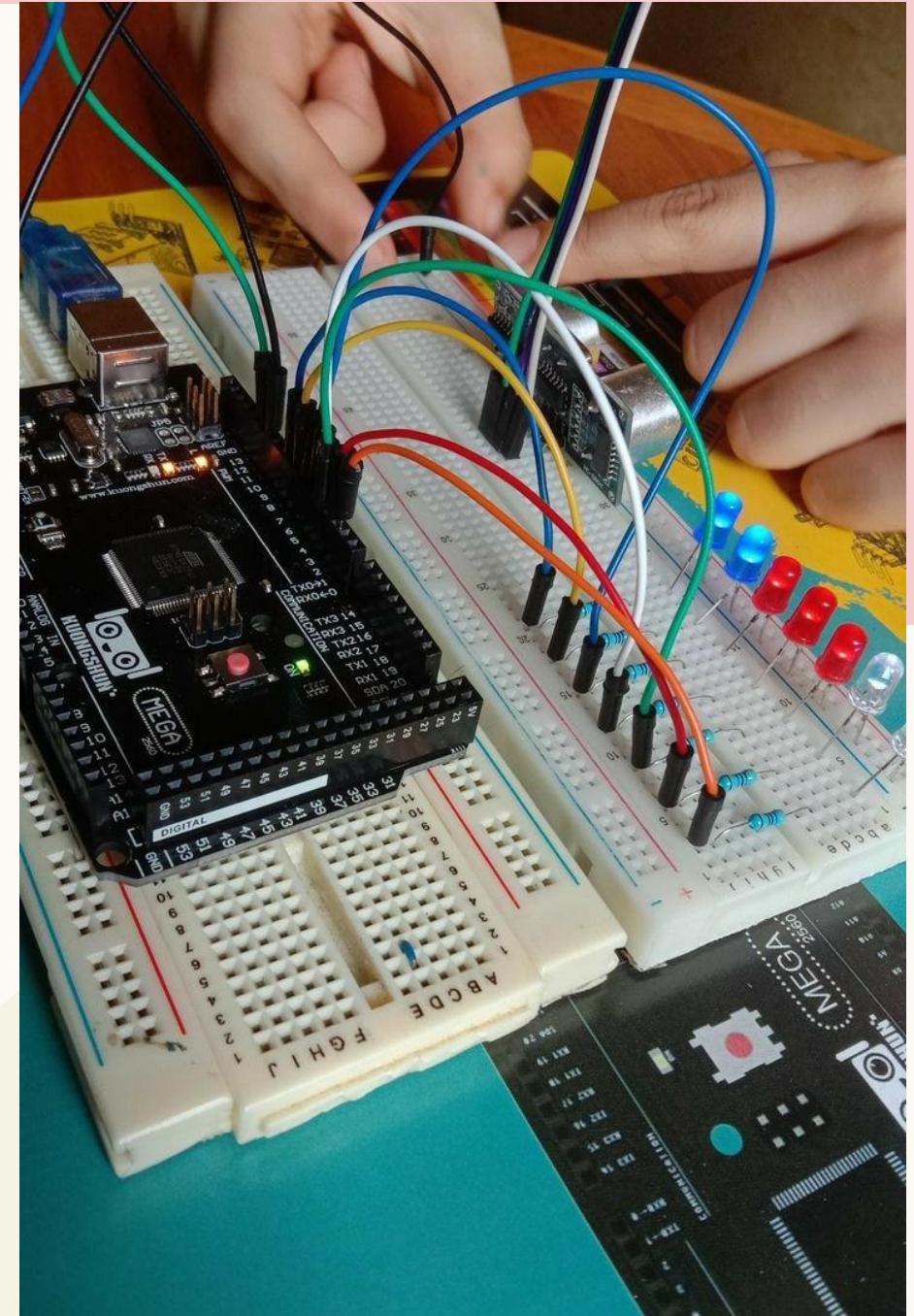
Problem: Students need a simple, reliable tool to calculate and monitor their GPA without complex spreadsheets or proprietary software.

Solution: A zero-dependency web application providing an intuitive interface for real-time GPA calculation.

Key Design Philosophy: User-centric, focusing on accessibility, responsiveness, and data continuity.

CORE FEATURES

Key Application Functionality





REAL-TIME GPA CALCULATION

- Supports a standard 5.0 grading scale (A-F).
- Instantaneous calculation updates upon input change.



DATA PERSISTENCE

- Automatically saves course data directly in the browser using the **LocalStorage API**.
- Users can close and reopen the app without losing their progress.



DARK MODE SUPPORT

- Supports system theme preference detection.
- Manual toggle for light/dark mode.



PERFORMANCE ADVISOR

- Provides actionable, AI-like recommendations (e.g., "You need a 4.0 in your next 15 credits to reach a 4.5 cumulative GPA").



PRINT OPTIMIZATION

- Dedicated print stylesheet ensures results are clean, readable, and print-friendly.

TOOLS & ARCHITECTURE

Confidence-building strategies



Technology**HTML5****CSS3****JavaScript ES6+****Vanilla JS****LocalStorage API****Purpose**

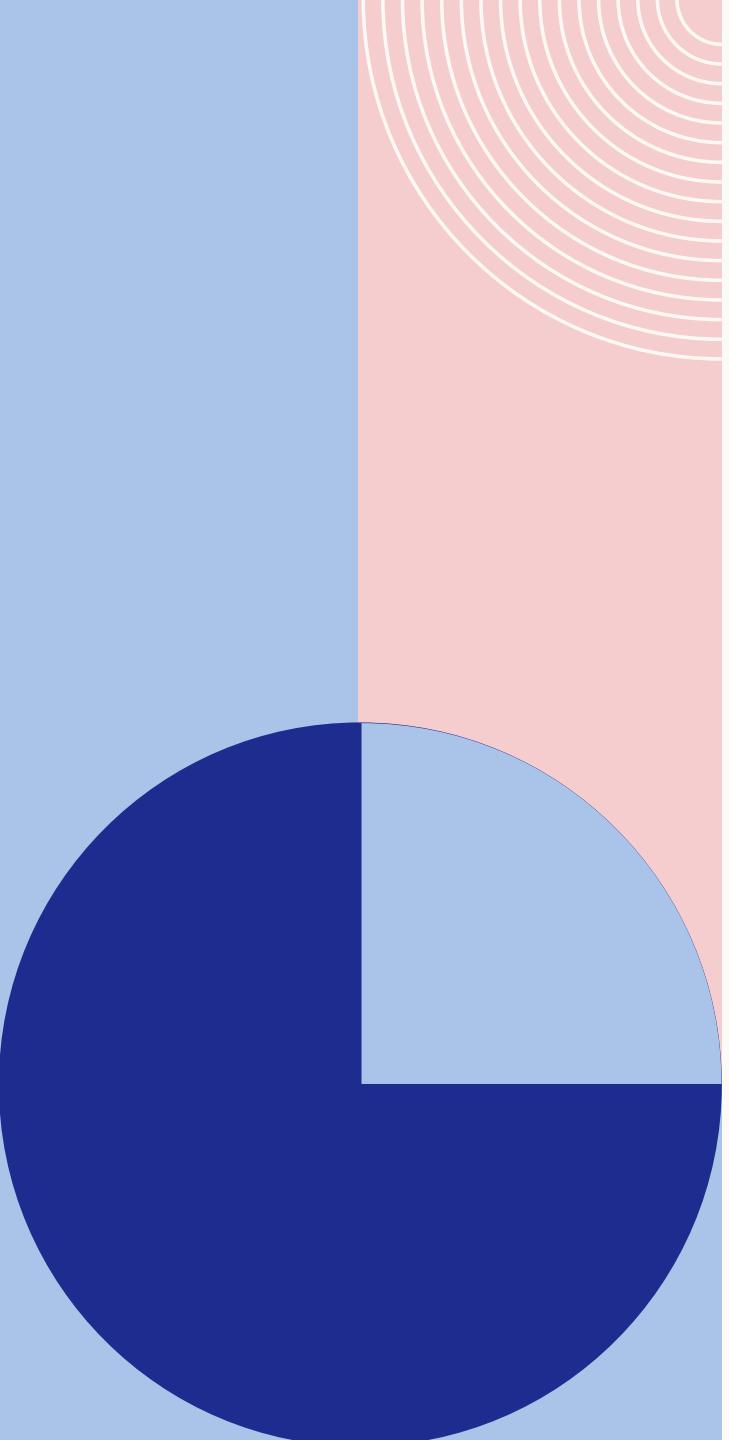
Semantic structure and accessibility (ARIA labels).

Styling, custom properties (:root variables), Flexbox, and Grid for layout.

Core application logic (calculation, DOM manipulation, form handlers).

Zero dependencies. All features built using pure JavaScript, ensuring performance and compatibility.

Data saving and loading for course information.



DESIGN & USER EXPERIENCE (UX)

A Focus on Usability

CUSTOM COLOR PALETTE (ORANGE THEME)

- **Primary:** Orange-500 (#f97316) for core actions and branding.
- **Accent:** Green-500 (#10b981) for success/add actions.
- Defined entirely using **CSS Custom Properties** for easy theme switching.

RESPONSIVE DESIGN

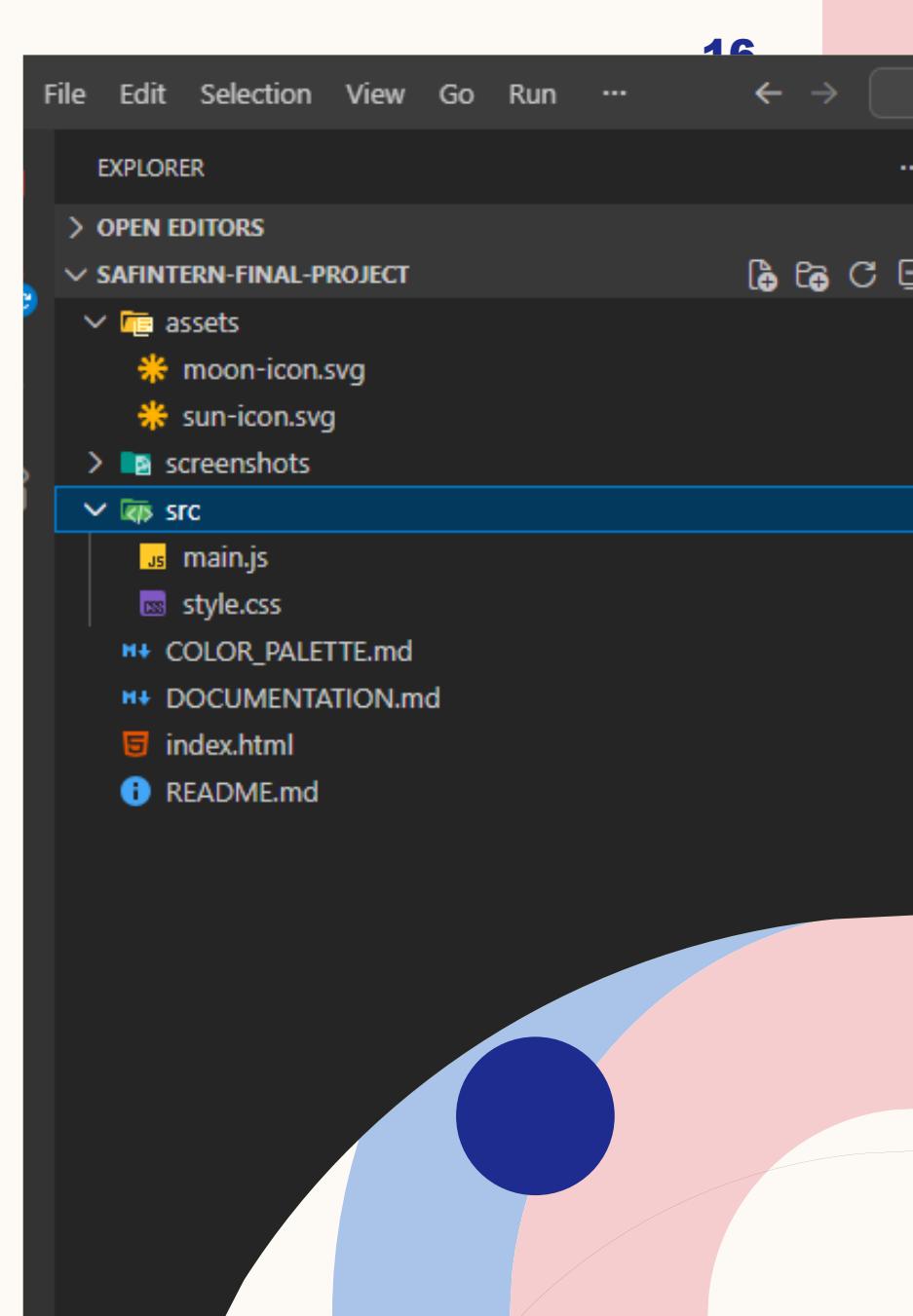
- Mobile-first approach.
- Optimized for mobile, tablet, and desktop views.

ACCESSIBILITY:

- Semantic HTML and ARIA attributes for screen reader compatibility.

CODE STRUCTURE & PROJECT FILES

Maintaining a Clean, Modular
Codebase



HTML (index.html): The main layout, including the course input form and the results display area.

CSS (style.css): Handles all visual presentation, responsiveness, theme variables, and print styles.

JavaScript (main.js): Modularized logic into dedicated objects:

- Theme Manager
- Course Manager (for adding/removing rows)
- Data Handler (for Local Storage)
- GPA Calculator
- Performance Advisor

```
Manager = {
  createRow() {
    let row = document.createElement("tr");
    let courseName = "course-name";
    let gradeHTML =
      ``;
    let gradeSelect = "grade" required;
    let gradeOptions = [
      { value: "" }>Select Grade</option>
      { value: "5" }>A (Excellent)</option>
      { value: "4" }>B (Very Good)</option>
      { value: "3" }>C (Good)</option>
      { value: "2" }>D (Fair)</option>
      { value: "1" }>E (Pass)</option>
      { value: "0" }>F (Fail)</option>
    ];
    let creditInput = "credit" min="1" max="10" placeholder="Credit Hours" required;
    let removeButton = "button" class="btn-remove" value="Remove";
    let removeEvent = Selector(".btn-remove").addEventListener("click", function () {
      Manager.removeCourse(this);
    });

    row.appendChild(courseName);
    row.appendChild(gradeSelect);
    row.appendChild(gradeOptions);
    row.appendChild(creditInput);
    row.appendChild(removeButton);
    return row;
  }
};

const courseTableBody = document.querySelector("#course-table-body");
courseTableBody.addEventListener("click", function (event) {
  if (event.target.classList.contains("btn-remove")) {
    Manager.removeCourse(event.target);
  }
});
```

NEXT STEPS & CONCLUSION

Summary and Future Enhancements



- **Current Status:** Fully functional GPA calculation, dark mode, and data persistence.
- **Future Ideas:**
 - Export results to CSV/JSON.
 - Support for multiple academic sessions/years.
 - Advanced grade scale customization.

THANK YOU

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