Web Application Programming and Hacking

WAPH Hackathon 1 – Cross-site Scripting Attacks and Defenses

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Overview

This project was part of the Web Application Programming and Hacking course aimed at building a professional portfolio website using HTML, CSS, Bootstrap, JavaScript, and public Web APIs. I developed a responsive resume website hosted on GitHub Pages. Throughout the project, I learned how to structure web content, apply dynamic effects, interact with APIs, and implement user tracking and cookies for interactivity.
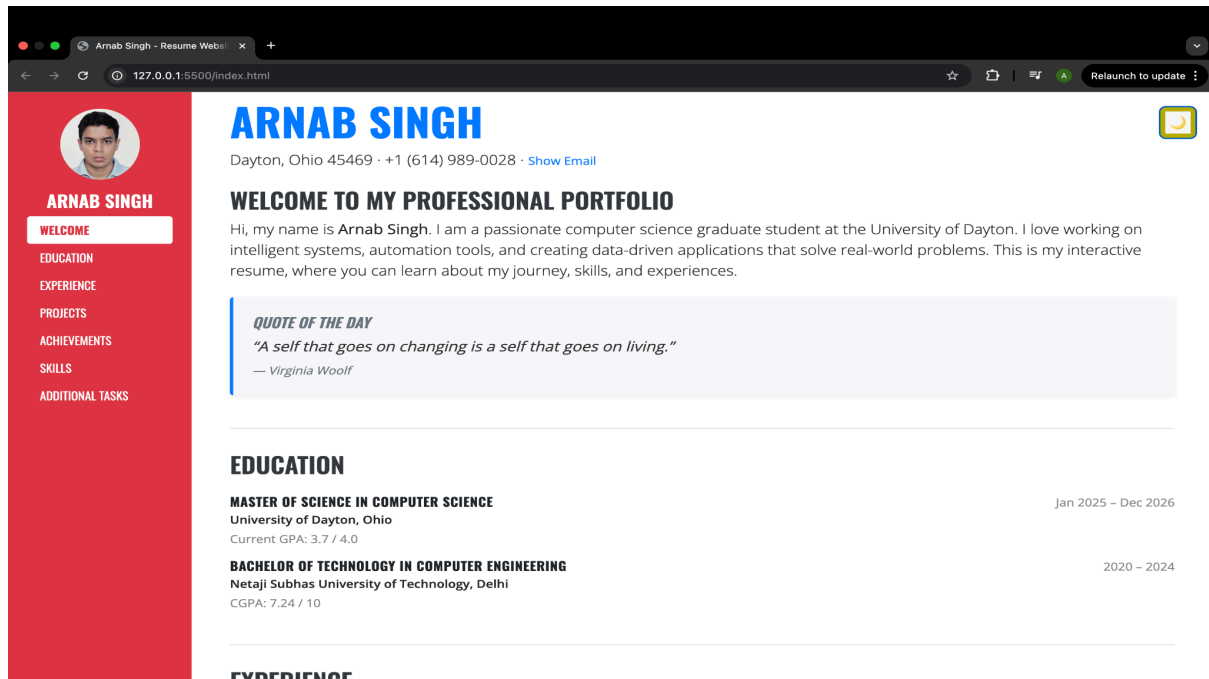
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General Requirements

Personal Website on GitHub

- Created `index.html` with personal details: name, photo, contact, education, experience, skills.

- Used Bootstrap for responsive layout.

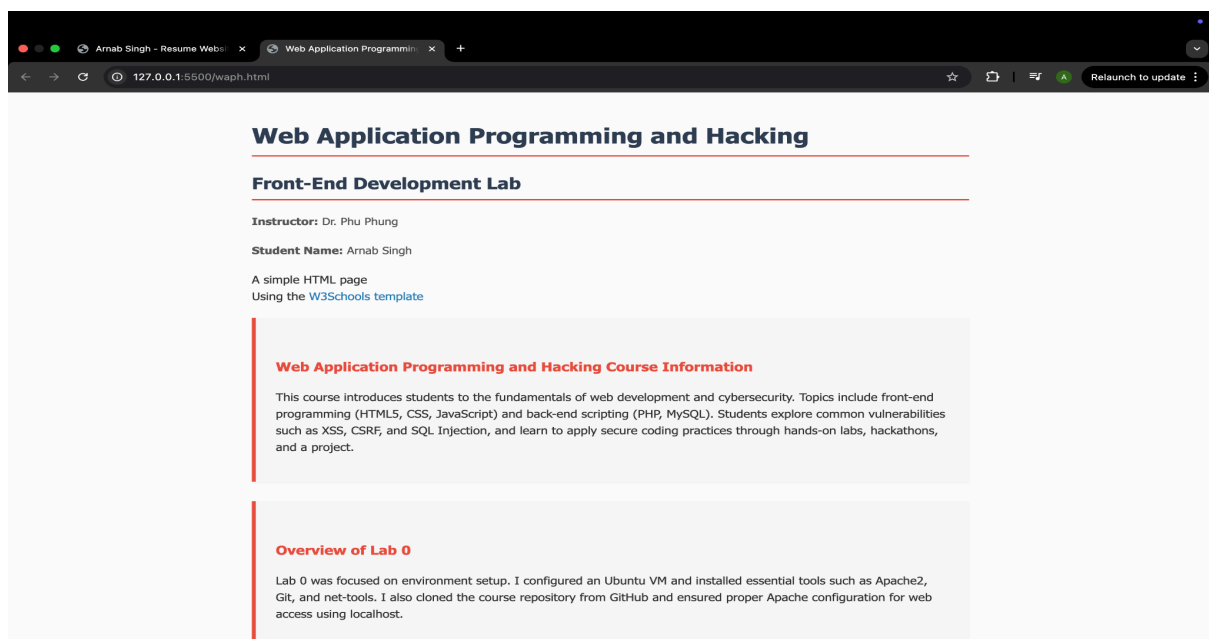- Website deployed successfully on GitHub Pages.

Screenshot: **Homepage with name visible**.

WAPH Introduction Page

- Created `waph.html` to introduce the course and related projects.

- Linked from sidebar or additional section in main page.

Screenshot: **Page showing WAPH intro and overview of labs/projects.**

Non-Technical Requirements

- **Bootstrap 4.5 is used as the main CSS framework to ensure a responsive and professional layout.**

- **Layout and design are clean, consistent, and recruiter-friendly.**

- **Google Fonts used:**

  - `Oswald` **for headings**

  - `Open Sans` **for body text**

- **Consistent use of font sizes, padding, spacing, and color palette across all sections.**

- **Sidebar is fixed for easy navigation; main content area is scrollable and neatly segmented.**

- **Target audience: Potential employers, professors, and technical reviewers.**

Technical Requirements – JavaScript Features

JavaScript Features (20 pts total)

- **Digital Clock**

  - **Tool:** `Luxon.js`

  - **Displays current Ohio (EST) time and updates in real-time**

  - **Placed under "Additional Tasks" section**

- **Analog Clock**

  - **Tool: Plain JavaScript with** `<canvas>`

  - **Custom design, live-rendered clock hands, accurate second-by-second motion**

  - **Also in the "Additional Tasks" section**

- **Show/Hide Email**

  - **Tool: `jQuery`**

  - **A button toggles your email visibility, protecting it from spam bots**

  - **Located under your name in the header section**

- **Dark Mode Toggle**

  - **Tool: Plain JavaScript**

  - **Floating moon/sun button in the top-right corner**

  - **Button remembers theme using `localStorage`**

  - **Dark mode also updates colors for sidebar, highlights, and progress bars**

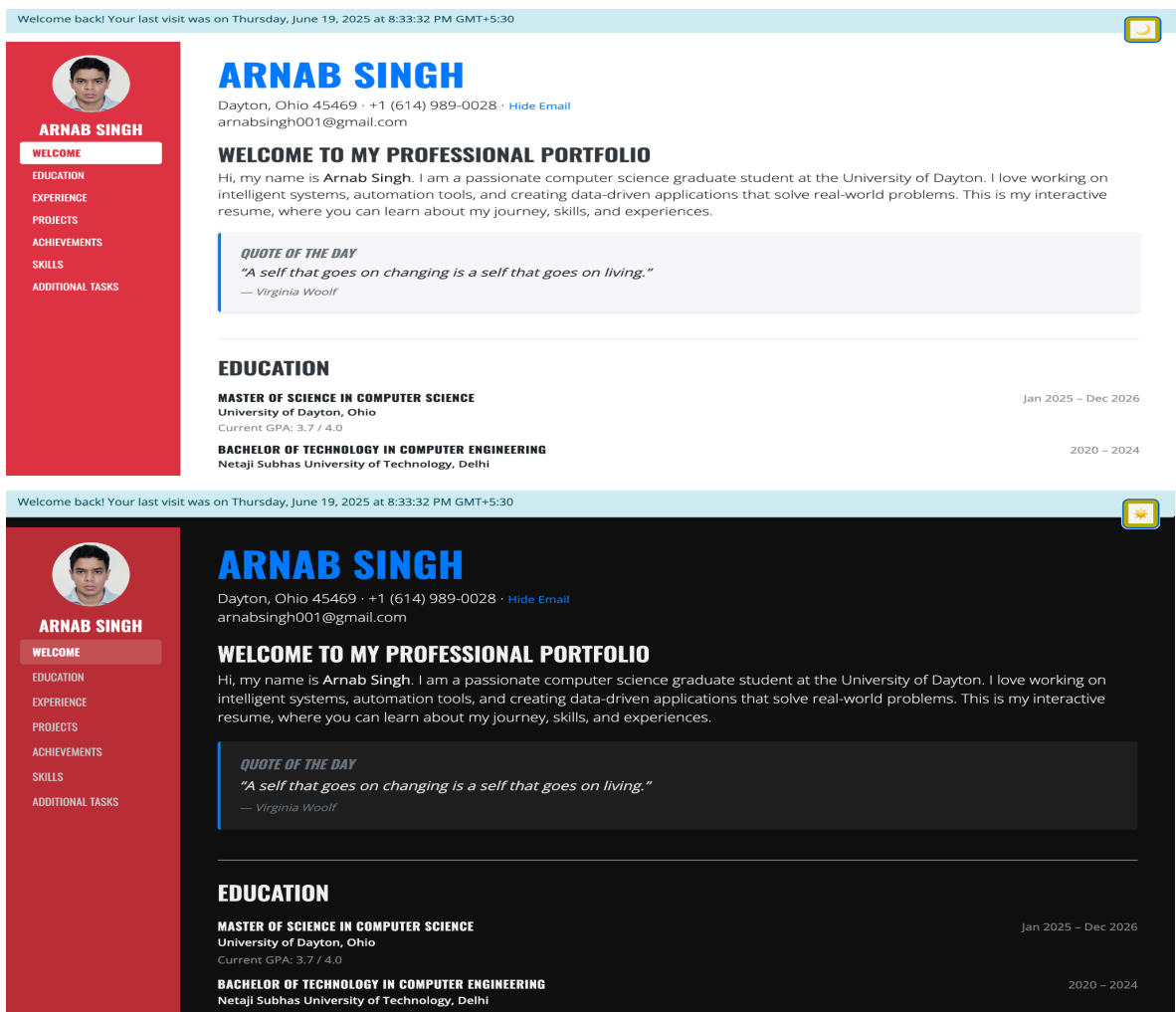 - **Border color of the button set to yellow for visibility**

Screenshot 1: Clocks

Digital and Analog clocks built using JavaScript and Luxon

Screenshot 2: Show/Hide Email

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Email visibility toggled using jQuery

Screenshot 3: Dark Mode Active

Welcome back! Your last visit was on Thursday, June 19, 2025 at 8:33:32 PM GMT+5:30

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WELCOME
EDUCATION
EXPERIENCE
PROJECTS
ACHIEVEMENTS
SKILLS
ADDITIONAL TASKS

WELCOME TO MY PROFESSIONAL PORTFOLIO

Hi, my name is **Arnab Singh**. I am a passionate computer science graduate student at the University of Dayton. I love working on intelligent systems, automation tools, and creating data-driven applications that solve real-world problems. This is my interactive resume, where you can learn about my journey, skills, and experiences.

QUOTE OF THE DAY
"A self that goes on changing is a self that goes on living."
— Virginia Woolf

EDUCATION

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University of Dayton, Ohio
Current GPA: 3.7 / 4.0

BACHELOR OF TECHNOLOGY IN COMPUTER ENGINEERING   2020 – 2024
Netaji Subhas University of Technology, Delhi

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Light / Dark mode UI with sidebar and theme toggle button

Public API Integrations (20 pts)

JokeAPI Integration – 10 pts

- Integrated the JokeAPI to **fetch and display a new joke every 60 seconds**.

- The joke is placed inside a **Bootstrap card** under the "Additional Tasks" section.

- The API call uses `fetch()` and updates the card content dynamically.

- Adds a fun, engaging real-time element to the page.

Code Snippet Example:

```
fetch('https://v2.jokeapi.dev/joke/Any')
```

Screenshot 1 - The joke section while a joke is displayed:

Live joke fetched using JokeAPI (updates every 60 seconds)

- I also integrated the xkcd API to fetch and display the Comic of the Day. This comic is automatically updated and displayed as an image. It brings a fun visual aspect to the page, making the user experience more interactive and enjoyable. Like the joke section, a disclaimer is shown here as well.

Screenshot 2 - The comic of the day section while a comic is displayed:
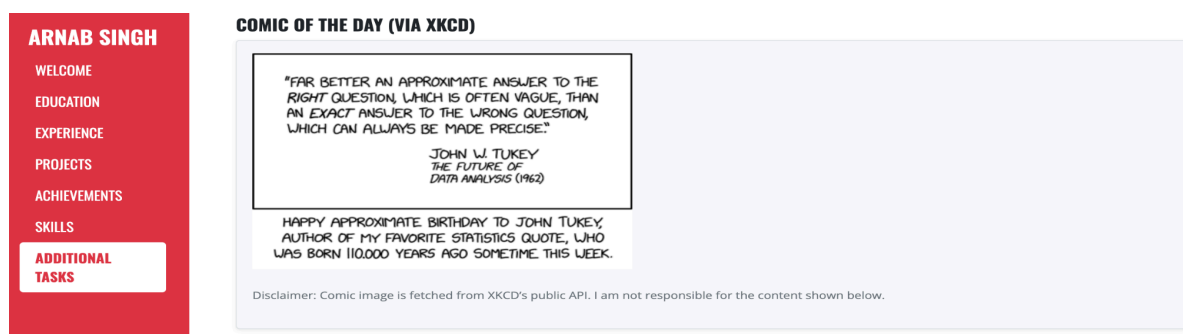

Live comic fetched using xkcd API.

Weather API Integration – 10 pts

- Used **WeatherBit API** to fetch and display **live weather in Dayton, OH**.

- Displays temperature and condition inside a styled card under "Additional Tasks".

- API is fetched via `fetch()` and the data is dynamically inserted into the page.

- API key used: `eb676bdc8fd54856b81184229251906`

Code Snippet Example:

```
fetch(`https://api.weatherapi.com/v1/current.json?key=${weatherAPIKey}&q=${city}&aqi=no`)
```

Screenshot - The weather box when the data is visible:
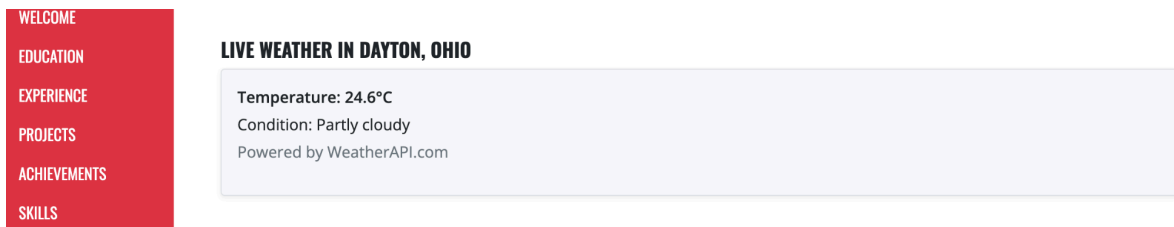
Live Dayton weather data powered by WeatherBit API

Disclaimer for API Use (Mandatory)

Disclaimer added below APIs:

"The content below is generated using third-party public APIs. I am not responsible for their accuracy or availability."
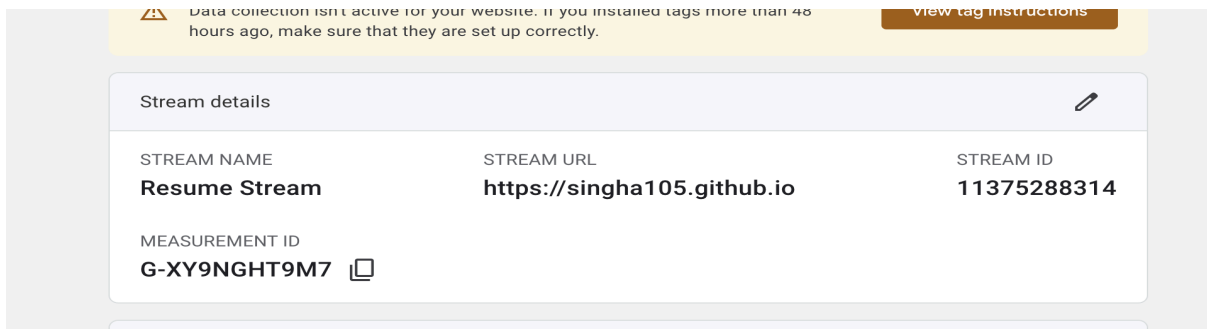
This fulfills the requirement to **clearly state responsibility disclaimer** for any public data.

Page Tracker (5 pts)

Google Analytics (Optional Tracker)

- **Google Analytics** was integrated using `gtag.js` script inside the `<head>` section.

- Tracks visits, sessions, and interactions for the deployed site.

- Set up via Google Analytics Console with proper stream ID (e.g., `G-XXXXXXX`).

⚠ Data collection isn't active for your website. If you installed tags more than 48
hours ago, make sure that they are set up correctly.

View tag instructions

Stream details		✎
STREAM NAME	STREAM URL	STREAM ID
Resume Stream	https://singha105.github.io	11375288314
MEASUREMENT ID		
G-XY9NGHT9M7 ⧉		

Google Analytics Web Stream setup for page tracking

FlagCounter – Visible Visitor Counter Widget (5 pts)

- Embedded a **FlagCounter** widget that shows:

    ○ Total visitor count

    ○ Country flags

    ○ Medium flag size

    ○ White background

- **Visible directly on the page**, does not require an external dashboard to check.
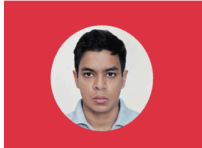
Screenshot - FlagCounter :

Live visitor tracker widget from FlagCounter.com

JavaScript Cookies

- On first visit: shows "Welcome to my homepage for the first time!"

- On repeat visit: shows "Welcome back! Your last visit was Sunday, June 23, 2025, 8:30 PM (IST)".

Screenshot - **Cookie popup message visible :**

Welcome back! Your last visit was on Friday, June 20, 2025 at 12:36:31 AM GMT+5:30

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