**Project Title:** Thinkcrawl - SEO Optimizer Web Application (Desktop Accessible)

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**Requirement Analysis Document**

**1. Project Overview**

Thinkcrawl is a web-based SEO optimization platform designed to provide digital marketers, bloggers, and website owners with a comprehensive suite of tools to analyze and improve their website's search engine presence. Though web-based, it will be designed for desktop access and potentially offered as a PWA or Electron-wrapped desktop application.

**2. Goals & Objectives**

* Provide core SEO tools in one unified platform.
* Enable non-technical users to audit and improve SEO.
* Track SEO metrics and provide actionable insights.
* Offer downloadable reports and data export.

**3. Target Users**

* Digital Marketing Agencies
* Freelance SEO Experts
* Bloggers & Influencers
* Web Developers & Content Creators

**4. Core Functional Modules**

**4.1 Website Audit Tool**

* Input website URL
* Scan for meta tags, headings, image alt text, link structure
* Page speed analysis using Google PageSpeed API

**4.2 Keyword Research Tool**

* Keyword input and search intent categorization
* Suggest related keywords using third-party APIs (SEMrush, SerpAPI)
* Display volume, CPC, competition

**4.3 Backlink Analyzer**

* Enter domain to fetch backlinks
* Highlight high-quality and spammy links
* Integration with Moz or Ahrefs API

**4.4 SERP Tracker**

* Track keyword ranking daily/weekly
* Allow location/device-based SERP analysis
* History graph using charting libraries

**4.5 Content Analyzer**

* Input content or upload file
* Analyze keyword density, readability score
* SEO optimization suggestions

**4.6 Technical SEO Scanner**

* Check robots.txt, sitemap.xml, canonical tags
* Validate mobile-friendliness
* Schema markup checker

**5. System Requirements**

**5.1 Functional Requirements**

* User Authentication (Login, Registration, Forgot Password)
* Admin Panel for managing users and usage logs
* API Integration with SEO data providers
* Report generation and PDF export
* Dashboard with recent analysis and saved reports

**5.2 Non-Functional Requirements**

* Responsive UI (optimized for desktop)
* Fast performance (caching where needed)
* Secure API and user data handling (HTTPS, sanitization)
* Data export (PDF, CSV)

**6. Technology Stack**

|  |  |
| --- | --- |
| **Component** | **Technology** |
| Frontend | HTML, CSS, JS, Bootstrap |
| Backend | PHP 8+ (Core PHP or Laravel) |
| Database | MySQL |
| APIs | PageSpeed, Moz, SerpAPI, Ahrefs (optional) |
| Reporting | DomPDF / TCPDF |
| Desktop Access | PWA / ElectronJS wrapper (optional) |

**7. UI Design Considerations**

* Sidebar for tool navigation
* Top bar with notifications and user account
* Responsive cards for displaying results
* Charts/Graphs for trend visualizations

**8. Milestones**

1. Requirements Finalization - 25 July 2025
2. UI Mockups & Database Schema - 28 July 2025
3. Backend Development Begins - 1 August 2025
4. API Integration & Testing - 10 August 2025
5. MVP Release - 20 August 2025
6. User Feedback & Iteration - 25 August 2025

**9. Risks & Mitigation**

|  |  |
| --- | --- |
| Risk | Mitigation |
| API Rate Limits | Cache responses, use free + paid tiers |
| Data accuracy | Display source of data, add disclaimers |
| Performance on shared hosting | Use lightweight libraries, optimize DB queries |

**10. Conclusion**

Thinkcrawl aims to become an affordable, easy-to-use alternative to expensive SEO suites by offering modular, well-integrated tools in a single platform. This document outlines the foundational structure and will evolve as development proceeds.