

Supermarket Sales Dashboard Report

Introduction

This project develops an interactive web dashboard to analyze supermarket sales data using Streamlit. The dashboard includes user authentication, a custom light/dark theme toggle, and interactive features to explore sales data, making it a valuable tool for business analysis.

Methodology

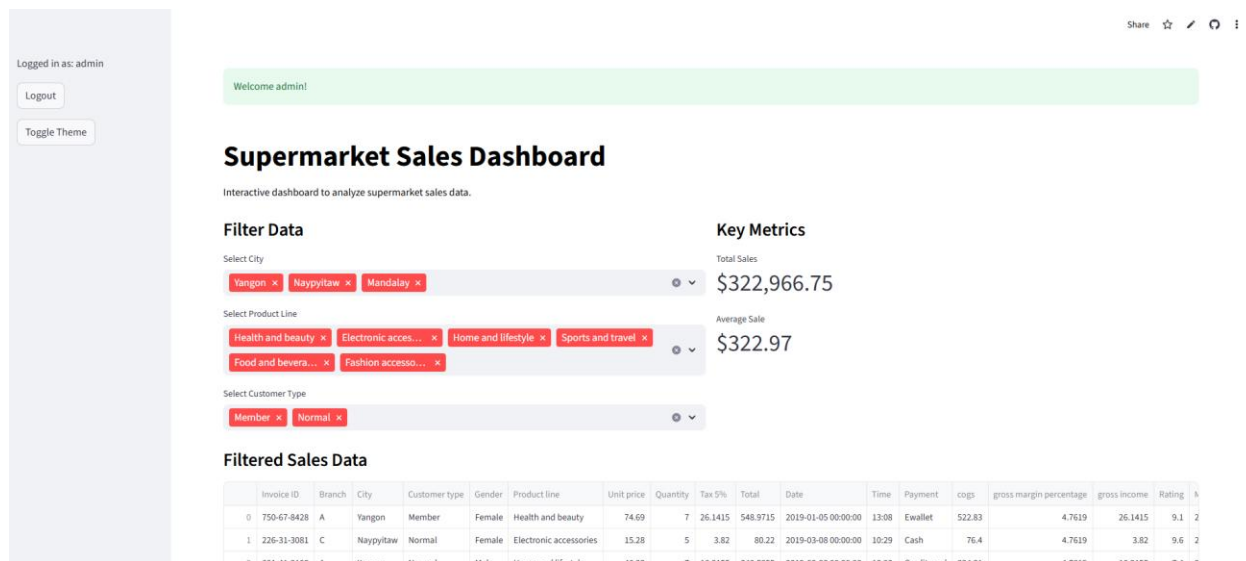
1. Data Loading :Loaded the supermarket sales dataset (`supermarket_sales.csv`) using Pandas, with datetime conversion for monthly analysis.
2. Authentication: Implemented a login/logout system with hardcoded usernames and passwords for secure access.
3. Theme Customization: Added a custom light/dark theme toggle using CSS via `st.markdown` for enhanced user experience.
4. Data Processing: Enabled filtering by city, product line, and customer type, with a download option for filtered data.
5. Visualization: Created bar charts (sales by city and product line) and a line chart (monthly sales trend) using Seaborn and Matplotlib.
6. Deployment: Deployed the dashboard on Streamlit Community Cloud for public access.

Key Findings

- Authentication: Users must log in with credentials (e.g., username: admin, password: 1234) to access the dashboard.
- Theme Toggle: Users can switch between light and dark themes for better readability.
- Filters: Users can filter sales data by city (e.g., Yangon, Mandalay), product line (e.g., Food and beverages), and customer type (Member/Normal).
- Metrics: Displays key metrics like total sales (e.g., \$322,966) and average sale per transaction.
- Visualizations: Dynamic bar and line charts update based on user filters, aiding quick decision-making.
- Download: Filtered data can be downloaded as a CSV file for further analysis.

Visualization

Figure 1: Dashboard Screenshot



This screenshot shows the interactive dashboard with login, theme toggle, filters, and metrics.

Conclusion

The dashboard provides a secure, user-friendly interface for exploring supermarket sales data, with customizable themes and interactive visualizations. It is deployed on Streamlit Community Cloud and accessible at (<https://interactive-dashboard-p83s5fuj9ynzjbdyadkqxs.streamlit.app/>). The project demonstrates skills in data processing, visualization, and web deployment, making it suitable for business analytics and freelance projects.

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