

Multi-Tool Python Project

Documentation - Procházka

Adam

Table of Contents

1. Introduction
 2. Installation
 3. Feature Overview
 4. Detailed Usage Guide
 5. Design Patterns
 6. Contact Information
-

1. Introduction

This Python project is an all-encompassing toolkit designed to demonstrate various functionalities including authentication system, text compression, logging, quizzes, work with text files and math tests.

It features both console and graphical user interfaces, making it suitable for educational purposes and real-world application demonstrations.

2. Installation

Detailed steps on how to set up and get the project running on both development and production environments.

- **Prerequisites:** You need Python installed on your machine. Python 3.6 or above is recommended. Install Python from [here](https://www.python.org/downloads/) (<https://www.python.org/downloads/>).
- **Clone the Repository:**

```
git clone https://github.com/Prochyxd/Omega.git
```

- *Run the project*

3. Feature Overview

A high-level description of each feature within the project:

- **Authentication System:** Secure login and registration functionality with both console and graphical interfaces.
- **Text Compression Tool:** Allows users to compress text files by replacing specified words with abbreviations through a GUI or console interface.
- **Logging System:** Comprehensive logging system for tracking user activities and saving information.
- **Quizzes and Math Tests:** Provides interactive educational tools with support for multiple types of quizzes and math tests accessible via both GUI and console.
- **Text File Management:** Utilities to perform various operations on text files including reading, writing, and modifying content.

4. Detailed Usage Guide

Step-by-step instructions on how to use each feature with examples:

- **Running the Main Application:** Start the main application
- **Using the GUI and Console Interfaces:** Choose if you want to use GUI or UI in every single possible method or function
- **Example Workflows:** Start main, choose GUI/UI, login/register, print or dont print the guide and then use the app as you like.

5. Design Patterns

Detailed explanation of the design patterns used in the project:

- **Singleton:** Usage in logging.
- **Factory Method:** Usage in quiz creation.
- **Command:** How it is implemented in GUI actions.
- **Strategy:** Used in validation mechanisms.
- **Decorator:** Applied in logging enhancements.

6. Contact Information

Adam Procházka, C4C - prochazka7@spsejecna.cz - Ječná 30, Praha 2
