INFORMATION AND COMMUNICATIONS UNIVERSITY

WEB DEVELOPMENT PROJECT PROPOSAL

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Title: Building a Dynamic Weather Website for Lusakat Province with API Integration

Project Overview:

The aim of this project is to design and develop a dynamic weather website that provides real-time weather information for Lusaka Province. The website will integrate with a reliable weather API to fetch and display current weather conditions, forecasts, and alerts.

Objectives:

1. Develop a user-friendly and responsive website with a modern design.
2. Integrate a reliable weather API (e.g., OpenWeatherMap, Meteomatics) to retrieve accurate weather data.
3. Display current weather conditions, including temperature, humidity, wind speed, and precipitation.
4. Provide 5-day weather forecasts with detailed information.
5. Implement weather alerts and notifications for severe weather conditions.
6. Ensure website compatibility with various devices and browsers.

Methodology:

1. Develop the website using any of the two APIs (meteomatics or OpenWeatherMap).IN

2. Design the website's layout, user interface, and user experience (UI/UX).

3. Develop the website using HTML, CSS, JavaScript, and a framework (e.g., Bootstrap, React).

4. Integrate the weather API using JavaScript and AJAX.

5. Test and debug the website for functionality, performance, and compatibility.

Technical Requirements:

1. Front-end: HTML, CSS, JavaScript, Bootstrap/React.

2. Back-end: API integration using JavaScript and AJAX.

3. Database: Not required (API will provide data).

4. Hosting: GitHub Pages or similar platform.

Project Timeline:

1. 9 Days (16th – 23rd September 2024) : Project Proposal and API Research o Research available weather APIs and submit a project proposal.

2. 44 Days (24th Sept- 23rd November 2024) : Development Phase, Will Work on the basic functionality, implement the weather search and data display.

UI/UX Design & Advanced Features

Focusing on improving the user interface and adding advanced features.

Final Testing and Debugging, Testing the application thoroughly on multiple devices and browsers.

3. 25th November 2024: Project Submission and Presentation, Submitting the GitHub repository, documentation, and present the project.

Deliverables:

1. A fully functional dynamic weather website.

2. Source code on GitHub.

3. Documentation explaining the project's architecture, API integration, and setup.

Resources:

1. Weather API documentation.
2. Online tutorials and guides.
3. Stack Overflow and GitHub communities.

Conclusion:

The proposed project aims to provide a reliable and user-friendly weather website for Lusaka Province. By integrating a weather API, i will ensure accurate and up-to-date weather information. I believe this project will demonstrate my skills in web development, API integration, and problem-solving.