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Project Requirements Document

1. Background

With the rapid growth of data engineering, data analysis, and data science roles in Ireland, both job seekers and employers are increasingly interested in understanding the job market trends. LinkedIn, as a leading recruitment platform, provides a wealth of real-time job posting data. Analyzing and visualizing this data will help users gain insights into industry trends, job demand, required skills, and salary levels.

2. Project Objectives

- Aggregate and analyze job postings related to data engineering, data analysis, and data science in Ireland.

- Present multi-dimensional visualizations via a Tableau dashboard for easy exploration of market trends.

- Enable users to filter by job type, location, salary range, required skills, and more.

3. Data Sources

- Primary source: LinkedIn job postings (collected via web scraping or API access to public job data).

- Data fields: Job title, company, location, salary, job description, required skills, posting date, etc.

4. Core Functional Requirements

1. Data Collection & Cleaning: Automatically fetch relevant LinkedIn job postings, deduplicate, and standardize fields.

2. Data Analysis: Statistical summaries of job counts, salary distributions, popular skills, geographic distribution, top hiring companies, etc.

3. Visualization Dashboard:

   - Job counts

   - Salary distribution

   - Popular skills

   - Geographic distribution

   - Top hiring companies

4. User Interaction:

   - Filter options (job type, location, salary, skills, etc.)

   - Export data/charts

5. User Roles

- Job Seekers: Understand market demand, skill requirements, and salary levels for career planning.

- HR/Recruiters: Analyze competitor hiring trends and optimize recruitment strategies.

- Data Analysts/Researchers: Explore industry trends and support related research.

6. Visualization Requirements

- Dashboard should be visually appealing and user-friendly, supporting multi-dimensional filtering and switching.

- Charts should be interactive (e.g., click to filter, hover for details).

- Support export to PDF/image formats.

7. Technical Requirements

- Data collection scripts (Python, etc.)

- Data processing and analysis (Pandas, SQL, etc.)

- Visualization tool: Tableau

- Data storage: Local CSV or database

8. Deliverables

- Data collection scripts and documentation

- Cleaned dataset

- Tableau dashboard file

- User manual