



## **Development team log**

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# The Prototype

28/08/24

## Tasks Completed

- **Creation of the project's basic structure:** Designed and organized the main structure of the project, including fundamental sections and divisions, providing a solid foundation for future development.
- **Initial CSS styling:** Implemented basic styles using CSS to create a consistent appearance across the project's sections.

## Challenges Faced

- **Organizing the site structure:**
  - **Problem:** Arranging elements in a way that was both functional and user-friendly.
  - **Solution:** Conducted research on the original website to establish a coherent structure.
- **Dropdown menu:**
  - **Problem:** Difficulty implementing a functional dropdown menu.
  - **Solution:** Reviewed documentation, consulted ChatGPT, and watched tutorials to successfully implement it.
- **Overlaying an image with text:**
  - **Problem:** Applying a blur effect to the image while keeping text legible.
  - **Solution:** Resolved by consulting documentation and videos, successfully achieving the desired effect.

29/08/24

## Tasks Completed

- **First log update.**

## Challenges Faced

- **Writing logs:**
  - **Problem:** Uncertainty about structuring project logs due to lack of experience.
  - **Solution:** Researched online for high-quality log formats to use as references.

30/08/24

## Tasks Completed

- **Image carousel implementation.**

### Challenges Faced

- **Bootstrap carousel:**
  - **Problem:** Attempted to simplify the process with Bootstrap but encountered limitations.
  - **Solution:** Adjusted the approach and created a custom carousel.

**03/09/24**

### Tasks Completed

- **Palette color change.**
- **Download button creation.**
- **Navbar implementation.**

### Challenges Faced

- **Finding an agreed color scheme:** Required extensive discussions to finalize.
- **Fixed download button issues:** Resolved challenges related to its behavior.

**04/09/24**

### Task Failed

- **Bootstrap for image deployment:** Attempt to use Bootstrap to display additional information for images about Lake Chapala.

### Challenges Faced

- **Bootstrap code adjustments:**
  - **Problem:** Difficulty adapting Bootstrap components to images.
  - **Solution:** Attempted code modifications but faced time constraints.

## Migration to Node.js

**07/10/24**

### Tasks Completed

- **Integration of Node.js and Express:** Migrated the backend to Node.js and Express, ensuring a functional routing system and preparing for EJS and MongoDB integration.

### Challenges Faced

- **Routing adjustments:**
  - **Problem:** Conflicts arose during routing setup.

- **Solution:** Reviewed documentation and resolved conflicts through structured debugging.

**08/10/24**

#### **Tasks Completed**

- **Added MongoDB:** Enabled efficient management of large datasets.
- **Bootstrap enhancement:** Improved layout design while resolving compatibility issues with older Bootstrap versions.
- **Implemented pagination:** Handled 12,000 records efficiently.

#### **Challenges Faced**

- **Bootstrap version conflicts:**
  - **Solution:** Reverted to compatible Bootstrap components and adjusted styling.
- **Table pagination:**
  - **Solution:** Researched and implemented best practices for handling large datasets.

**09/10/24**

#### **Tasks Completed**

- **Log updates:** Reflected all tasks and challenges in detailed logs.

#### **Challenges Faced**

- **Delayed updates:**
  - **Solution:** Compiled accurate information by reflecting on past tasks.

**24/10/24**

#### **Tasks Completed**

- **Improved table design:** Enhanced responsiveness and download button validation.

#### **Challenges Faced**

- **MongoDB connection issue:**
  - **Solution:** Used a personal MongoDB Atlas database for functionality testing.

## **Migration to React**

**15/11/24**

### Tasks Completed

- **Initial migration to React:** Migrated content from EJS to React, including the Navbar and index sections.
- **Dynamic rendering with JSON:** Ensured reusable components and structured data.
- **Custom CSS styling:** Adjusted existing styles for React compatibility.

### Challenges Faced

- **Dynamic data handling:**
  - **Solution:** Organized project files for structured JSON data rendering.
- **Bootstrap integration:**
  - **Solution:** Verified imports and resolved conflicts between styles.

16/11/24

### Tasks Completed

- **Migrated Data and Graph sections:** Ensured responsiveness and functionality with dynamic data rendering.
- **Compact pagination:** Designed navigation for large datasets.
- **Enhanced navigation:** Implemented smooth scrolling and route transitions.

### Challenges Faced

- **Dynamic table and pagination:**
  - **Solution:** Optimized data handling for performance.

17/11/24

### Tasks Completed

- **Download button:** Enabled CSV downloads with dynamic naming.
- **Graph visualizations:** Initial tests with Chart.js for dynamic rendering.

### Challenges Faced

- **File encoding issues:**
  - **Solution:** Added UTF-8 BOM for proper character rendering.

20/11/24

### Tasks Completed

- **Weather API integration:** Retrieved real-time temperature data using OpenWeatherMap.
- **Dynamic weather display:** Styled and made responsive for all devices.

### Challenges Faced

- **API authorization:**
  - **Solution:** Corrected environment variables and redeployed.

**21/11/24**

### Tasks Completed

- **Error handling page:** Created a custom error page with a test button.
- **Dynamic graphs:** Rendered backend data for last year's records.

### Challenges Faced

- **Backend-frontend connection:**
  - **Solution:** Improved context functions and data handling.