**Camino de Santiago Project Plan**

**1. Goals**

Build a mobile-first, single-page web app that also works on phones, tablets and desktops and shows key stops along the **Camino de Santiago**\*, with an interactive map that shows a variety of open data about each town or stage (weather, geography, demography, etc.).

*\* a well-known pilgrimage trail with cultural, religious, and natural landmarks stretching from France to Santiago de Compostela in Spain*

**2. Core Functionality**

1. Auto-detect user location and highlight their nearest **Camino stop**.
2. <select> loaded with **Camino routes** or individual **stops/towns**.
3. Leaflet map featuring:
   * **Polyline** of the selected Camino route.
   * Marker layers for towns, major stops, POIs, etc using GeoNames and other APIs.
   * Clustering (Leaflet.markercluster) and utility buttons (EasyButton / ExtraMarker).
4. Modal:
   * General: Town name, province, population.
   * Weather: Current & 3-day forecast (OpenWeather).
   * Elevation: Altitude of selected town or stop (GeoNames SRTM3 API)
   * POIs: Nearby points of interest such as churches, monuments, or scenic areas (GeoNames or Wikipedia API).
5. Loader spinner during initial render.

**3. Technical Stack**

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| **Layer** | **Tech** |
| Front end | HTML5, CSS3 (Bootstrap 5), JavaScript ES6, jQuery, Leaflet 1.9 + MarkerCluster, EasyButton, ExtraMarker |
| Back end | PHP 8 with cURL |
| APIs | OpenCage, GeoNames, OpenWeather, GeoNames SRTM3 |
| Tooling | VS Code, Git, XAMPP, Dinahosting FTP (FileZilla), Chrome DevTools |

**4. Architecture & Data Flow**

1. Page loads → Bootstrap & Leaflet initialise.
2. Geolocation → get user location via JS and send to PHP.
3. PHP calls OpenCage → get **nearest Camino stop or town info**.
4. Then use that info to:
   * Draw the **polyline**
   * Show markers
   * Load weather, POIs, elevation, etc.
5. Show everything in modal when town is clicked