

## **User Activity Recording (UAR) Tool**

#### **General Copyright statement**

User Activity Recording (UAR) Tool V1.0

Copyright (C) 2008 Biomedical Informatics (BMI), St George's University of London. Citations to the toolkit should be as 'de Lusignan S, Kumarapeli P, Chan T, Pflug B, van Vlymen J, Jones B, Freeman GK. The ALFA (activity Log Files Aggregation) toolkit: a method for precise observation of the consultation. < J Med Internet Res 2008; ...>.

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <a href="http://www.gnu.org/licenses/">http://www.gnu.org/licenses/</a>.

Any redistributions/public demonstration/publication/use of this software should acknowledge the original developers mentioned above as the Copyright holders. It is also encouraged to inform the original developers about such activities in order to assure the consistency among future software versions and to keep potential users up-to-date.

#### **Source codes**

Language: Microsoft Visual Basic 6.0

**Platform:** Microsoft Windows

# Src1: frmMouse.frm

- ' VB form for the recorder interface and functionality
- ' User Action Recodering (UAR) tool V1.0
- ' Copyright (C) 2008 Biomedical Informatics (BMI), St George's University of London. Citations to
- ' the toolkit should be as 'de Lusignan S, Kumarapeli P, Chan T, Pflug B, van Vlymen J, Jones B,
- ` Freeman GK. The ALFA (activity Log Files Aggregation) toolkit: a method for precise
- ' observation of the consultation. < J Med Internet Res 2008; ..>.
- ` This program is free software: you can redistribute it and/or modify it under the terms of the
- ' GNU General Public License as published by the Free Software Foundation, either version 3 of
- ' the License, or (at your option) any later version.
- ` This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY;
- ' without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR



- ' PURPOSE. See the GNU General Public License for more details.
- ' You should have received a copy of the GNU General Public License along with this program. If
- ' not, see <a href="http://www.gnu.org/licenses/">http://www.gnu.org/licenses/>.</a>

#### Option Explicit

'declare and initiate required objects Dim fs As FileSystemObject Dim ts As TextStream Dim st, et As Date

Private Declare Function GetCursorPos Lib "user32" (IpPoint As POINTAPI) As Long Private Declare Function SetCursorPos Lib "user32" (ByVal X As Long, ByVal Y As Long) As Long Private Declare Sub Sleep Lib "kernel32" (ByVal dwMilliseconds As Long)

Private Type POINTAPI

X As Long
Y As Long
End Type
Private i As Long
Private sMouseArray() As String

Private Sub cmdNew\_Click() cmdStop.Enabled = False tmrMouse.Enabled = False cmdRecord.Enabled = True cmdPlay.Enabled = False

i = 0 End Sub

Private Sub cmdPlay\_Click()
Dim J As Long
Dim IPlay As Long
Dim IX As Long
Dim IY As Long
Dim sSplit() As String
IPlay = i

For J = 1 To IPlay sSplit = Split(sMouseArray(J - 1)) IX = CLng(sSplit(0)) IY = CLng(sSplit(1)) Sleep hscrlSpeed.Value SetCursorPos IX, IY Next J

End Sub

Private Sub cmdRecord\_Click() frmKey.Cls frmKey.Create



cmdStop.Enabled = True tmrMouse.Enabled = True cmdRecord.Enabled = False cmdNew.Enabled = False Create

st = DateTime.Time End Sub

Private Sub cmdStop\_Click()
et = DateTime.Time
cmdStop.Enabled = False
tmrMouse.Enabled = False
cmdPlay.Enabled = True
cmdNew.Enabled = True
LastRec
Unload frmKey

End Sub

Private Function RecordMouse() As String Dim mouse As POINTAPI GetCursorPos mouse RecordMouse = mouse.X & " " & mouse.Y End Function

Private Sub Frame1\_DragDrop(Source As Control, X As Single, Y As Single)

End Sub

Private Sub hscrlSpeed\_Change()

IblSpeed.Caption = "Speed: " & hscrlSpeed.Value
End Sub

Private Sub hscrlSpeed\_Scroll()

IblSpeed.Caption = "Speed: " & hscrlSpeed.Value
End Sub

Private Sub tmrMouse\_Timer()
ReDim Preserve sMouseArray(i)
sMouseArray(i) = RecordMouse
Set fs = New FileSystemObject
Set ts = fs.OpenTextFile("C:\Mousefile.txt", ForAppending, True)
If i = 0 Then
ts.WriteLine DateTime.Time & " : " & sMouseArray(i)
Else
If sMouseArray(i) <> sMouseArray(i - 1) Then

ts.WriteLine DateTime.Time & " : " & sMouseArray(i) 'ts.WriteLine "IkkaVB Forums"

'ts.WriteLine "IkkaVB Forums"

End If



End If ts.Close i = i + 1

End Sub

Private Sub Create()
Set fs = New FileSystemObject

'To write Set ts = fs.OpenTextFile("C:\Mousefile.txt", ForWriting, True)

'ts.WriteLine "I Love 555"
'ts.WriteLine "VB Forums6666678888"
ts.Close
End Sub

Private Sub LastRec()
Set fs = New FileSystemObject
Set ts = fs.OpenTextFile("C:\Mousefile.txt", ForAppending, True)
ts.WriteLine "Time Taken in H:M:S:" & DateTime.Second(et - st)
ts.Close
End Sub

# Src2: frmKey.frm

- ' VB form for key stroke capturing
- ' User Action Recodering (UAR) tool V1.0
- ' Copyright (C) 2008 Biomedical Informatics (BMI), St George's University of London. Citations to
- ' the toolkit should be as 'de Lusignan S, Kumarapeli P, Chan T, Pflug B, van Vlymen J, Jones B,
- ` Freeman GK. The ALFA (activity Log Files Aggregation) toolkit: a method for precise
- ' observation of the consultation. < J Med Internet Res 2008; ..>.
- ` This program is free software: you can redistribute it and/or modify it under the terms of the
- ' GNU General Public License as published by the Free Software Foundation, either version 3 of
- ' the License, or (at your option) any later version.
- ` This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY;
- ' without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR
- ' PURPOSE. See the GNU General Public License for more details.
- You should have received a copy of the GNU General Public License along with this program. If not, see <a href="http://www.gnu.org/licenses/">http://www.gnu.org/licenses/</a>.

Dim result As Integer Dim fs As FileSystemObject Dim ts As TextStream



#### Dim Tx As String

Private Declare Function GetAsyncKeyState Lib "user32" (ByVal vKey As Long) As Integer

Public Sub Form\_Initialize()
Create
End Sub

Private Sub Form\_KeyDown(KeyCode As Integer, Shift As Integer)

End Sub

Private Sub Form\_Load()

End Sub

Private Sub Timer1\_Timer()

For i = 1 To 128 '1 To 255

result = 0

result = GetAsyncKeyState(i)

Tx = ""

If result = -32767 Then

If i = 32 Then 'Chr\$(i) = " " Then

'Text1.Text = Text1.Text +

Tx = "(Space)" 'i:" & i

Else

If i = 13 Then

Text1.Text = Text1.Text +

Tx = "(Enter)"

Else

If i = 1 Then

Text1.Text = Text1.Text +

Tx = "(Mouse Click)"

Else

If i = 37 Then

Text1.Text = Text1.Text +

Tx = "(LeftA)"

Else

If i = 38 Then

'Text1.Text = Text1.Text +

Tx = "(UpA)"

Else

If i = 39 Then

Text1.Text = Text1.Text +

Tx = "(RightA)"

Else

If i = 40 Then

'Text1.Text = Text1.Text +

Tx = "(DownA)"



```
Else
If i = 8 Then
'Text1.Text = Text1.Text +
Tx = "(BackSpace)"
Else
If i = 16 Then
'Text1.Text = Text1.Text +
Tx = "(Shift)"
Else
If i = 46 Then
Text1.Text = Text1.Text +
Tx = "(Delete)"
Else
If i = 20 Then
'Text1.Text = Text1.Text +
Tx = "(Caps)"
Else
If i = 9 Then
'Text1.Text = Text1.Text +
Tx = "(Tab)"
Else
'Text1.Text = Text1.Text + Chr$(i) '+ "(Enter)i:" & i
Tx = Chr\$(i)
End If
Set fs = New FileSystemObject
'To write
Set ts = fs.OpenTextFile("C:\Keyfile.txt", ForAppending, True)
If Tx <> "" Then
ts.WriteLine DateTime.Time & " : " & Tx
End If
ts.Close
Next i
End Sub
Public Sub Create()
Set fs = New FileSystemObject
```

## **Biomedical Informatics**



Activity Log File Aggregation (ALFA) tool kit for computer mediated consultation observation

Set  $ts = fs.OpenTextFile("C:\Keyfile.txt", ForWriting, True) ts.Close End Sub$