Python-based Data Analysis and Visualization of a Document Tracker

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F21SC: Industrial Programming

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**Introduction**

The purpose of this report is to detail the development and analysis of a Python-based application for processing and visualizing document tracking data from issuu.com. The issuu.com platform, widely used for publishing documents, provides anonymized data sets that offer insights into user interactions with the site. The primary goal of the project is to create a robust and user-friendly application capable of handling varying data sizes while running on an Ubuntu 20.04 Linux platform.

**Requirements' Checklist**

A detailed checklist outlines the delivered and pending requirements. Challenges faced in meeting certain requirements are discussed, highlighting the need for strategic decision-making and potential areas for improvement.

**3. Design Considerations**

The design considerations section outlines modifications made to enhance the application's usability and accessibility. It emphasizes user experience enhancements, including intuitive navigation and user-friendly interfaces.

**4. User Guide**

Accompanied by screenshots, this section provides a comprehensive user guide, ensuring users can effectively operate the application. Key functionalities are highlighted, and step-by-step instructions are given to maximize user understanding.

**5. Developer Guide**

The developer guide dives into the application's architecture, emphasizing critical code areas. Code fragments are provided to elucidate key design choices and assist fellow developers in comprehending the codebase.

**6. Testing**

Results from rigorous testing are presented, demonstrating that the application meets expected outcomes. Any identified limitations or challenges during the testing phase are candidly discussed.

**7. Reflections on Programming Language and Implementation**

A critical reflection on the programming language (Python 3) and the chosen libraries (e.g., json, pandas, tkinter, matplot) is provided. This section delves into the advantages of these choices, limitations faced during implementation, and suggestions for potential improvements.

**8. Lessons from CW1**

A discussion on the lessons learned from feedback on the previous coursework (CW1) is presented. Both coding and report writing aspects are covered, demonstrating a commitment to continuous improvement and learning from past experiences.

**9. Conclusions**

In conclusion, the report reflects on the achievements and areas for improvement in the developed Python application. It highlights what the project team is most proud of, acknowledges aspects that could be refined, and summarizes key takeaways from the development process.

This academic report provides a comprehensive overview of the Python-based project, covering aspects from initial requirements to testing and reflection. It serves as a valuable resource for understanding the project's development, challenges faced, and the rationale behind key decisions.