WOLLO UNIVERISITY
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DEPARTMENT OF INFORMATION SYSTEM

Amharic Weather Forecast( ) Website

Group Project Proposal

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Project Overview

Bridging the information gap for Ethiopians who primarily rely on Amharic, this project proposes a user-friendly weather forecast website. Built with modern web development tools, the platform leverages React's rich capabilities for a visually-appealing and interactive front-end. Node.js with Express.js provides a robust foundation for the back-end, ensuring efficient data processing and server-side functionalities.

The core functionality revolves around integrating with a reputable weather data API that offers comprehensive coverage for Ethiopian locations. This integration empowers the website to deliver real-time and accurate weather forecasts presented entirely in Amharic. By catering to the native language of its target audience, the website aims to become a valuable resource for Ethiopians seeking weather information they can easily understand and utilize.

This project goes beyond basic weather data by offering comprehensive details like sunrise and sunset times, wind direction alongside speed, and UV index (optional). Users can seamlessly search for forecasts by city name or other info, ensuring a smooth and efficient user experience.

Target Audience

- Ethiopians seeking weather forecasts in their native language.
- Farmers relying on weather data for agricultural decisions.
- Travelers needing Amharic weather updates for Ethiopian destinations.
- Anyone interested in Amharic weather information.

Key Features

- **Location Search:** Users can search for weather forecasts by Ethiopian city name or postal code.
- **Detailed Weather Data:** Display current temperature (°C and °F), weather description (e.g., - tsehayama "sunny," - zinabama "rainy"), humidity, wind speed and direction, sunrise/sunset times, and UV index (optional) - all presented in Amharic.
- **Daily & Hourly Forecasts:** Provide comprehensive forecasts for the next few days and hourly breakdowns for the current day, translated into Amharic.
- **User-friendly Interface:** A clean and visually appealing design ensures easy navigation and information retrieval.

Technology Stack

- **Front-end:** React
- **Back-end:** Node.js with Express
- **API Integration:** Integrate with a weather data API offering Ethiopian location coverage. Consider.

  OpenWeatherMap (https://openweathermap.org/api) (free tier with limitations).

  AccuWeather (https://developer.accuweather.com/) (paid plans).

- **Data Processing & Translation:** Parse weather data from the API and convert it into a format suitable for the React front-end. Utilize libraries or tools for Amharic translation (e.g., Google Translate API).

Project Deliverables:

- Functional React website displaying weather information in Amharic.
- Node.js back-end application with Express for API calls and data processing.
- Integration with a chosen weather data API.
- Amharic translation of weather data for user interface display.
- Comprehensive documentation outlining:
  - API integration steps
  - Data processing logic
  - Deployment instruction

Project Timeline:

· **Phase 1 (1 month):** Requirement gathering, UI design, API selection and integration plan.
· **Phase 2 (3 week):** React front-end development for location search, weather data display, and user interface.
· **Phase 3 (3 week):** Node.js back-end development with API integration, data processing, and Amharic translation.
· **Phase 4 (1 month):** Testing, bug fixing, and documentation finalization.

Benefits:

- **Bridges the Language Gap:** Provides crucial weather information in Amharic, empowering Ethiopians who rely on their native language to stay informed.

- **Improves Accessibility:** Offers a user-friendly platform for accessing real-time and accurate weather forecasts, potentially impacting daily life decisions, agricultural planning, and travel arrangements.
- **Boosts User Experience:** Delivers weather data in a clear and visually appealing way, making it easy to understand and navigate.
- **Empowers the Ethiopian Community:** Contributes to a more informed and prepared Ethiopian population regarding weather conditions.
- **Utilizes Modern Technologies:** Leverages React and Node.js for a scalable and performant website, ensuring smooth operation and potential future growth.