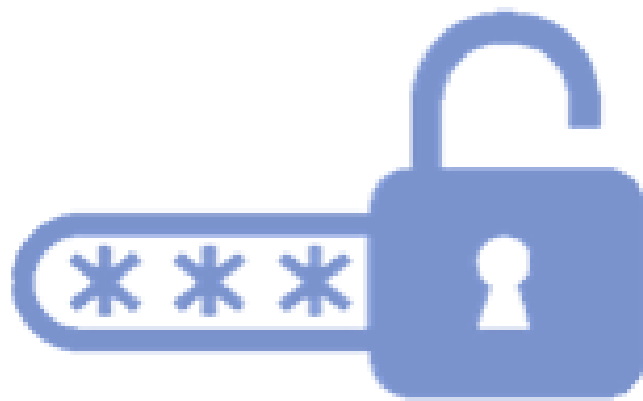Bauhaus-Universität Weimar

RANDOM PASSWORD GENERATOR

Maintenance – Project Document

Software Engineering
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INTRODUCTION. -

This document presents the log of changes and additions in the "Random Password Generator". The program implemented almost all main functions, so we add the last main function and then improved the interface and accessibility for the user (more languages and options of personalization).

FEATURES REQUESTED BY GROUP X:

During the Handover with Group X we were given a new set of requirements that they want us to implement for the next presentation. The points they requested from us are as follows:

Security Best Practices:

1. Focus on implementing security best practices such as avoiding hard coded passwords, protecting user data, and following secure coding guidelines.
2. Regularly review and update the application to ensure it adheres to the latest security standards and practices.

Localization and Accessibility:

1. Support multiple languages to make the application more user-friendly for non-English speakers.
2. Improve accessibility by ensuring a good visual representation of all relevant information inside the program (e.g., an easy way to show the strength of the password and more personalization).

Based on these requests, we improved the current existing features and introduced some features:

Improvement of Existing Features:

- **Improvement of the GUI and make it more intuitive. [Improvement]**
- **Accessibility - Implementation of Additional Languages. [Improvement]**

New Features Added:

- **Security Tips - Extra GUI for Safety Tips. [New Feature]**
- **Storage System for passwords. [New Feature]**
- **Implementation of Login System[New Feature]**

BUGS REPORTED AND FIXED BY GROUP F

Problem with visualization in Text Field of Password

In the previous version, when you try to submit a password with only capital letters with a length of 30. The window was not larger enough to show al the content. We reduce the size of the letters inside the Text field to allow the total visualization.

Problem with Resizable window in previous Interface

In the old version you could extend the window as much as you wanted. The only problem with this was that if you had a big screen, when you put it in full screen the size of the letters was tiny compared to the size of the buttons and labels. It was decided to block the option to change the dimensions of the interface so that the user could not alter it.

CHANGES AND IMPROVEMENTS DURING MAINTENANCE. –

ACCESSIBILITY - IMPLEMENTATION OF ADDITIONAL LANGUAGES. [IMPROVEMENT]
DESCRIPTION:

The program currently supports three languages: English, German, and Spanish.

SPECIFICATIONS:

1. Included language files for German and Spanish, in addition to the existing English.

2. Provided an option in the program settings to switch between the three languages.

3. All text strings in the interface is properly translated into German and Spanish.

4. Ensured that translated text does not cause design issues in the interface (adjust font sizes and elements if necessary).

IMPROVEMENT OF THE GUI AND MAKE IT MORE INTUITIVE. [IMPROVEMENT]
DESCRIPTION:

The program's interface must be more intuitive and visually appealing.

SPECIFICATIONS:

1. Logo and Icon:

   - Added a logo to the program's main screen.

   - Included a representative icon for the application to be displayed in the title bar and in the program's shortcut.

2. Improved Layout:

   - Reviewed and optimize the layout of elements in the interface to enhance usability.

   - Ensured buttons and fields are clearly labeled and accessible.

3. Color Changing Option:

   - Included an option in the settings to allow users to change the interface colors (at least, light and dark theme options).

- Ensured that the selectable colors maintain the program's readability and aesthetics.

SECURITY TIPS - EXTRA GUI FOR SAFETY TIPS. [NEW FEATURE]

DESCRIPTION:

The program must include an additional GUI that displays basic security tips to improve the security of the generated passwords.

SPECIFICATIONS:

- Create a new window or section in the interface that displays the security tips.

- The tips should be clear and concise, for example:

- Used passwords of at least 12 characters.
- Included a mix of uppercase, lowercase letters, numbers, and symbols.
- Do not reuse passwords on different sites.
- Update your passwords regularly.
- Ensure this GUI is accessible from the main menu or program settings.
- The GUI should have a design consistent with the rest of the application and be easy to navigate.

STORAGE SYSTEM FOR PASSWORDS. [NEW FEATURE]

DESCRIPTION:

The program must allow the creation and access to a .txt file to store generated passwords along with the corresponding application names.

SPECIFICATIONS:

1. Creates a function that allows the user to save generated passwords in a .txt file.

2. Provides user the option to save the application name and Password.

3. Provides an option in the interface to access and edit this file from within the program.

LOGIN SYESTEM FOR INDIVIDUAL USER [NEW FEATURE]

DESCRIPTION:

We added a login interface to combine it with the password storage system, ensuring that users can only access their own passwords. This feature enhances security by associating each user's login credentials with their password storage, creating an individualized and secure password management system.

SPECIFICATIONS:

- **Login Interface:** Implemented a user login system to authenticate users before accessing the password storage.
- **Password Storage System:** Developed a secure storage mechanism where each user's passwords are saved in a dedicated, encrypted file.
- **Next Phase:** The upcoming implementation phase will link login credentials with the password storage system, ensuring that users can only access their own passwords.