Setup Guide: Family-Shelter Matching Optimizer

Before You Start

System Requirements: This prototype can run on Windows, Mac, or Linux.

Required Software Installations:

Python (version 3.6 or higher)

A code editor (e.g., Visual Studio Code, PyCharm, or any text editor)

Estimated Setup Time: Approximately 30-60 minutes.

Step 1: Install Python

Download Python:

Go to the official Python website.

Choose the version suitable for your operating system (Windows, Mac, or Linux) and download the installer.

Installation Instructions:

Windows: Run the downloaded `.exe` file and ensure you check the box that says "Add Python to PATH" before clicking "Install Now".

Mac: Open the downloaded `.pkg` file and follow the installation prompts.

Linux: Use your package manager. For example, on Ubuntu, run:

```
sudo apt-get install python3
```

Verify Installation:

Open your command line interface (Command Prompt on Windows, Terminal on Mac/Linux).

Type the following command and press Enter:

```
python --version
```

```
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```

You should see the installed Python version.

Common Troubleshooting:

If you see an error saying Python is not recognized, ensure you added Python to your PATH during installation.

Step 2: Download Project Files

Download the Project:

Obtain the project files from the source provided (e.g., a link or a zip file).

Extract the Project Files:

If the files are in a zip format, right-click the zip file and select "Extract All" (Windows) or double-click to unzip (Mac).

Understanding the File Structure:

You should see the following files:

`shelter_optimizer.py` : Main script for the matching algorithm.

`data_handler.py` : Handles data input and output.

`optimizer.py` : Contains the optimization logic.

`output_generator.py` : Generates output reports.

`config.yaml` : Configuration settings for the application.

`requirements.txt` : Lists the necessary Python packages.

`README.md` : Documentation for the project.

Important Files Overview:

Focus on `README.md` for additional guidance and `config.yaml` for configuration settings.

Step 3: Install Dependencies

Open Command Line Interface:

Navigate to the folder where you extracted the project files.

Run the Requirements Installation:

Execute the following command:

```
pip install -r requirements.txt
```

What Each Major Dependency Does:

Each package listed in `requirements.txt` is essential for the application to function correctly. For example, `numpy` is used for numerical operations, and `pandas` is for data manipulation.

Troubleshooting Installation Issues:

If you encounter errors during installation, ensure you have an active internet connection and that you are using the correct version of Python.

Step 4: First Run

How to Start the Application:

In your command line, run:

```
python shelter_optimizer.py
```

What to Expect on First Launch:

The application should start without errors and display a welcome message or instructions.

Initial Configuration if Needed:

If prompted, edit the `config.yaml` file to set your preferences (e.g., input data paths).

Step 5: Test with Sample Data

Using the Included Test Examples:

The project may include sample data files. Check the project folder for any `sample_data`

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directory.

Loading Your Own Data (if applicable):

If you have your own data, ensure it is formatted correctly as per the guidelines in
`README.md`.

Verifying Everything Works Correctly:

Run the application again and check if it processes the sample data without errors.

Troubleshooting

Common Error Messages and Solutions:

If you see a "Module Not Found" error, ensure all dependencies are installed correctly.

Performance Issues and Fixes:

If the application runs slowly, check your system resources and close unnecessary
applications.

When to Seek Technical Help:

If you encounter persistent issues that you cannot resolve, consider reaching out for help.

Getting Help

Log File Locations:

Check the project directory for any log files that may provide error details.

Information to Include When Asking for Help:

Describe the issue clearly, include error messages, and mention your operating system.

Next Steps if Setup Fails:

Review the troubleshooting section, and if unresolved, seek assistance from a technical
colleague or community forum.