# SEO Keyword AI Agent – Development Plan

## Objective

Build an AI-powered Keyword Research Agent that accepts a seed keyword (e.g., *"global internship"*) and outputs up to 50 keyword suggestions, prioritized by high search volume and low competition, to maximize chances of ranking on Google's first page.

## Architecture & Approach

1. **Input:** Seed keyword is collected through an n8n Webhook (API) or simple Streamlit UI.
2. **Data Source:**
   - *Ideal (Production):* Google Ads Keyword Planner API (real search volume & competition).
   - *Implemented (Demo):* SerpAPI free tier (related searches). Since SerpAPI lacks volume/competition data, mock values were generated for demonstration.
3. **Processing:** Keywords are extracted, mock search volume & competition assigned, and results sorted (high volume, low competition).
4. **Output:** Results returned as JSON via Webhook and displayed in a Streamlit table for easy use.

## Reasoning for Chosen Approach

- Google Ads API is the most reliable source, but requires a developer token restricted to Manager (MCC) accounts.
- SerpAPI provided a free, fast alternative for prototyping.
- Mock metrics allow demonstration of the sorting logic.

## Future Enhancements

- Replace mock values with **real data from Google Ads API**
- Integrate advanced SEO metrics (difficulty, CPC) from SEMRush/Ahrefs