Milestone Report for EDA: Web App for Efficient Exploratory Data Analysis

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Project Overview:

The project aims to develop a user-friendly web application for performing exploratory data analysis (EDA). The application will streamline the process of analysing data, handling outliers, filling missing values, and generating visual insights. Built using Streamlit, this app is intended to empower users with minimal programming knowledge to conduct data exploration efficiently.

Milestones and Deliverables

1. Planning and Requirement Gathering

Timeline: Oct 1 – Oct 24, 2024

Objective: Define the scope and gather resources to establish a strong foundation for project development.

Tasks:

- **Define project scope and objectives:** Establish the vision and goals of the project.
  Timeline: Oct 1 – Oct 4, 2024
  Deliverable: Project Scope Document.
- **Define requirements:** Identify functional and non-functional requirements for the application.
  Timeline: Oct 7 – Oct 10, 2024
  Deliverable: Requirements Specification Document.
- **Identify sample datasets for testing:** Gather datasets to test application features.
  Timeline: Oct 11 – Oct 15, 2024
  Deliverable: Dataset Inventory Report.
- **Risk management and project reporting:** Identify potential risks and create a reporting framework.

Timeline: Oct 16 – Oct 24, 2024
Deliverable: Risk Mitigation Plan and Project Status Reports.

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2. Design and Development

Timeline: Oct 25 – Nov 21, 2024

Objective: Create and implement the user interface and backend functionalities for the application.

Tasks:

- UI Design: Develop an intuitive layout for the web application.
  Timeline: Oct 25 – Oct 30, 2024
  Deliverable: UI Mock-ups and Design Prototypes.
- Frontend Development: Build the application's interactive front end using Streamlit.
  Timeline: Oct 31 – Nov 7, 2024
  Deliverable: Functional Frontend Module.
- Backend Development: Implement backend services to support application functionalities.
  Timeline: Nov 8 – Nov 15, 2024
  Deliverable: Fully Functional Backend System.
- Data Processing and Visualization Integration: Integrate algorithms for outlier handling, missing value imputation, and visualizations.
  Timeline: Nov 18 – Nov 21, 2024
  Deliverable: Data Processing and Visualization Modules.

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3. Testing and Debugging

Timeline: Nov 22 – Dec 11, 2024

Objective: Ensure the application is error-free and meets user requirements.

Tasks:

- Unit Testing: Test individual components to ensure proper functioning.
  Timeline: Nov 22 – Nov 28, 2024
  Deliverable: Unit Testing Report.

- **Integration Testing:** Verify that the application's components work together seamlessly.
  Timeline: Nov 29 – Dec 5, 2024
  Deliverable: Integration Testing Report.
- **User Acceptance Testing:** Gather user feedback and make final adjustments.
  Timeline: Dec 6 – Dec 11, 2024
  Deliverable: User Acceptance Report.

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4. Deployment and Maintenance

Timeline: Dec 12 – Dec 23, 2024

Objective: Launch the application and ensure its smooth operation post-deployment.

Tasks:

- **Application Deployment:** Deploy the application on a hosting platform for public use.
  Timeline: Dec 12 – Dec 17, 2024
  Deliverable: Live Application.
- **Application Monitoring and Maintenance:** Monitor application performance and address post-deployment issues.
  Timeline: Dec 18 – Dec 23, 2024
  Deliverable: Maintenance Logs and Monitoring Reports.

Summary of Milestones:

Milestone	Start Date	End Date	Deliverables
Planning and Requirement Gathering	Oct 1, 2024	Oct 24, 2024	Scope Document, Requirements Specification
Design and Development	Oct 25, 2024	Nov 21, 2024	UI Design, Frontend & Backend, Visualization Modules
Testing and debugging	Nov 22, 2024	Dec 11, 2024	Testing Reports, User Feedback
Deployment and Maintenance	Dec 12, 2024	Dec 23, 2024	Live Application, Monitoring Reports