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# PYTHON FOR AI PROJECT REPORT

***Submitted by***

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# BACHELOR OF TECHNOLOGY

***in***

# ARTIFICIAL INTELLIGENCE & DATA SCIENCE

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# JANUARY 2024

BONAFIDE CERTIFICATE

Certified that this project report titled **“AUTOMATED REPORT GENERATOR**” is the bonafide work of

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Submitted for the End Semester Project examination **U23AD481 Python For AI** – Project work viva- voice held on ………………………

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**ABSTRACT**

This project focuses on the development of an automated report generator using Python, aimed at simplifying and streamlining the process of creating comprehensive monthly sales reports. The system ingests sales data from a text file, processes it, and generates insightful visualizations and a detailed PDF report.

The primary objective is to automate the end-to-end reporting process, minimizing manual intervention and errors. The project leverages libraries such as pandas for data manipulation, matplotlib for creating visualizations, and FPDF for generating PDF reports. The sales data is parsed, cleaned, and transformed to calculate total sales per product on a monthly basis. These aggregated metrics are then visualized in a bar chart to provide a clear and concise overview of sales performance.

The PDF report includes a tabular summary of the sales data and the visualizations, making it a valuable tool for stakeholders to assess monthly sales trends and make informed business decisions. This automation not only improves efficiency but also ensures consistency and accuracy in reporting.

In conclusion, the automated report generator developed in this project demonstrates the effective use of Python's data processing and visualization capabilities to automate and enhance the sales reporting process, providing significant benefits in terms of time savings and data accuracy.

**1.INTRODUCTION**

In today's data-driven world, timely and accurate reporting is crucial for making informed business decisions. Manual report generation, however, can be time-consuming,leading to inefficiencies and potential inaccuracies. To address these challenges, this project aims to develop an automated report generator using Python, designed to streamline the process of creating comprehensive monthly sales reports.

The automated report generator leverages powerful Python libraries such as pandas for data manipulation, matplotlib for data visualization, and FPDF for creating PDF documents. By automating the data processing and report generation workflow, this project seeks to reduce the time and effort required to produce detailed sales reports while enhancing their accuracy and consistency.

The system begins by ingesting raw sales data from a text file, which is then parsed and transformed to calculate key metrics such as total sales per product on a monthly basis. These metrics are visualized using bar charts, providing a clear and concise overview of sales performance. The final output is a professionally formatted PDF report that includes both the tabular data and the visualizations, making it easy for stakeholders to analyze and interpret the sales trends.

This project demonstrates the effective use of Python's capabilities to automate routine tasks, thus freeing up valuable time for more strategic activities. By ensuring data accuracy and providing timely insights, the automated report generator enhances decision-making processes and contributes to overall business efficiency.

**2. SYSTEM ANALYSIS AND DESIGN**

# Existing System

Current methods of generating sales reports often involve manual processes that are time-consuming and error-prone. Sales data is typically collected from various sources and stored in spreadsheets, where it is manually cleaned, processed, and analyzed using formulas and pivot tables. This approach not only consumes significant time but also increases the risk of inaccuracies.

Visualizations such as charts and graphs are manually created and compiled into reports using document or presentation software. This repetitive task lacks automation, leading to inefficiencies and inconsistent report quality due to human intervention. Different individuals handling the process can further exacerbate these inconsistencies.

The manual nature of current systems underscores the need for an automated solution. Automating data processing and report generation can ensure accurate, consistent, and timely sales reports, freeing up valuable resources for strategic decision-making. This project aims to address these challenges by utilizing Python’s data processing and visualization capabilities to create an efficient and reliable automated report generator.

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|  |
| PROBLEM STATEMENT |

# PROPOSED SYSTEM

* 1. **Overview:**

# Block Diagram:-

**Fig-1: Block Diagram**

FOR YOUR APP

**PROJECT DESCRIPTION**

# Methodology:

# Table OR IMAGE IF NEEDED

# Implementation:

# #CODING

# RESULT AND INFERENCES:

**#OUTPUT SCREENSHOTS**

**CONCLUSION & FUTURE SCOPE**

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