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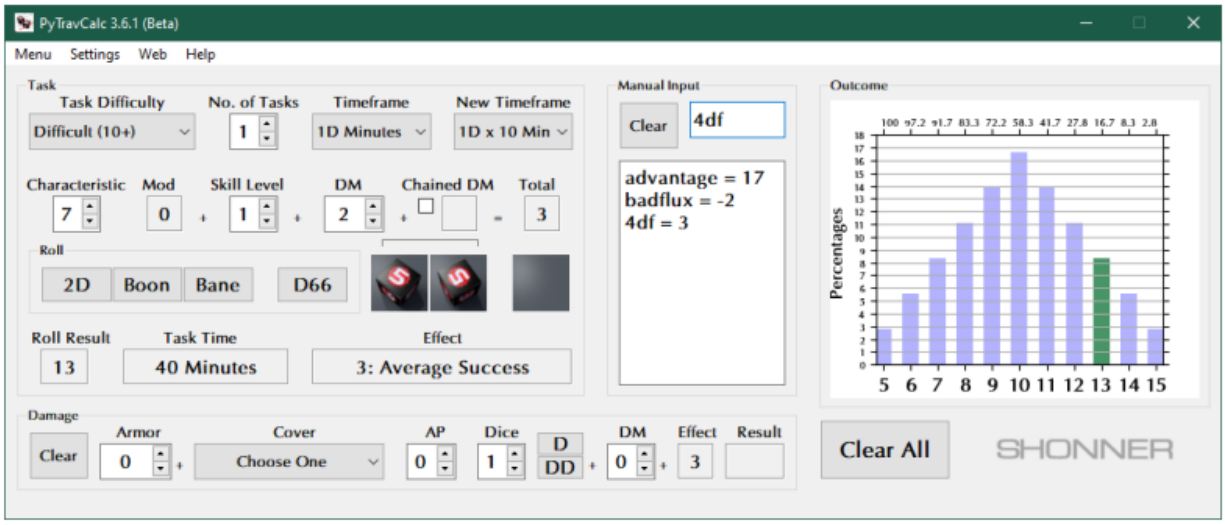
PyTravCalc



PyTravCalc Manual

Release 3.6.6b (Second Printing)

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CHAPTER

ONE

OVERVIEW

This documentation explains how to install and use **PyTravCalc** for die roll calculations.

PyTravCalc is a Windows program for calculating die rolls for Mongoose Traveller 2nd Edition. It's written in Python 3.11 and includes **pydice** for its die rolling. Source for **pydice** can be found at its GitHub repository.

PyTravCalc features minor logging and error tracking at this time.

CHAPTER

TWO

INTRODUCTION

2.1 Preface

I've written various die rolling programs for various computers over the decades. Every computer language had its own way of randomly generating numbers for dice results. These were pseudo random results, but still pseudo random enough to be useful for what I needed. I remember writing a Risk! game on the computer, and programming the die rolls needed for comparisons between players. That was back in 1989. I wish I still had listings from that program. And from others. That was back when computer programmers printed out their program listings and desk-checked them in 24-hour restaurants at 2am.

The reason I wrote a "calculator" for Mongoose Traveller 2nd Edition was because I had tried some from other programmers (most of them were web-based and for Classic Traveller, if I recall), but none of them did more than 2D rolls. I'm guessing by now they do, because more people are playing Mongoose Traveller 2nd Edition.

Anyway, at the time when I first made this program, I didn't know how to write programs that ran in the browser. So my other option was to write the program in Windows, and use whatever GUI for Python that looked best. At the time, it was PyQt that I liked. wxPython and Tkinter didn't have nearly the ease-of-use and production value that PyQt had.

Seven years ago, when I released very early versions that would eventually lead up to this program's design, I knew that very few people were still using computers. Most were using their phones to roll dice on. I see the reasons for it. I happen to have a computer while I play Traveller online with other players. So my program is right there on the screen if needed.

Now that I know how to program for the browser, I might one day try doing this for the web. We'll have to see.

-Shawn

2.2 Requirements

- **Microsoft Windows**

  PyTravCalc is being tested on Windows 10. This code is being tested on Windows 11.

- **Python 3.11**

  PyTravCalc was written using the C implementation of Python version 3.11. Also known as CPython.

- **PyQt5 5.15.9**

  PyQt5 is the framework used for displaying the Window GUI and buttons, etc.

- **numpy 1.26.0**

  For building arrays.

- **matplotlib 3.8.0**

For graphics plotting.

2.3 Not Using Python?

You can always run the .EXE version for Windows 10 or 11 if you don't have the Python language installed.

CHAPTER

THREE

INSTALLING

3.1 Downloading PyTravCalc

Installing and using **PyTravCalc** seems simple enough. Just download the archive from GitHub and extract it to a folder you prefer.

3.2 About Fonts

TrueType fonts are included in the fonts folder. Add/install them to `C:\Windows\Fonts` if your system does not have them.

3.3 Running PyTravCalc

If you have Python 3.11 installed, you can start `pytravcalc.py` from a CMD prompt or double-click the Python script.

Alternatively, if you do not have Python 3.11, you can start `pytravcalc.exe` from a CMD prompt or by double-clicking the executable program.

CHAPTER

FOUR

WHAT'S NEW IN PYTRAVCALC?

4.1 New in PyTravCalc 3.6.6?

Updated for Python 3.11.6, pydice 3.12.9, and PyQt5 5.15.9.

Hex and **eHex** rolls have been added.

New in PyTravCalc 3.6.5

Updated to Python 3.11.0. Now using **pydice** for its dice rolling.

New in PyTravCalc 3.6.0

ADVANTAGE and **DISADVANTAGE** roll types have been added. These rolls are done manually. They can also be rolled from the CMD prompt.

New in PyTravCalc 3.5.0

PyTravCalc no longer requires **colorama**.

New in PyTravCalc 3.4.1

The older integer division has been depricated.

New in PyTravCalc 3.4.0

SHONNER dice have been added to the dice selection.

New in PyTravCalc 3.3.0

Ugly yellow dice have been added to the dice selection.

New in PyTravCalc 3.2.0

PyTravCalc can be used directly at a CMD prompt using:

The long form:

```
C:\>PyTravCalc.py roll('2d6-2')

Your '2D6-2' roll is 10.
```

Or the short form:

```
C:\>PyTravCalc.py 2d6-2

Your '2D6-2' roll is 7.
```

Note: Typing `PyTravCalc.py -h` will provide some help.

New in PyTravCalc 3.1.5

PyTravCalc now runs in Python 3.9 using PyQt5.

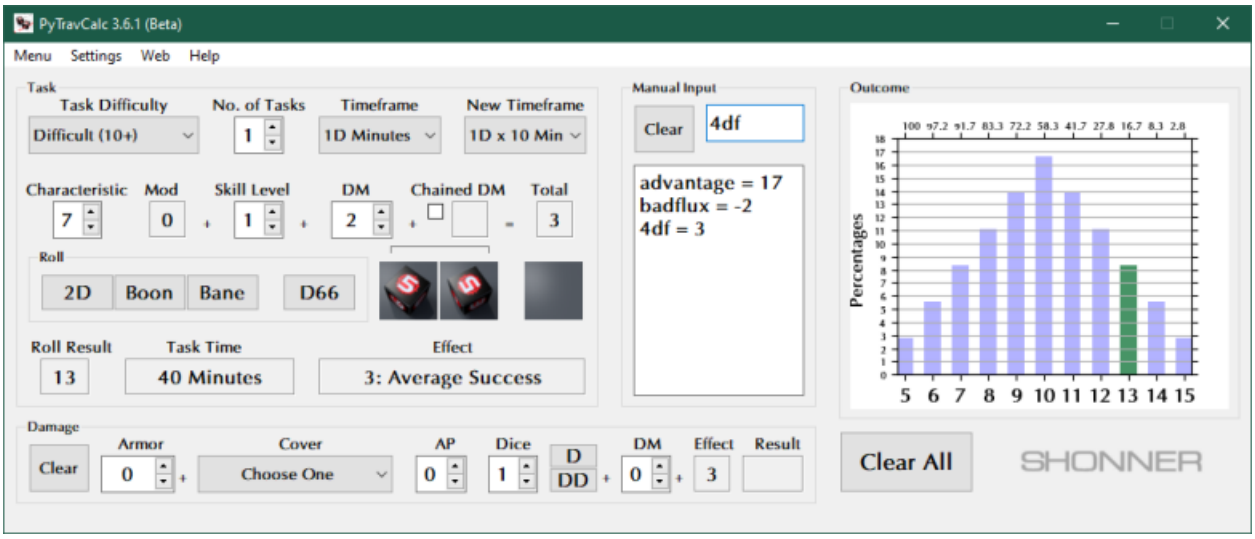
CHAPTER

FIVE

PYTRAVCALC TUTORIAL

5.1 The GUI

After the program starts, there should be a screen that looks like:



The screen contains various outlined areas that are labeled as:

Task
Choose the difficulty and die-modifiers for a task.

Manual Input
Enter various die rolls using the keyboard. A history will be kept.

Roll
Choose the roll type to perform.

Damage
Calculate a damage roll.

Outcome
Displays a plotted graph of the roll chances, and of the roll result if a difficulty is chosen.

Note: Plotted graphs are generated only when difficulties are selected. **D66** and manually inputted rolls will never generate graphs.

5.2 Making a Task Roll

Typically, task rolls will have a difficulty chosen by the game's referee. The player simply clicks the **Task Difficulty** button and chooses a difficulty level. This will unlock the rest of the **Task** area that the player can fill in as well. It's pretty much self-explanatory how the rest is filled in. It is assumed that the player has a characteristic and a skill in mind when changing these values.

Note: The default **Characteristic** value is **7**. Be sure to input your character's own value in its place before rolling any dice. The same goes for the **Skill Level**, which has a default of **0**. Give it the value of your character's skill level for the task being done.

Don't worry about the characteristic **Mod** amount. Its value is calculated automatically, as well as the DM **Total**.

Once the DM is calculated, a roll is then made (determined by the referee). The dice will be shown. The roll **Result** and **Effect** will be calculated. And the **Task Time** will be calculated if a **Timeframe** was chosen.

A graph of the **Outcome** will then be displayed.

5.3 Making a Damage Roll

The normal damage **D** and destructive damage **DD** rolls calculate the "soaking" of damage against armor. **Armor** score is entered, along with hidden **Cover** amount and **AP** score. The number of dice is selected. And a **DM** can be added before clicking either the **D** or **DD** roll buttons. Any effect will be added to **D** rolls only.

The **Clear** button will reset the damage area. The **Clear All** button will reset all the areas.

5.4 Manually Inputting Rolls

Here you are not limited to just Traveller rolls. You can enter other rolls for other kinds of dice used in other games. **PyTravCalc** will keep a history of the rolls that you enter.

The **Clear** button will reset the roll history. The **Clear All** button will reset all the areas.

Check the included `pydice.pdf` manual to see what other kinds of rolls **PyTravCalc** can perform manually.

5.5 Settings Menu

Dice styles can be selected from the **Dice** menu. Voice styles (yes, voice styles) can be selected from the **Audio** menu.

Note: Only the **female voice** works with general die rolls (rolls made without a **Task Difficulty**). Any manually inputted rolls will not be voiced.

CHAPTER

SIX

OPEN SOURCE

6.1 MIT License

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6.2 Contact

Questions? Please contact shawndriscoll@hotmail.com

CHAPTER

SEVEN

FFE AGREEMENT

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CHAPTER

EIGHT

ABOUT THE AUTHOR

Shawn Driscoll is an American artist. Computers are his main creation tool. His many hobbies are in sync with his being a student of all sciences. Some of which are discussed in length on his YouTube channel.