

Windows User Emulator

Increase reliability and reduce testing time!

V Singh

Records windows user movement and
execute later

Lua script extension for automating
the Windows GUI simulates
keystrokes, mouse movement.

This framework creates initial lua
script from user's interaction.

Scalable Windows User Emulator

Records windows user movement and
execute later

Presenter :-)

V Singh

Agenda

Please follow following slides about How it works!

How to create simple user emulator

Download following zip file (No spyware
GCC compiled C++)

Ubuntu32/64 Raspberry PI also available






https://github.com/natashaiwscope/win_useremulator/tree/master/windows/windowsuseremu.exe

Common Windows Firewall Warning Message



GUI First Look

untitled.txt — Application Example

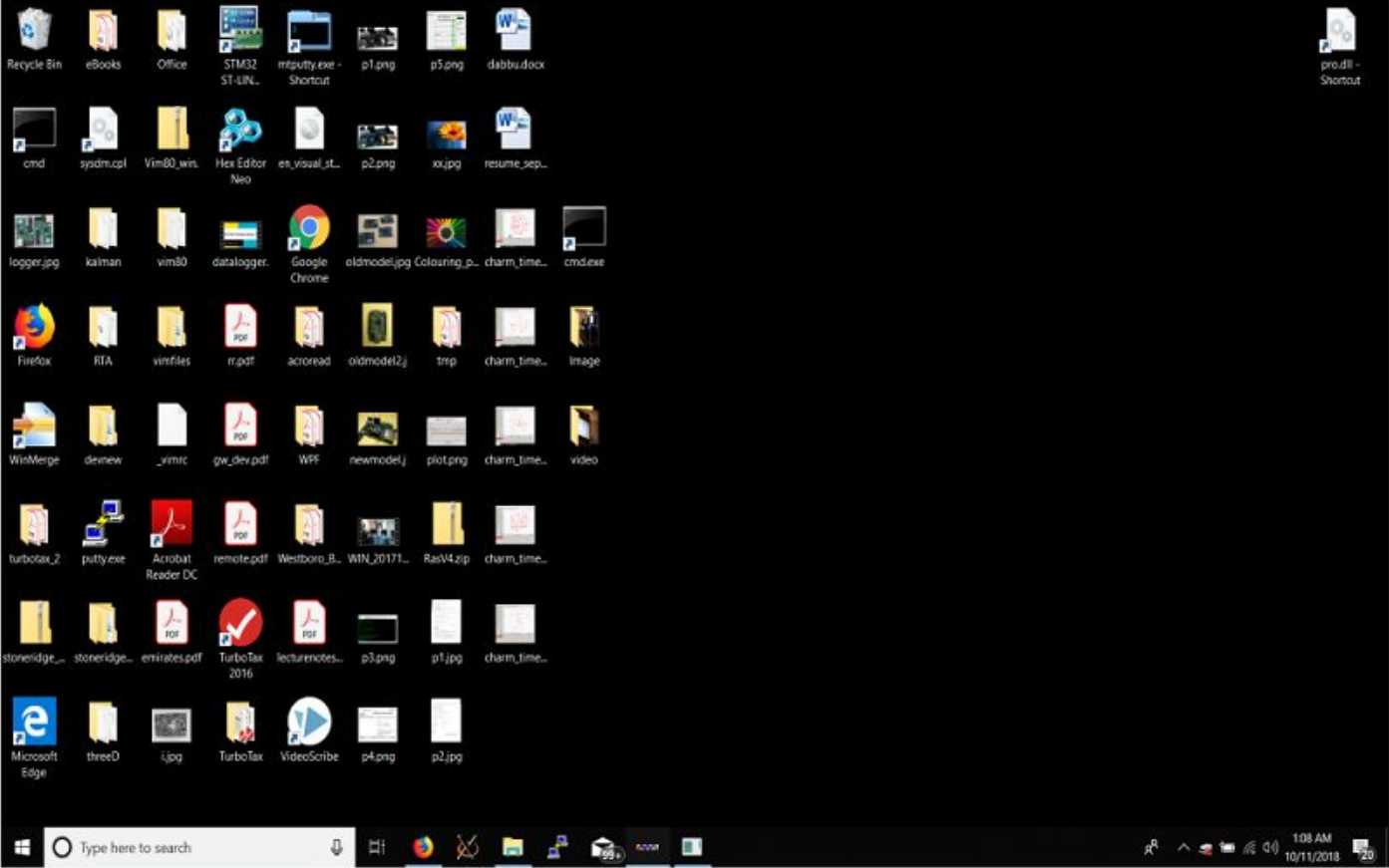
 **NONE** 192.168.0.6 D    

WinFrame "Edit" autoexec.lua "lua"

Play DEL CTRL
Record ALT ENTER

TP1 TP2 TP3 TP4

Templ Save
tpSize Template Create
32



Type here to search

10:08 AM 10/11/2018

Single Left Click 0 0

KEYBRD TX1

NONE

browse bat

Template Mode

Standard Windows/Web Testing

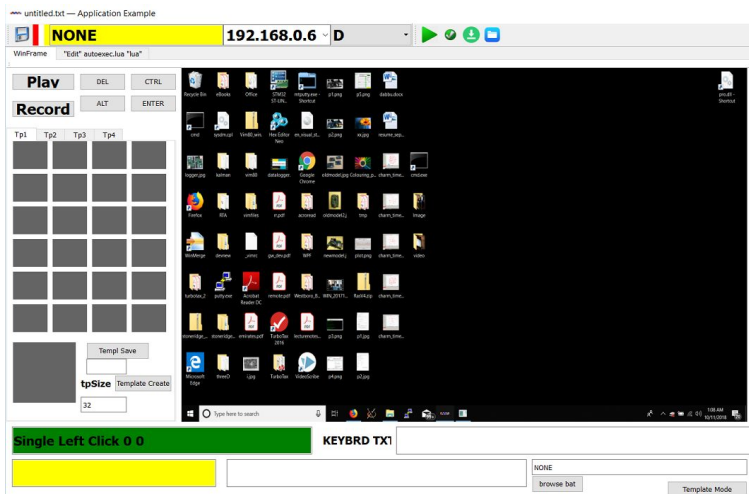
winRunner.exe



Automatic testing for GUI

LAN/Automatic Discovery

remote_pc.exe



GUI First Look

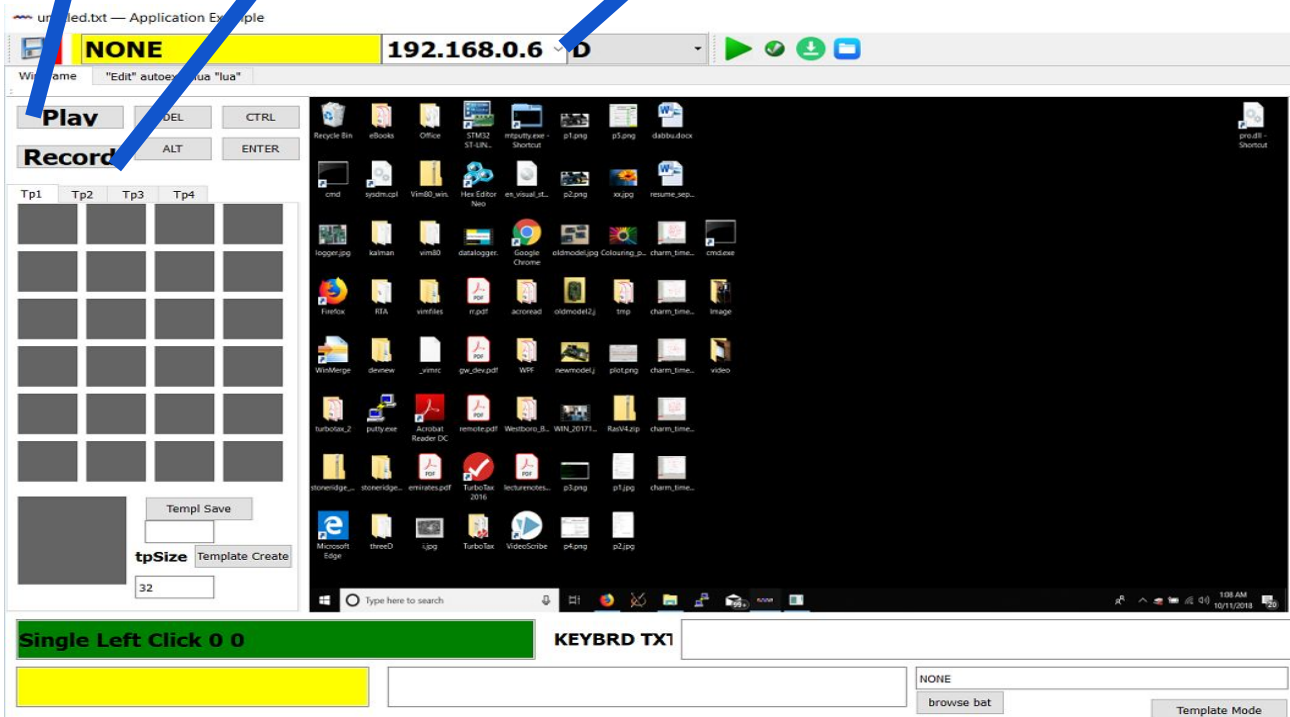
Play

Record

Automatic Discovery of
client Desktop

Records HID
Mouse/Keyboard Event
with timing

(Creates Lua
Script, may
be edited by
user later)



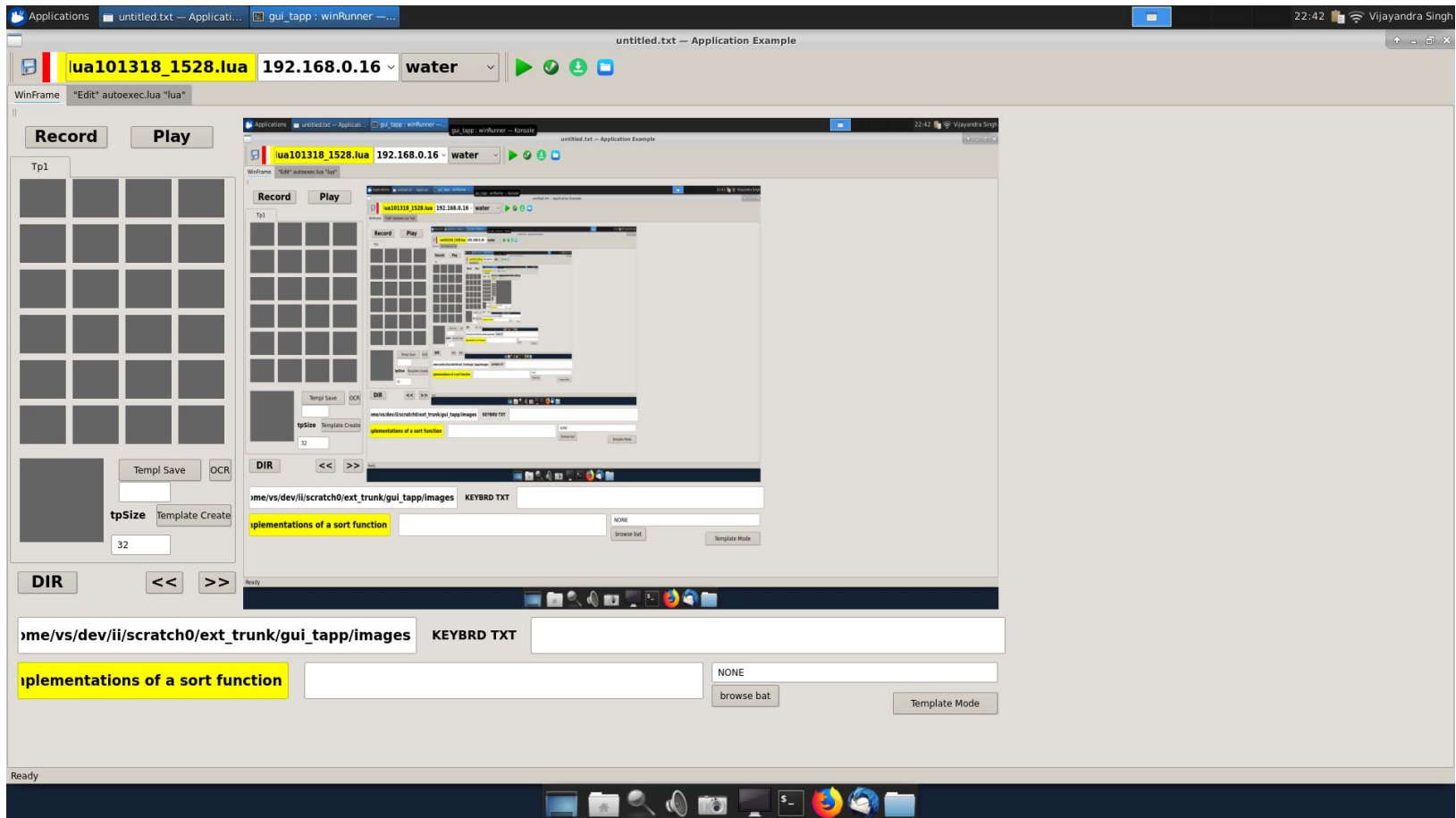
Super simple procedure to create automatic testing

1. Run Installer on **WindowsUserEmu.exe** from GITHUB repository.
2. Start Server Application on remote machine
(**winRunner.exe**)
3. Start Client Application on Different PC on same network
(**remote_pc.exe**)
4. Wait until system discovers IP Address of Remote PC
5. Click on Record button
6. Right/Left Mouse Click like starting Firefox/Web/App as well as Keyboard and see real time on screen. Once complete click Record button again to stop recording.
7. Click on Play button to replay last recorded lua script file.

Feature Under Development

- 1. OCR driven Windows GUI testing.**
- 2. Template image search (Already implemented)**
- 3. OpenCV3.4 Image analysis for fully automated windows testing system.**
- 4. Currently Ubuntu32/64, ARM Raspberry PI, Windows Vista and up supported. (MAC is in pipeline).**

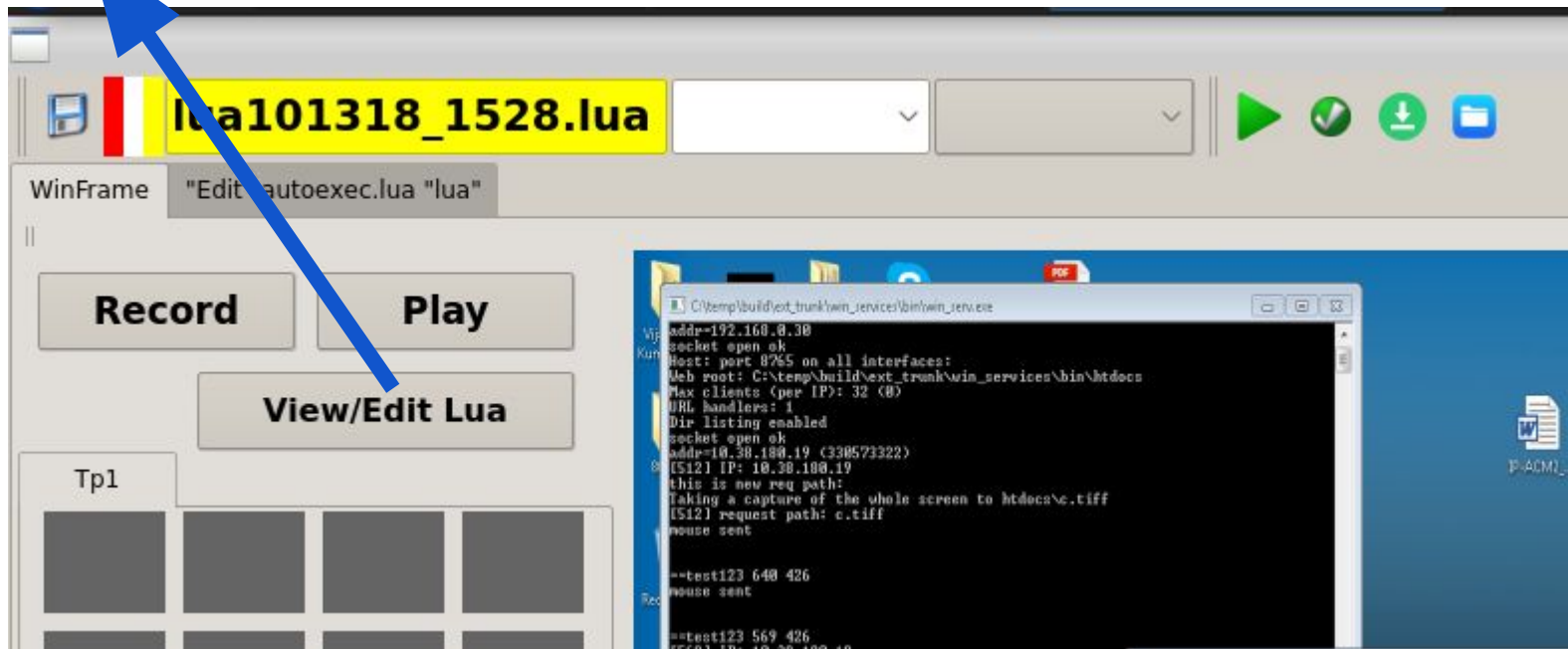
If user runs remote_pc.exe and winRunner.exe on same PC (user will see Mirror effect)



Auto Generated Lua script may be modified later for repetitive emulation

```
winRunner
1 -- two implementations of a sort function
2 -- this is an example only. Lua has now a
3 built-in function "sort"
4 --test
5 -- array to be sorted
6 iwing.limg("win.tiff",0)
7 iwing.cif(0,0,0)
```

Edit according to requirement



How system discovers Device on network



**Regular Unsolicited UDP
Broadcast on port 5555
From Client machine**

Mouse/Keyboard Events



Presenter :- V Singh

FAQ:

1. Windows unable to discover other PC,
(Turn off firewall or manually open 5555
(UDP), CoAP Port (UDP) and 8765 (TCP))