SEO Keyword Analysis & Automation Report

1. Objective

To perform SEO keyword analysis for selected UI/UX design service URLs using automated web scraping, NLP-based keyword extraction, Google Trends analysis, and automated report generation.

2. Target URLs

- https://www.mindinventory.com/ui-ux-design-services/
- https://radixweb.com/services/ui-ux-design
- https://www.scnsoft.com/application/ux-design
- https://www.dataart.com/services/ux-ui-design-and-consulting-services

3. Tools & Technologies Used

Web Scraping: Requests, BeautifulSoup, Selenium, lxml

Data Storage: pandas

NLP: NLTK, RAKE, spaCy

Trends Analysis: PyTrends

Report Automation: openpyxl, Google Sheets API, smtplib

4. Data Extracted

Title Tags - Analyze keyword usage

Meta Description - Ranking & keyword targeting

H1-H3 Tags - SEO structure

Body Content - Long-tail keyword discovery

Blog Tags - Topic categorization

Internal Links - Content architecture

5. Keyword Extraction Process

Cleaned text by removing stopwords, punctuation, duplicates.

Extracted 2-4 word long-tail phrases using RAKE & spaCy noun chunking.

Grouped phrases by topic relevance.

6. Google Trends Analysis

Used PyTrends to get 12-month interest-over-time data.

Computed average trend score for each keyword.

7. Automated Reporting

Merged scraped data & keyword trends into structured SEO Report.

Generated seo_report.xlsx with formatted headers.

Pushed to Google Sheets and setup weekly email automation.

8. Findings & Insights

* Titles well-optimized but inconsistent long-tail usage in body.

* Weak internal linking on some URLs.

* Google Trends: Rising interest in 'UI UX design services' & 'enterprise UX consulting'.

* Missing meta descriptions reduce ranking potential.

9. Conclusion & Recommendations

* Add long-tail keywords in body & H2.

* Improve internal linking.

* Update meta descriptions with trending keywords.

* Monitor trends weekly & refresh content.