

Automatic Project Detection and Tooling for Devs

Laczkó Zsófia
Merth Borbála
Petes Márton
Gergely Dániel
Csüllög Benedek

December 2024

Overview

- Project
- Team
- MVP
- Program
- Analysis and insights
- Ideas for the future
- Conclusion

Project

PyRunner

Project

- During the Automatic Project Detection And Tooling For Devs project, our main goal was to create a program that helps developers to run executable files easier than ever.
- The tool must recognize all executables from the working directory.
- We have created a tool that runs all executables with the proper arguments that the user has set.

Project team

Team members:

- Zsófia Laczkó
- Borbála Merth
- Márton Petes
- Dániel Gergely
- Benedek Csüllög

Zsófia Laczkó



Full stack developer

Main tasks:

- Implementation in Model layer
- GUI implementation

Borbála Merth

Software engineer and architect

Main tasks:

- Architecture of the program
- Program documentation

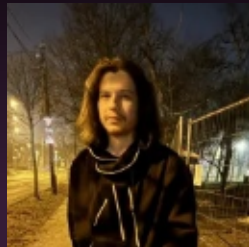


Márton Petes

Test engineer and software engineer

Main tasks:

- Testing the program
- Implementation in Model layer



Dániel Gergely

Full stack developer

Main tasks:

- Implementation in Persistence layer
- GUI implementation



Benedek Csüllög



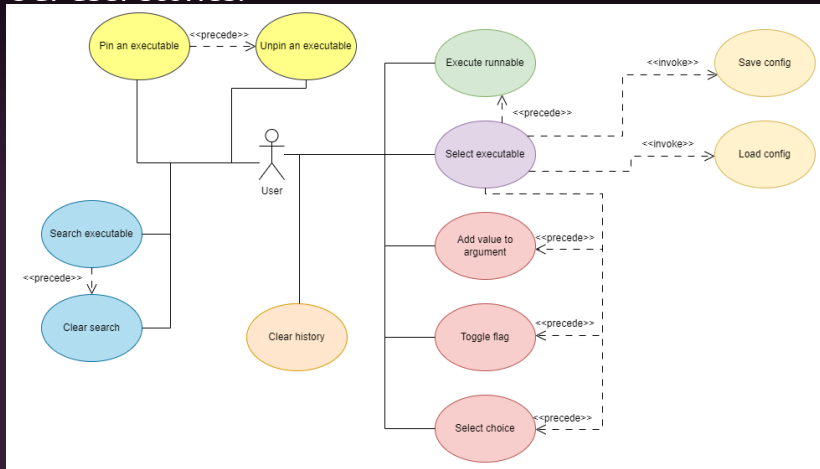
Software engineer and architect

Main tasks:

- Architecture of the program
- Implementation in Model layer

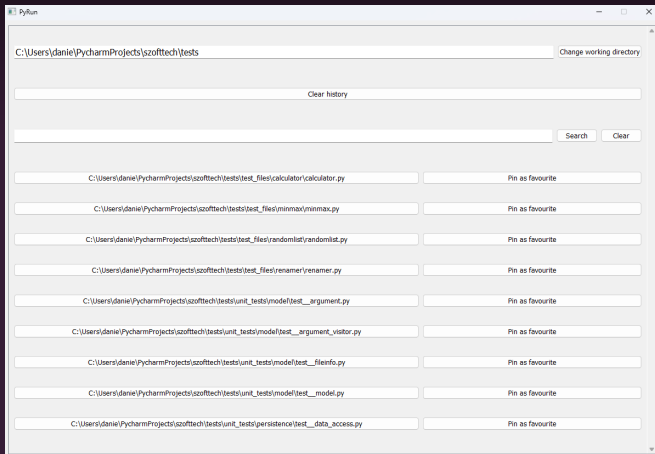
MVP

Our user stories:



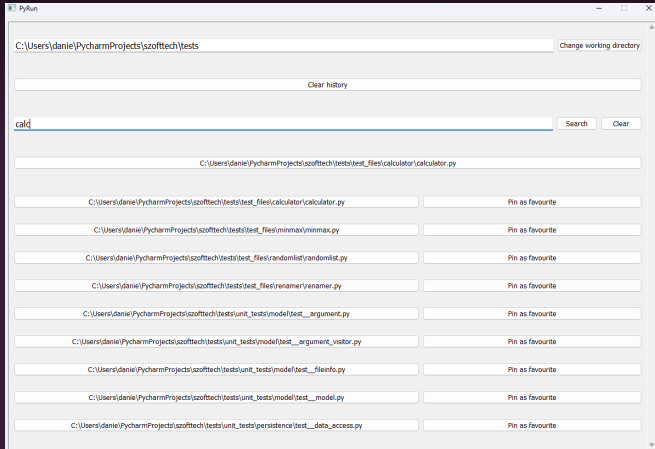
Main page

- Select executable files
- Clear history



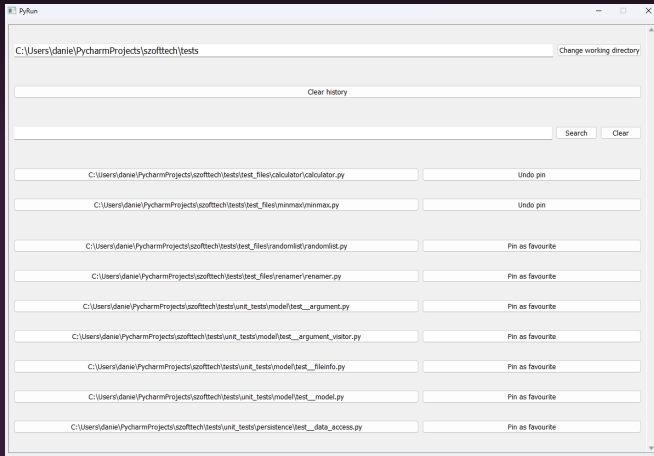
Main page

- Search for executable
- Clear search



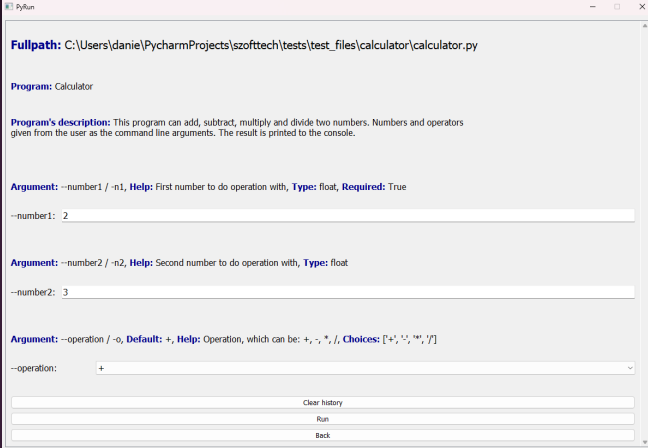
Main page

- Pin an executable
- Unpin an executable



Configuration page

- Save/Load configuration
- Add value to argument
- Select choices



The screenshot shows a 'PyRun' configuration window. It contains fields for 'Fullpath', 'Program', 'Program's description', and three arguments. Each argument has a text input field for its value. At the bottom, there are three buttons: 'Clear history', 'Run', and 'Back'.

Fullpath: C:\Users\danie\PYcharmProjects\szofitech\tests\test_files\calculator\calculator.py

Program: Calculator

Program's description: This program can add, subtract, multiply and divide two numbers. Numbers and operators given from the user as the command line arguments. The result is printed to the console.

Argument: --number1 / -n1, **Help:** First number to do operation with, **Type:** float, **Required:** True

--number1:

Argument: --number2 / -n2, **Help:** Second number to do operation with, **Type:** float

--number2:

Argument: --operation / -o, **Default:** +, **Help:** Operation, which can be: +, -, *, /, **Choices:** ['+', '-', '*', '/']

--operation:

Configuration page

- Toggle flag

PyRun

Fullpath: C:\Git\szofttech\tests\test_files\renamer\renamer.py

Program: Renamer

Program's description: This program can rename a file or directory. The new name is given from the user as the command line arguments. The full path argument is required, it will be renamed.

Argument: --full_path / -p, **Help:** Full path to the file or directory to be renamed, **Type:** str, **Required:** True

--full_path: C:\Git\szofttech\tests\test_files\renamer\test.txt

Argument: --new_name / -n, **Help:** New name for the file or directory, **Type:** str, **Required:** True

--new_name: test_2.txt

Argument: --overwrite / -o, **Default:** False, **Help:** Whether to overwrite the existing file or not, **Action:** store_true

Equipped

Argument: --file / -f, **Default:** file, **Help:** Whether the path is a file or not, **Type:** str, **Choices:** ['file', 'directory']

--file: file

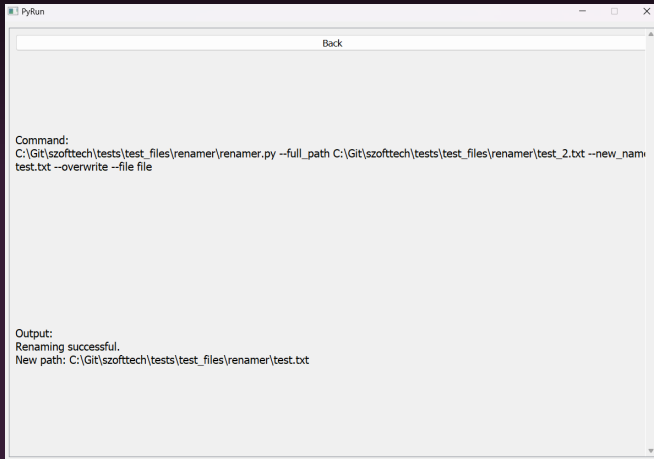
Clear history

Run

Back

Runner page

- Execute script



Implemented MVP points

- Select executable
- Add values to arguments
- Toggle flag
- Select choices
- Execute program
- Save configuration
- Load configuration
- Clear history
- Search executable
- Clear search
- Pin an executable
- Unpin an executable

Not Implemented MVP points

- We have completed all planned user stories, so there are no missing MVP points.

Analysis and insights

We used KPI to measure our achievement.

- The KPI is calculated as the percentage of core features implemented out of the total planned features.
- We have 12 specific use cases, and we have implemented all of them.

$$\frac{\textit{implemented use cases}}{\textit{planned use cases}} * 100 = \frac{12}{12} * 100 = 100$$

- This calculation confirms that we achieved 100% completion of the planned core features, so we have successfully reached our goal.

Analysis and insights

- This achievement is a testament to the team's hard work, effective planning, and strong collaboration throughout the projects lifecycle.
- By achieving 100% of our KPI, we have validated the excellence of our project planning and execution processes.
- In the future, this success will serve as a benchmark for future projects, providing valuable information and establishing best practices.
- It strengthens stakeholder confidence in our team's ability to deliver on commitments and ensures that the system is ready to support the organization's goals and objectives.

Analysis and insights

Potential improvements:

- In the future, we are going to analyze user behavior and feedback to identify potential enhancements or new features.
- Collaborate with stakeholders to identify long-term goals and requirements.
- Test the system to ensure that it can handle high loads.
- Prepare for future scalability needs with architecture improvements.
- Allocate time for team members to experiment with creative ideas.

Ideas for the future

Points that are not in the MVP, but in future iterations these can be new features:

- .exe for the program - easier program start
- Our software could potentially recognize, analyze, and execute executable scripts written in multiple different programming languages. Each new programming language would be an extension of the product.

Conclusion

In conclusion, we have tried to create a program that simplifies developers' lives by addressing common challenges and streamlining their workflow. Although the program already offers valuable features, it has significant potential for further development. Enhancements could make it even more universal, enabling it to cater to a wider range of needs and users. By continuing to refine and expand its capabilities, the program could become an indispensable tool for developers worldwide.

Thank you for your attention!