

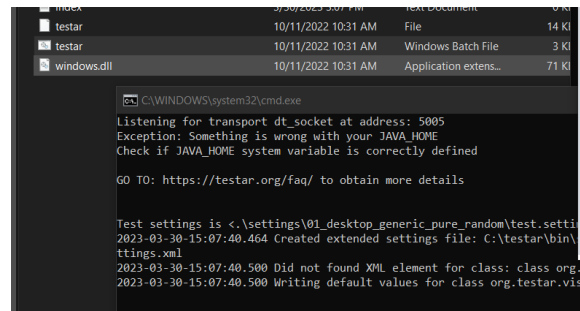
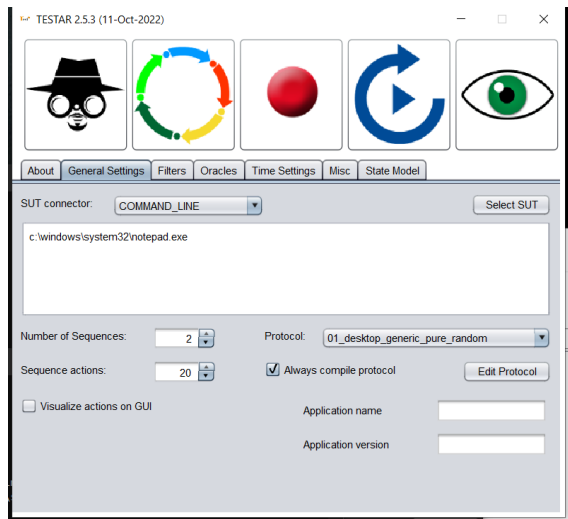
Tool Analysis

Paper name: Testar – scriptless testing through graphical user interface

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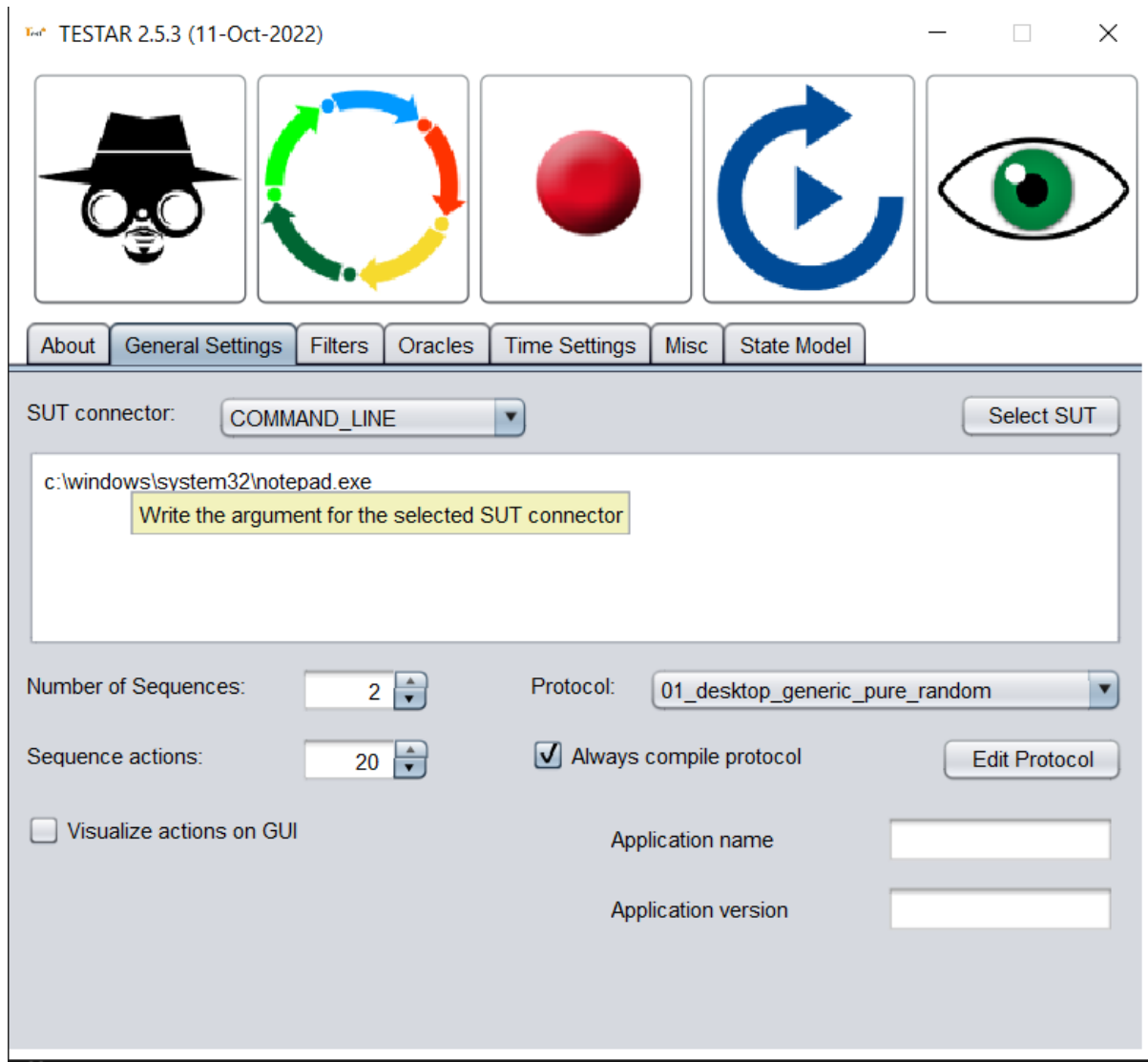
Testar has a dedicated website with a tab for downloading the tool. There you can also find a DIY hands on manuals where the installation steps are described. The installation process was fairly easy and intuitive and the graphical interface of the tool is pretty intuitive.



The tool is installed in the C directory where it can be run from a windows batch file. The JAVA_HOME exception was fixed afterwards.

As shown in GUI, Testar has several execution modes, in order: SPY, GENERATE, RECORD, REPLAY, VIEW.

We begin with SPY mode which allows us to inspect the widget controls of the GUI. Here we see what actions TESTAR is able to extract and choose from. We configured the SUT connector to open the Notepad application.



Then, the automated testing is performed using the GENERATE mode. It includes a random selection of actions whose purpose is the violation of general-purpose system requirements. (the system under use should not crash, freeze, there shouldn't be any widgets titled error, problem etc).

```
2023-03-30_15h09m50s_notepad_sequence_1 - Notepad
File Edit Format View Help
Starting sequence 1 (output as: ./output/2023-03-30_15h09m50s_notepad/se

ExecutedAction [1]:
@Action ConcreteID = Acd79u50803169188057 AbstractID = Aad79u5080316918
ConcreteID CUSTOM = ACC18w58e5813170193709 AbstractID CUSTOM = AACs8b1x
@State ConcreteID = SC7ny0ly2251110252236 AbstractID = SR1mpvkz62082174
ConcreteID CUSTOM = SCC1kzr3g25d1030760569 AbstractID CUSTOM = SACvk4iy

ROLE = LeftClickAt
TARGET =
WIDGET = Wcdfgprn1c4116076503, WR17v7k2nb1067391859, WT1
ROLE = UIAMenuItem
TITLE = Edit
SHAPE = Rect [x:1207.0 y:227.0 w:40.0 h:24.0]
CHILDREN = 0
PATH = [0, 3, 1]
DESCRIPTION = Left Click at 'Edit'
TEXT = Compound Action =
Move mouse to (1227.0, 239.0).
```

```
saved current settings to c:\settings\01_desktop_generic_pure_random\test.settings
Used directory compileProtocol settingsDir = c:\settings\compileDir = C:\testar\bin\settings\01_desktop_generic_pure_r
andom
2023-03-30-15:09:17.677 TESTAR initializing with the given protocol settings
[START] Running processes (176):
2023-03-30-15:09:19.768 SUT is running after <2027> ms ... waiting UI to be accessible
2023-03-30-15:09:19.813 SUT accessible after <2072> ms
[END] Running processes (177):
kill kill process: PID <20120> HANDLE <3900> DESC <DllHost.exe>
kill kill process: PID <6224> HANDLE <3900> DESC <DllHost.exe>
saved c:\settings\01_desktop_generic_pure_random\test.settings
saved current settings to c:\settings\01_desktop_generic_pure_random\test.settings
Used directory compileProtocol settingsDir = c:\settings\compileDir = C:\testar\bin\settings\01_desktop_generic_pure_r
andom
2023-03-30-15:09:50.821 TESTAR initializing with the given protocol settings
[START] Running processes (176):
2023-03-30-15:09:52.931 SUT is running after <2033> ms ... waiting UI to be accessible
2023-03-30-15:09:52.981 SUT accessible after <2081> ms
[END] Running processes (177):
kill kill process: PID <8516> HANDLE <3756> DESC <notepad.exe>
[START] Running processes (170):
2023-03-30-15:10:05.170 SUT is running after <2032> ms ... waiting UI to be accessible
2023-03-30-15:10:05.220 SUT accessible after <2082> ms
[END] Running processes (170):
kill kill process: PID <11628> HANDLE <4444> DESC <notepad.exe>
2023-03-30-15:10:14.432 notepad Generate C:\testar\bin\output\2023-03-30_15h09m50s_notepad\sequences\2023-03-30_15h0m03
s_notepad_sequence_2.testar OK "No problem detected."
```

The main benefit of the tool consists of the scriptless testing it offers and how easy it is to test almost every app with a GUI.

The results of the tests are displayed in an output directory where HTML reports as well as Text reports.