Code Snippet Tool

By Alexandria Diana Roberts

The Code Snippet Tool is a Windows Forms application designed to help developers manage, analyze, and translate code snippets efficiently. This tool integrates with OpenAI's APIs to provide AI-driven analysis.

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Features

- Code Snippet Management: Add, update, and save code snippets with metadata like language and description.
- AI-Powered Code Analysis: Analyze your code snippets using OpenAI's advanced models to determine their purpose or functionality.

- User authentication with password salting and hashing. Context searching. Multi-relational modelling for future functionality.
- SQLite Database Integration: Persist your data securely using SQLite for offline access.

Installation

1. Download the CodeSnippetTool.zip
2. Extract the downloaded zip file to your chosen location.
3. Locate and run (double-left-click) the “CodeSnippetTool.exe” executable file.

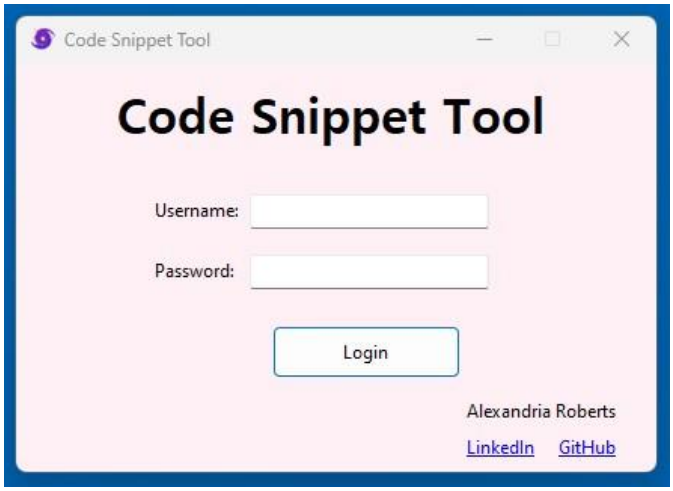
How to Use

Logon

1. There are two users currently loaded into this system upon the first run.

Username: Admin Password: Admin123* Username: Demo Password: Demo123*

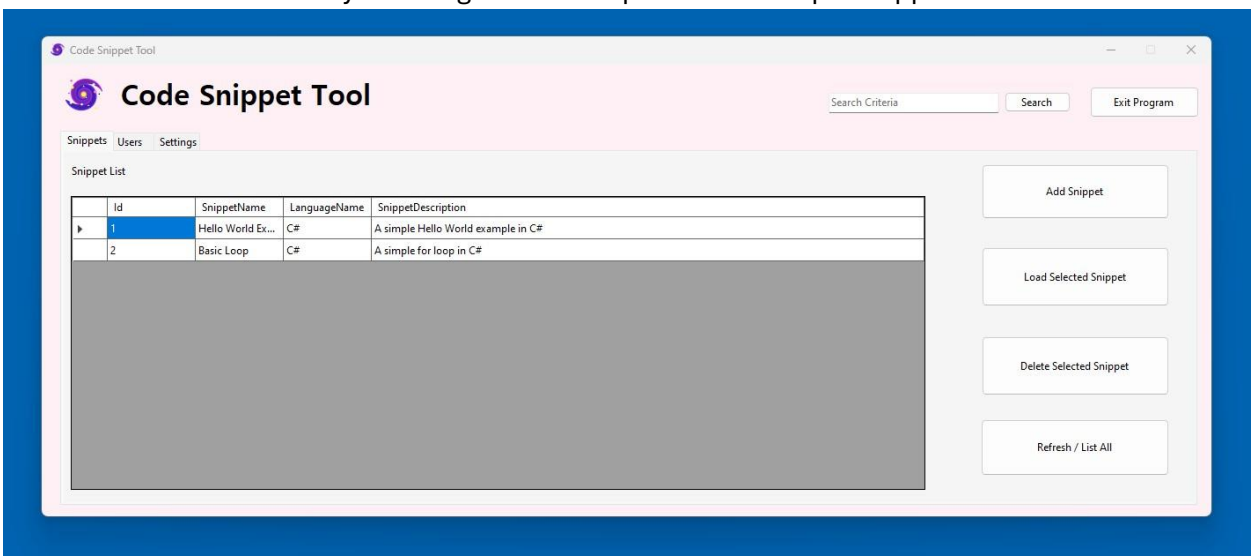
2. Enter Username and Password into the logon screen.



3. This will open the main screen.
4. On the logon screen, there are two hyperlinks in the bottom right corner. These will open a new browser window or tab (depending on your system default behavior and browser) to the associated websites.

Main screen

1. The main screen will initially show a grid with two preloaded sample snippets.

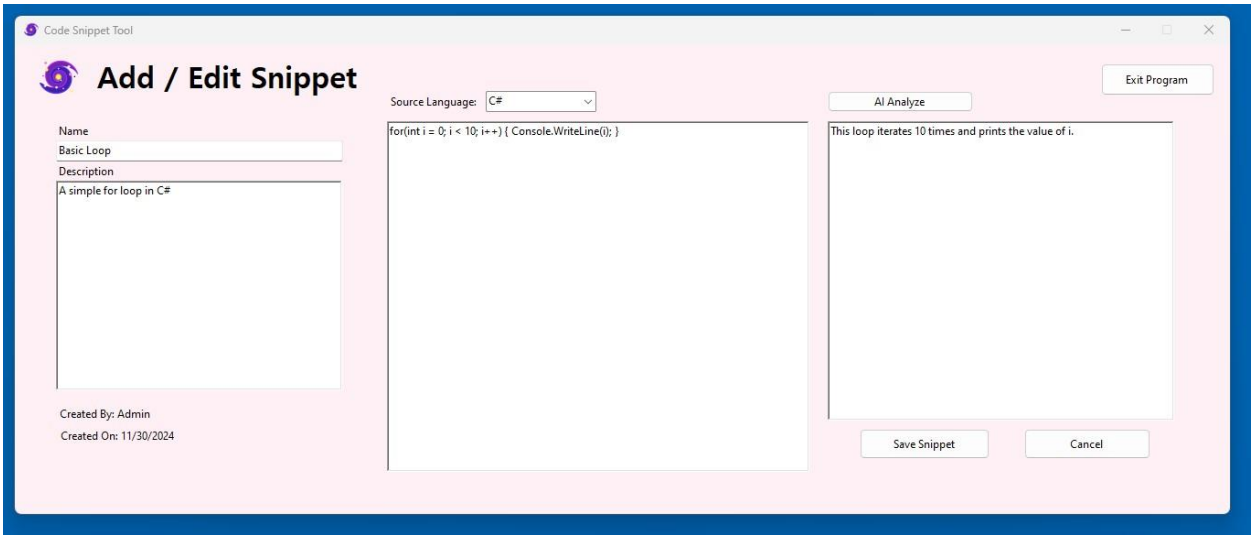


2. Navigation items on this screen are;
    a. Tab interface above the display grid with Snippets, Users or Settings.
    b. A search input box and search button are used for context searching. This search bar will search the saved code snippets Names and Descriptions for the input text.
    c. A program exit button which closes the application.
    d. An “Add Snippet” button which will take you to the “Snippet Form” which allows entry of a new code snippet into the system.

e. A “Load Selected Snippet” button which will load a selected code snippet and open the “Snippet Form”.
f. A “Refresh/List All” button which refreshes the data grid. The grid will refresh itself if changes are made or if searching. This button is included if you wish to refresh and list all snippets after using the search.

Snippet Management

1. Select the Snippets tab at the top of the data grid view.
2. Open the Snippet Form by clicking on the “Add Snippet” or selecting a snippet in the main data grid and clicking on “Load Selected Snippet”.
3. This will open either a new “Snippet Form” or the one for the associated snippet.



4. Fill in the details for the snippet:
    - Name: Give your snippet a meaningful title.
    - Description: Add a brief description of the snippet.
    - Language: Choose the programming language from the dropdown.
    - The text box below the Source Language: Paste your code snippet in the text box.
5. If a Snippet is loaded and the Source Language is changed, you will be prompted that the text created by the AI Analyze will be cleared.
6. Click Save to save the snippet or Cancel to go back to the Main Form (Snippet Grid Display).

AI Analysis

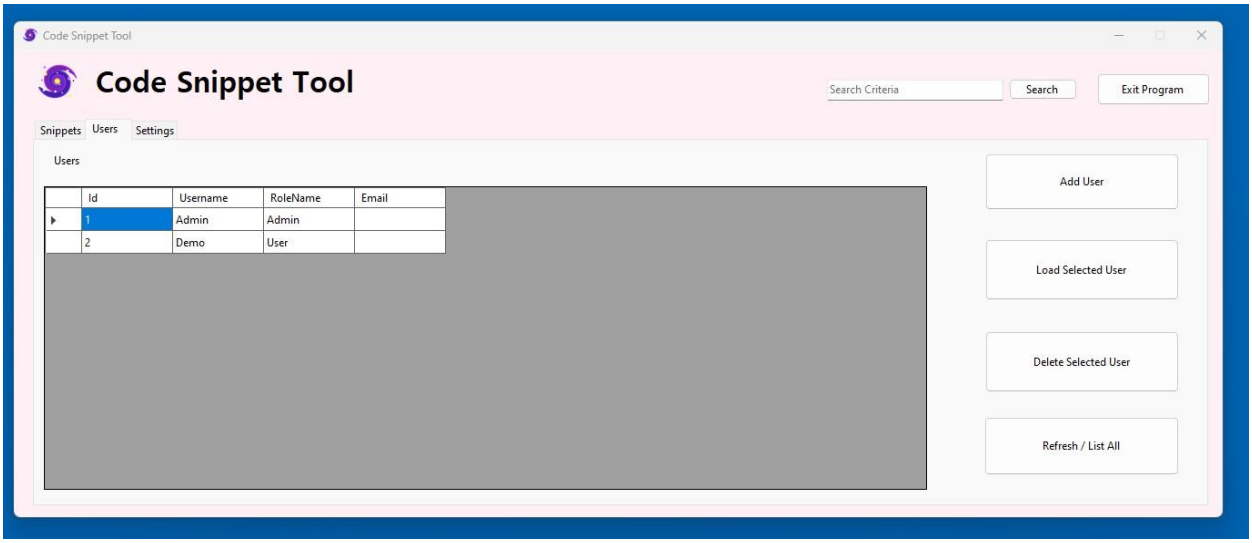
1. On the “Add / Edit Snippet Form”. Verify that the Source Language is selected and that there is code to analyze in text box below the Source Language selection.

2. Click the AI Analyze button.
3. The tool will call the OpenAI API and populate the analysis in the text box below the AI Analyze button.

Note: The analysis is not saved automatically. Use the Save button to persist it.

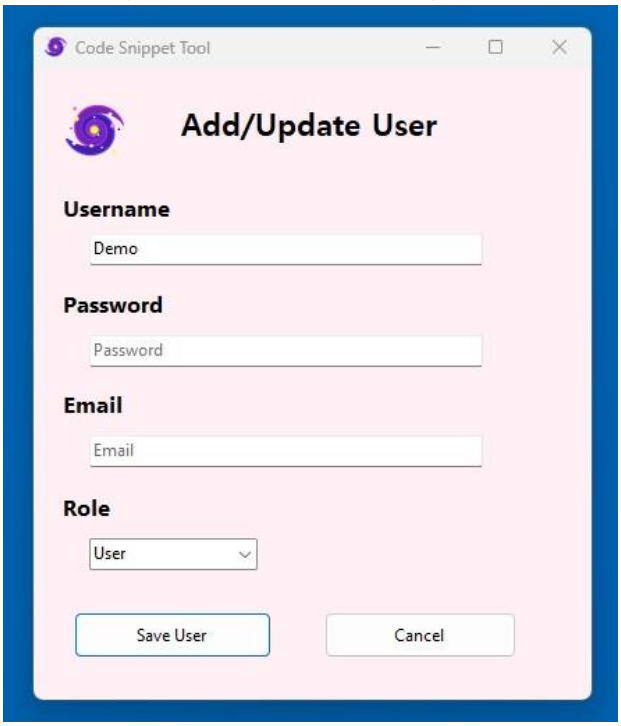
User Management

1. Select the Users tab at the top of the data grid view.



2. Navigation Items on this screen are:
    a. Tab interface above the display grid with Snippets, Users or Settings.
    b. A search input box and search button are used for context searching. This search bar has no functionality on this screen.
    c. A program exit button which closes the application.
    d. An “Add User” button which will take you to the “Add/Update User Form” which allows entry of a new code snippet into the system.
    e. A “Load Selected User” button which will load a selected code user and open the “Add/Update User Form”.
    f. A “Refresh/List All” button which refreshes the data grid. The grid will refresh itself if changes are made or if searching. This button is included if you wish to refresh and list all snippets after using the search.
3. Open the User Add/Update Form by clicking on the “Add User” or selecting a snippet in the main data grid and clicking on “Load Selected User”.

4. This will open either a new “Add/Update User” form or preload if loading a selected user.



5. Fill in the details for the user:
    - Username: Enter in the new user name or modify the current one.
    - Password: Enter a new password. *IMPORTANT: The password **must** be changed if saving the user or updating the user.* If you do not wish to change the password the user cannot be modified, select Cancel.
    - Email: Enter the user’s email address. This is for future functionality of user registration verification.
    - Role: Select the appropriate role of the user. This is for future functionality of role based authority in the application.
6. Click Save to update the user or save the new one. This will return you to the User tab of the Main Application. Click cancel to return without saving anything to the User tab of the Main Application.

Settings Management

{NOT YET IMPLEMENTED}

Dependencies

- **SQLite**: For local data persistence.
- **OpenAI API**: For AI-driven analysis.
- **Windows Forms**: For the user interface.
- **.NET Framework**: Targeting Windows environments.

License

This project is licensed under the MIT License.

Contact

For issues or inquiries:

- Email: aamoretti3000@limestone.edu or alexandriadianaroberts@gmail.com
- GitHub: VegasButterfly