**PyProb Documentation**

PyProb is a data visualization tool originally designed to replace some of the more major functions of the legacy software, WinProb. The Main function of the tool is to visualize cumulative distributive functions of discrete datasets. The Most in-demand features are implemented.

**Current Keyboard shortcuts**

(As per Rahul’s Request 😉)

Titles – t

Log/Linear Toggle – Shift+L

Save PNG – m

Paste Curve – ctrl+v

New File – ctrl+n

Save File – ctrl+s

Save File As – ctrl+Shift+s

Edit Curve – Shift+e

**PyProb Class Diagram:**

**File Breakdown:**

**Main.py:**

* Classes
  + Main
* Inherits
  + Root.py
* Imports
  + tkinter
* Description
  + (I still need to make a good main function that actually works because as of right now it’s its own class like a Java class because I made it wrong I’ll have Rahul help me fix it tomorrow)

**Root.py:**

* Classes
  + RootPane
* Inherits
  + Edit\_ Curve.py
  + prb\_reader.py
  + Grapher.py,
  + Extraneous\_Interface.py
* Imports
  + tkinter
  + typing (exceptions)
  + tkinter.filedialog
  + re
  + Pyperclip (clipboard)
  + matplotlib.backends .backend\_tkagg import Figure CanvasTkAgg (putting mpl in tk)
* Description
  + This file is just one class and that is the RootPane. This handles everything in the Main tkinter window. It also implements most of the interactivity in the graphs, It has all of the keyboard shortcut functions, the legend manipulation functions and the functions that open the subsequent windows.

**Edit\_Curve.py**

* Classes
  + EditPane
* Inherits
  + N/A
* Imports
  + Tkinter
  + Typing
  + Pyperclip
* Description
  + This whole file is for the Edit\_Curve class. This Class holds all of the front end methods for manipulating the graph, but it passes most of the functionality to Grapher.py to do the actual manipulation of the Curve objects along with the replotting of the MPL graph.

**Extraneous\_Interface.py**

* Classes
  + TitlePane
  + EditAllPane
* Inherits
  + Edit\_Curve.py
* Imports
  + tkinter
* Description
  + This File Is where I designated all of the lesser GUIs. All of the specialty Dialogs that pop up for the user to do singular operations such as change the title and choose which curves to edit. This file could probably be extended to hold some of the more peripheral functions of WinProb such as the axis set up window and the Font selection screens

**Grapher**

* Classes
  + Grapher
* Inherits
  + Prb\_reader
* Imports
  + Time
  + Matplotlib
  + Statistics
  + Matplotlib.ticker and lines
* Description
  + The Grapher class handles all the plotting of the graph. If its on the Graph, Grapher.py has to draw it, so the functions that have to directly influence the graph from other files usually puts up a flag that the Grapher looks for and makes decisions about what it’ll draw on the graph.

**Prb\_Reader**

* Classes
  + Curve
  + CurveManager
  + Prb\_reader
* Inherits
  + N/A
* Imports
  + Statistics
  + Scipy.stats
  + Math
* Description
  + This file is kind of the foundation that the entire codebase is built on. The most basic object in the entire project is the Curve Object. Everything else depends on at least one other aspect of the project. The curves are just pure data and all of the classes that inherit it just manipulate that data into whatever the user likes.