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Local Weather & Holiday Dashboard

Requirements Document

Module: WAD621S – Web Application Development

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1. **Introduction**

The Local Weather & Holiday Dashboard is a web-based application that provides essential daily information, this includes: live weather updates, local time, upcoming Namibian public holidays, and a countdown to the weekend. All of this will be accessible through one convenient dashboard. The goal is to reduce the need for users to switch between multiple platforms or apps, improving accessibility and time efficiency.

1. **Problem Statement & Objective**

Namibian users rely on multiple online sources to check for the weather, public holidays, and local time, which is time-consuming and inconvenient. The proposed dashboard will provide a unified and localised solution that displays all these details on one interactive interface.

1. **System Objective**

The objective is to design and develop an integrated web dashboard that displays real-time weather information, local time, Namibian public holidays, and a countdown to the weekend in a single user-friendly interface.

1. **System Scope**

The system is designed for Namibian users but can be adapted to other regions by changing the data sources. It focuses on the frontend web technologies like HTML, CSS, JavaScript and basic API integration, without a dedicated backend or database.

1. **Functional Requirements**

* Display Weather Data:

Should be able to fetch and display current temperature, humidity and condition from an API.

* Display Local Time:

Show the current local time dynamically that updates every second.

* Display Public Holidays:

Read and display Namibian holidays from a JSON file.

* Countdown to Weekend:

Calculate and display remaining time until Saturday.

* Error Handling:

Show friendly messages when API or JSON fails to load.

* Responsive Design:

Interface should be able to adapts to all screen sizes.

1. **Non-Functional Requirements:**

* Performance:

Load dashboard within 5 seconds on a 4G connection.

* Usability:

Clear icons and readable fonts.

* Reliability:

Handle downtime without crashing.

* Portability:

Run on all major browsers (Chrome, Edge, Firefox).

* Scalability:

Allow easy addition of new widgets in future

1. **User Requirements:**

Local Residents: will use to get quick access to weather, time, and holidays for daily planning.

Students: To Know upcoming public holidays to plan studies or trips.

Workers: Track working days left until the weekend.

Tourists: Get reliable Namibian weather and holiday information in one setting while in Namibia.

1. **System Overview:**

The dashboard integrates multiple data sources, the weather API is used to retrieve live weather. Local Time Module displays real-time Namibian time. The Holiday JSON file provides Namibian public holidays and a countdown timer calculates and displays the time until the next Saturday.

1. **System Design:**

The Key components of the system include:

* JavaScript for interactivity.
* index.html: main dashboard interface
* style.css: For layout and design
* script.js – Logic for API calls, JSON reading, and timers
* holidays.json – Local dataset of Namibian holidays

1. **References:**

OpenWeather API. (2025). Weather Data Service. <https://openweathermap.org/>

Namibia Government. (2025). Official Public Holiday List. <https://www.gov.na/>

W3Schools. (2025). HTML, CSS & JavaScript Tutorials. https://www.w3schools.com/