

Project Documentation

1. Introduction

1.1. Purpose

This project provides a graphical user interface (GUI) application that allows users to upload ZIP files containing Excel sheets, extract and analyze the data, and classify similar alarms into categorized Excel sheets. The application is designed to streamline data analysis and improve efficiency in handling alarm data.

1.2. Features

- Upload and extract ZIP files containing Excel sheets.
 - Analyze alarm data from Excel sheets.
 - Classify and categorize alarms based on their codes.
 - Export categorized alarms into new Excel sheets.
 - User-friendly GUI with customizable appearance.
-

2. Installation

2.1. System Requirements

- **Operating System:** Windows 10 or later.
- **Python Version:** Python 3.11 or later.
- **Dependencies:** PyQt5, openpyxl, pandas, Pillow.

2.2. Installation Steps

2.2.1. Install Python

1. Download Python from the [official website](#).
2. Follow the installation instructions for your operating system.

2.2.2. Install Dependencies

Open Command Prompt and run the following commands:

```
pip install pyqt5 openpyxl pandas pillow
```

2.2.3. Run the Application

1. Download or clone the project repository.

```
https://github.com/a7mееed/ZTE_Task.git
```

2. Navigate to the project directory:

```
cd path\to\your\project
```

3. Run the application:

```
python alarm_analyzer.py
```

3. Getting Started

3.1. Launching the Application

Double-click the `alarm_analyzer.exe` file (if using a compiled executable) or run the `alarm_analyzer.py` script to start the application.

3.2. Basic Usage

1. **Upload a ZIP File:**
 - Click on the "Upload" button.
 - Select a ZIP file containing Excel sheets and click "Open".
 2. **Extract and Analyze Data:**
 - The application will automatically extract the Excel files and analyze the alarm data.
 - Results will be displayed in the main window.
 3. **View and Export Results:**
 - The classified alarms will be displayed in categorized Excel sheets.
 - Click on the "Export" button to save the categorized alarms.
-

4. Features and Functionalities

4.1. File Upload

- **Function:** Allows users to upload ZIP files containing multiple Excel sheets.
- **Supported Formats:** ZIP files.

4.2. Data Extraction

- **Function:** Extracts Excel files from the uploaded ZIP file.

- **Supported Formats:** .xlsx files.

4.3. Data Analysis and Classification

- **Function:** Analyzes alarm data and classifies alarms into categories based on their codes.
- **Output:** Categorized Excel sheets with alarms grouped by codes.

4.4. Exporting Results

- **Function:** Exports categorized alarm data into new Excel sheets.
 - **File Format:** .xlsx
-

5. Advanced Features

5.1. Customization

- **GUI Appearance:** Users can customize the appearance of the GUI, including the background and icons.

5.2. Troubleshooting

- **Common Issues:**
 - **File Not Found:** Ensure the ZIP file is correctly formatted and contains valid Excel sheets.
 - **Export Errors:** Check for permissions issues or file path errors.
-

6. FAQ

6.1. How do I handle large ZIP files?

Ensure your system has sufficient memory to handle large files, and consider breaking large ZIP files into smaller parts if necessary.

6.2. Can I use this application on other operating systems?

Currently, the application is designed for Windows. Running it on other operating systems may require modifications.

7. Support

7.1. Contact Information

For further assistance, contact support at:

- **Email:** support@yourcompany.com
- **Phone:** +1-800-123-4567

7.2. Feedback

We welcome your feedback to improve the application. Please send your suggestions to feedback@yourcompany.com.