**Universal Data Cleaning & Exploration App** **User Guide (Final Draft)**

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**Course:** DSC-590: Capstone Project

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### 1. Introduction

This guide introduces users to a universal data preprocessing application designed to clean, explore, and export tabular datasets. It is intended for analysts, students, and business users needing a no-code tool for rapid data cleaning and insight discovery.

### 2. System Requirements

* Web browser (Chrome, Firefox, Edge)
* Internet connection
* CSV file with tabular data (headers in first row)

### 3. Getting Started

1. Launch the web app using the public Streamlit link (shared via GitHub).
2. Prepare a CSV file and make sure it includes a header row.
3. Click **“Upload your CSV file”** and select your dataset.

### 4. Using the Application

After file upload: - **Preview Data**: The raw dataset is shown below the upload widget. - **Choose Cleaning Options**: Configure how to handle missing data, duplicates, or data types. - **Review Cleaned Data**: A cleaned version appears, ready for export or exploration.

### 5. Data Cleaning Options

* **Drop Missing**: Removes rows with any missing value.
* **Fill with Mean**: Numeric columns are filled with their column mean.
* **Fill with Mode**: Fills missing cells with most frequent value.
* **Remove Duplicates**: Filters out duplicate records.
* **Convert to Numeric**: Automatically coerces column types.

### 6. Data Visualization

Choose a visualization type: - Histogram - Scatter Plot - Boxplot - Correlation Heatmap

Then, select the relevant columns. The plots are rendered dynamically.

### 7. Exporting Results

Click **“Download Cleaned Data”** to save the processed dataset locally in CSV format.

### 8. Accessibility & Legal Notes

* All colors selected are tested for contrast and color-blind safety.
* All file processing occurs in-session and is not stored on any server.

### 9. Troubleshooting & FAQ

**Q: My file won’t upload?**  
A: Ensure it is in CSV format and includes a header row.

**Q: App crashes with large files?**  
A: Try simplifying your data or using a sample subset first.

### 10. Contact & Help

For technical help or feature requests:

- Email: ialsheikhli@my.gcu.edu

- GitHub: https://github.com/eenasali/My\_dashboard