



Setting Up a Progress Bar in Arc-Map Environment Using Arc-Py Module

A.PragnaRani¹, L.Ravi², S.Jammalaih³, Ballu Harish^{4}*

¹KMIT-Jawaharlal Nehru Technological University-Hyderabad, INDIA

²Research Scholar, CSIT-IST-JNTUH-Hyderabad, INDIA

³ Research Scholar, CSIT-IST-JNTUH-Hyderabad, INDIA

⁴Assistant Professor, Centre for Spatial Information Technology-IST-JNTUH Hyderabad, INDIA

ABSTRACT

Usage of Python modules such as Arc-Py, Arc-GIS API and the Arc-REST for Python assists the programmers to automate the mapping and analysis of geospatial data. Automation tasks help users to perform GIS analysis quicker. Here in this paper an attempt has been made on setting up a progress bar using Arc-py(Arc-Python) module in Arc-GIS environment. Progress bar is a graphical control element which gives the status of a task such as installation of a software/execution of a programme. The main motive of the current work is to create a Toolbox and uploading the arc-py code of progress bar, the progress bar will get show indication from zero level to maximum number entered by user.

Keywords: Arc-Py, Automation, Progress bar, Arc-GIS

1. Introduction

The main motive of the current work is to make a progress bar to run from initial stage i.e zero level to maximum number given by user.

Current work deals with objectives like

- 1) Creation of a tool box and adding a script part to it
- 2) The script part contains the arcpy-code of progress bar element.
- 3) Adding the parameters which enables user to give maximum number which is the destination for progress bar progression of any task.

Progress bar establishes a progressor object which allows progress information to be passed to a progress dialog box. The look of the progress dialog box can be guarded by choosing either the step progressor or the default progressor.[1]

Set progressor: It contains the attributes like type,message,min_range,max_range,step_value.

Type Attribute: It accepts two values default or step. Default will make progressor to move back and forth where as step will shows the percentage of task completed.

Message attribute: It is the label for progressor the default value of progressor is no label.

Min range attribute: Is the initial value of progressor.

Max range attribute: It is the end value of progressor.

Step attribute: It is the value which will update the interval of progress bar [1]. Similar to progress bar, Reset progress bar also exists which will reset the progress bar to original state. Syntax of Reset progressor is ResetProgressor () [2].

Set Progressor label: It will update the progress dialog box label which is interlinked to step attribute [3] and it is a string data type [3].

* Corresponding author.

E-mail address: harishballu111@gmail.com

SetProgressorPosition: It will Sets the position of the status bar in the progressor dialog box and it is a integer data type [4]. Arc-Py is definitely not a Python based choice to Arc-GIS; it's only an instrument for utilizing Python to guide Arc-GIS. Consider Arc-Py as a companion sitting at PC, tapping on those tool stash in Arc-GIS for benefit. That is the reason Arc-Py doesn't work without Arc-GIS introduced on the equivalent system [5].

2. Methodology

The current work will focus on creating a progress bar using Arc-Py code.

```
1 import arcpy
2 strmax = arcpy.GetParameterAsText(0)
3 intmax = int(strmax)
4 arcpy.SetProgressor('step', 'model', 0, intmax, 1)
5 for count in range(0, intmax, 1):
6     arcpy.SetProgressorLabel('counting' + str(count))
7     arcpy.SetProgressorPosition(count)
```

Fig1: Sample code for Progress bar generation

Briefing of above programme

Line 1 refers to import arc-py indicates importing of all the modules of arc-py into the current programme, which will enable user to use all the modules of arc-py.

Line 2 & 3 refers to accepting the user input inform of string and then typecasting to integer is attained , it is the maximum count for progress bar to run. After reaching the end count value supplied by user , success message will appear on the screen.

Line 4 Setting up the attributes for progress bar minimum value is zero by default and maximum value will be given by the user and step value entered is 1.

Line 5,6 &7 refers to looping the count value and progressor label also gets changes for every loop value finally after reaching the final value the success message will appear to user.

3. Results and Discussion

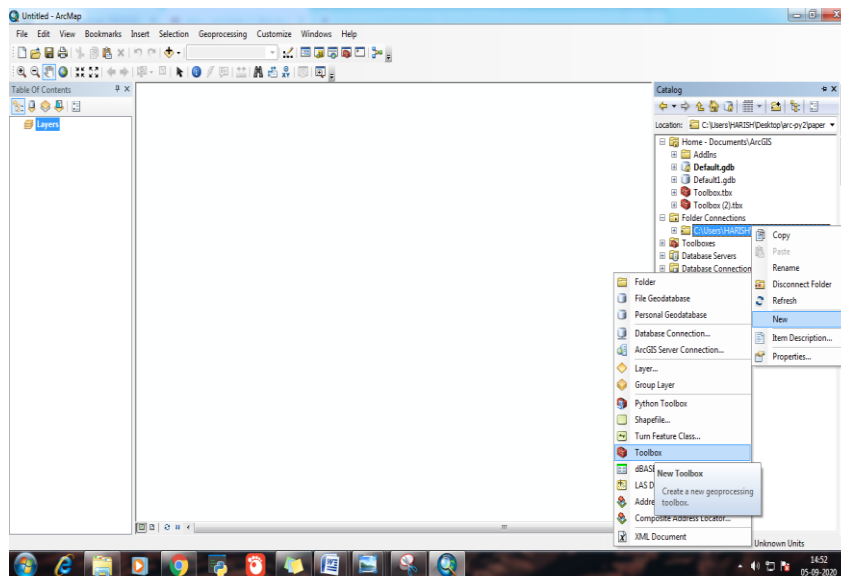


Fig 2: Creation of a toolbox to the local folder

The above figure 2 depicts method of adding the toolbox in the local folder

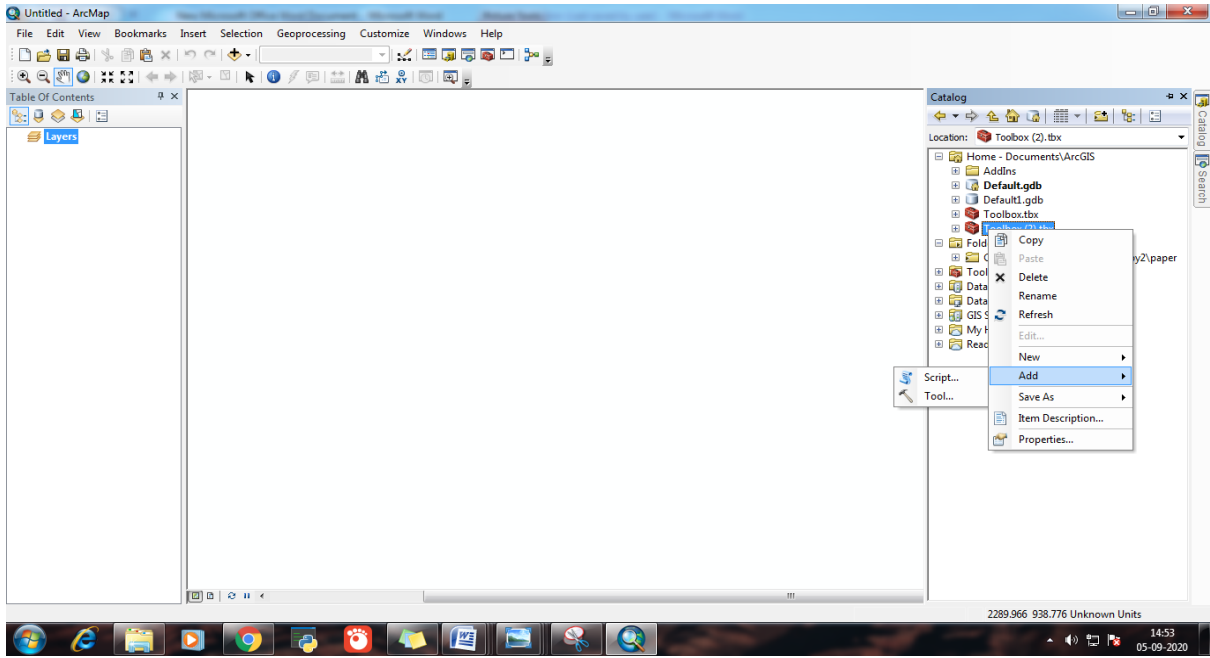


Fig 3: Appending the Arc-py code of progress bar.

The above figure 3 depicts method of adding the arc-py code of processor bar.

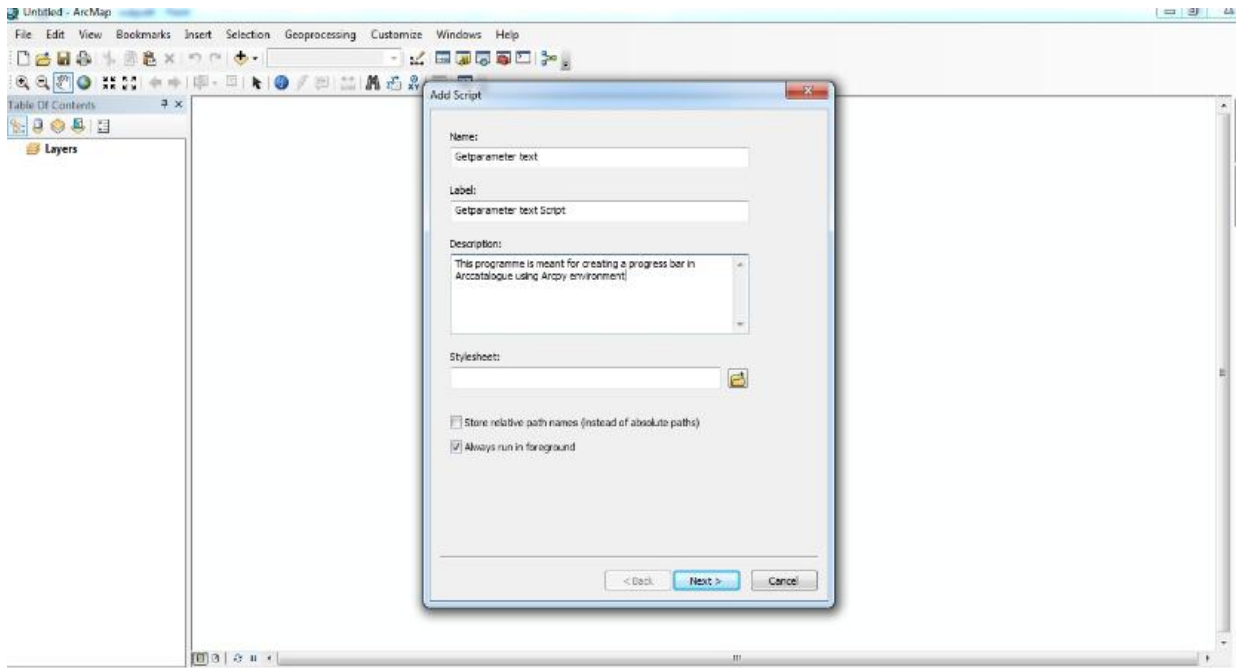


Fig 4: Naming and description of the progress bar.

The above figure 2 depicts method of naming and description of the script file added.

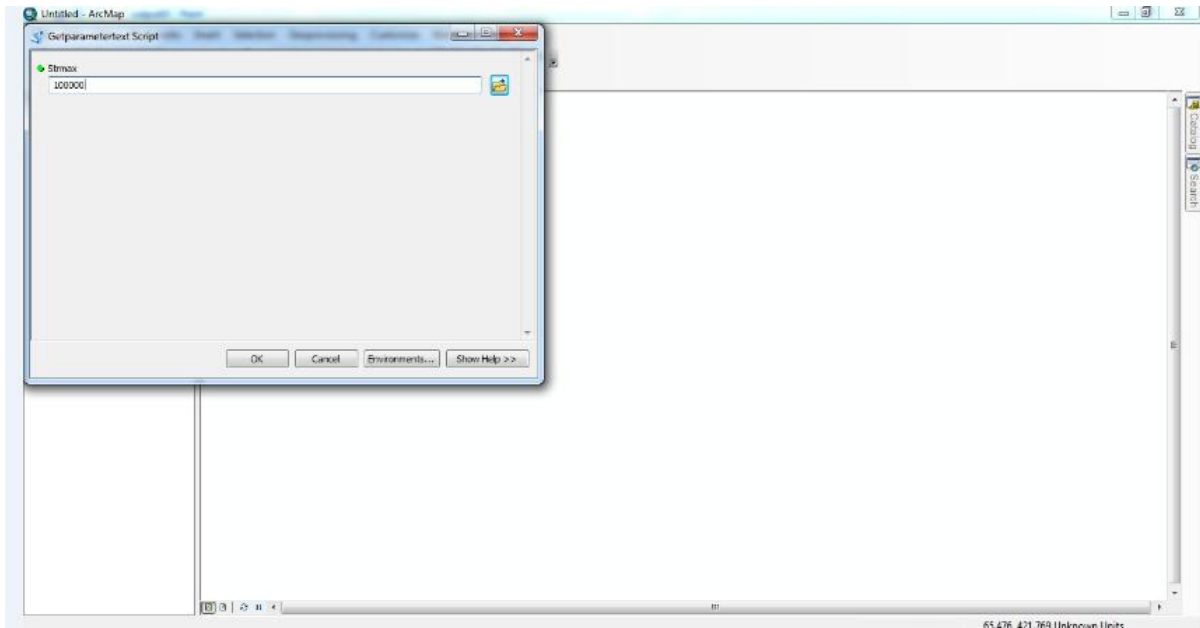


Fig 5: Entering the user value as a destination for a progressor

The above figure 5 depicts maximum value entered by user as the destination for progress bar.

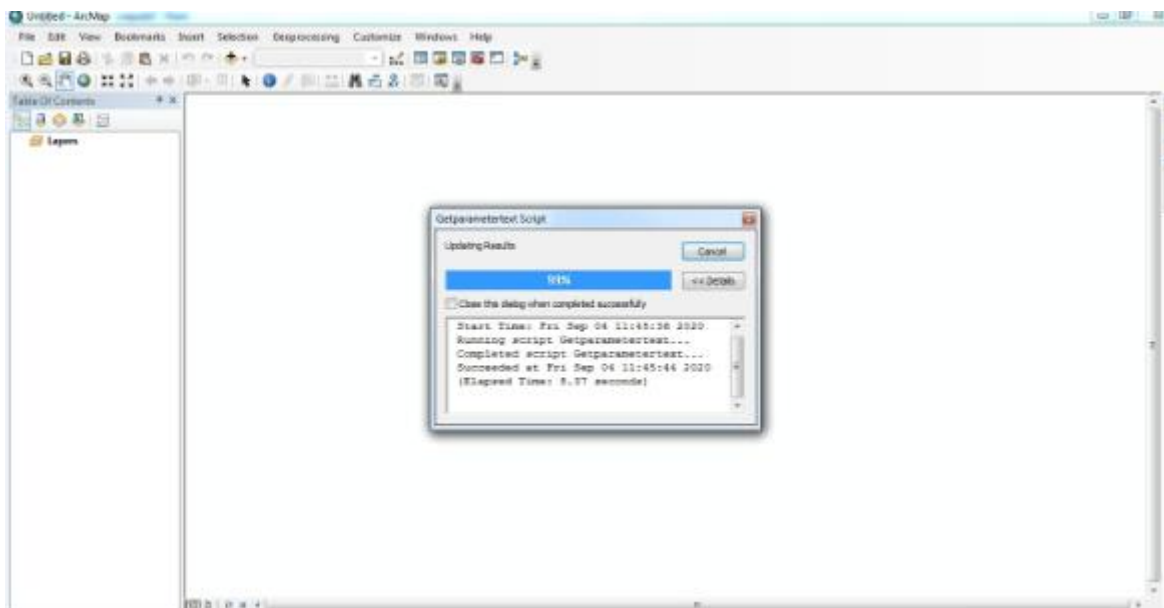


Fig 5: Generation of a progress bar.

The above figure 5 refers to generation of the progress bar on the basis of arc-py code.

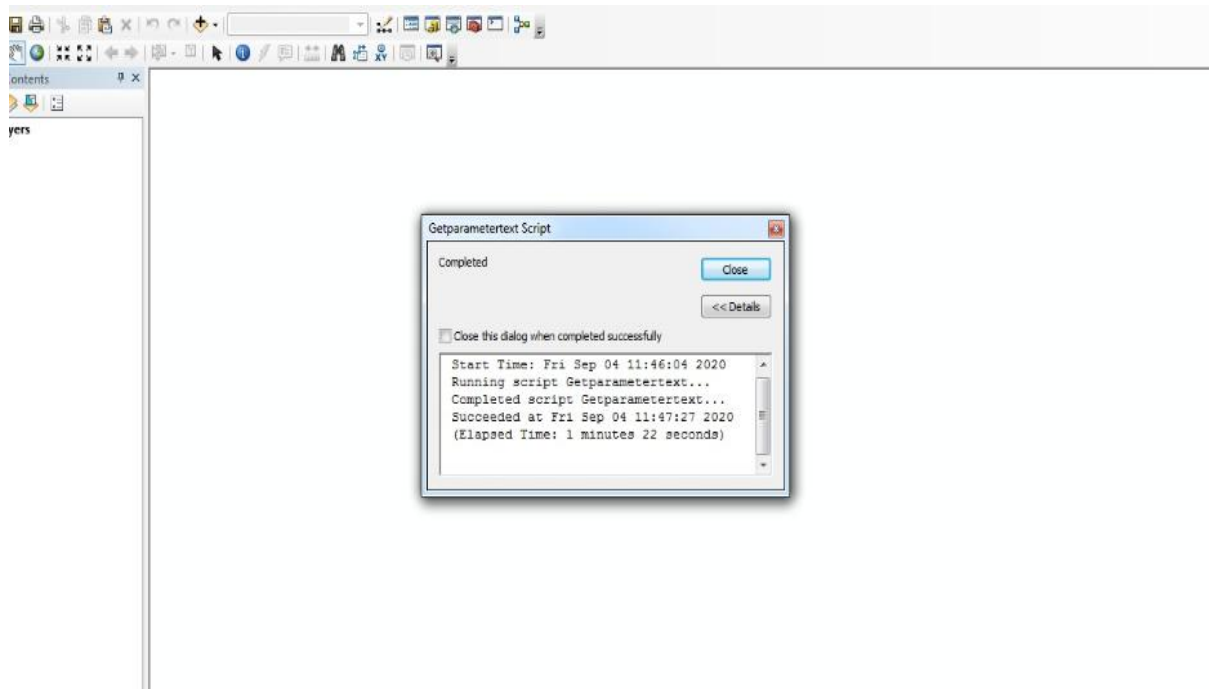


Fig 6: Success message of progress bar task completion.

The above figure 6 depicts completion of progress bar task.

4. Conclusions

From the result section figure no 2 gives the method of creating a toolbox and figure no 3 will show the method of appending the arcpy-code of progress bar to the script part of toolbox & the figure no 5 will deliver the method of inputting the user maximum count for ending the progression of progress bar

Acknowledgements

The authors are thankful to Centre for Spatial Information Technology(CSIT) for providing facilities to accomplish this work. Additional support was provided by the T.Jayababu Technical Asst-CSIT-IST & Institute of Science and Technology JNTUH.

REFERENCES

-
- [1]. <https://desktop.arcgis.com/en/arcmap/10.3/analyze/arcpy-functions/setprogressor.htm>
 - [2]. <https://desktop.arcgis.com/en/arcmap/10.3/analyze/arcpy-functions/resetprogressor.htm>
 - [3]. <https://desktop.arcgis.com/en/arcmap/10.3/analyze/arcpyfunctions/setprogressorlabel.htm>
 - [4]. <https://desktop.arcgis.com/en/arcmap/10.3/analyze/arcpyfunctions/setprogressorposition.htm>
 - [5]. http://www.nickeubank.com/wpcontent/uploads/2015/10/ArcPy_IntroductoryTutorial.pdf