

# Remote gaze-tracking system on basis of TightVNC

User manual

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## **COMPONENTS**

Remote eye-tracking system contains 4 components:

- *TightVNC server [ETI Edition]* main component of the remote eye-tracking system. It should be installed on the computer, which desctop will be shared between remote clients.
- *TightVNC Java client [ETI Edition]* java version of the client, processing eye-tracking information, sending it to the server and drawing eye-tracking marks, received from other clients.
- *Eye tracking universal driver (ETUDriver)* component, used to collect eye-tracking information from eye-tracking device without necessity to write hardware-specific code. It includes connectors to three types of eye-tracking devices and three simulators.
- *ETU Driver Wrapper* dynamic link library, used as a bridge between java client and ETUDriver. This library uses JNI approach to process messages between java and C++ code.

# MAIN COMPONENTS INSTALLATION

Start *ETITightVNC\_x.y.z.e.exe*<sup>1</sup> to setup all needed components of remote eye-tracking system. It will suggest five options to install:

🔂 Setup - ETITightVNC	- • •			
Select Components Which components should be installed?				
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.				
i-ull installation	·····			
<ul> <li>TightVNC Server (ETI edition)</li> <li>TightVNC Viewer (original)</li> <li>TightVNC java Viewer (ETI edition)</li> </ul>	0.8 MB			
ETU Driver and wrapper	5,1 MB			
Web pages and documentation	0,5 MB			
Current selection requires at least 7,4 MB of disk space.				
< <u>B</u> ack <u>N</u> ext >	Cancel			

It will automatically copy needed components to the right destinations. Also at the end of installation it will be possible to start installation of ETUDriver.

**!Limitation!** *ETUDriverWrapper.dll* file has to be placed to the "C:\"<sup>2</sup>

<sup>1</sup> x.y.z – version of TightVNC, that was used as a basis for creating current ETI edition of server and java client e – version of ETI edition

<sup>2</sup> It is planned to add possibility to register wrapper dll in the system, so it would be possible to put this file in other location.

## **SOURCE CODES**

Start *ETITightVNC\_x.y.z.e\_src.exe*<sup>3</sup> to unzip source codes of remote eye-tracking system. It will suggest five options to install:

🕞 Setup - ETITightVNC_src				
Select Components Which components should be installed?				
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.				
Full installation	•			
<ul> <li>TightVNC Server (ETI edition) sources</li> <li>TightVNC Viewer (original) sources</li> <li>TightVNC java Viewer (ETI edition) sources</li> <li>ETU Driver wrapper sources</li> <li>Installation scripts sources</li> <li>Documentation</li> </ul>	45,9 MB 16,9 MB 1,7 MB 21,1 MB 5,1 MB			
Current selection requires at least 91,5 MB of disk space.				

After installation process source codes will be organized in the next structure:



<sup>3</sup> x.y.z – version of TightVNC, that was used as a basis for creating current ETI edition of server and java client e – version of ETI edition

### **INTERFACES**

ETI edition of TightVNC has slight changes in the interface of the client.

#### Main window

There are two changes in the interface of main window of TightVNC java client – additional control "ETI Options" on the buttons panel and drawing of ETI marks on the screen.



ETI mark consist of two components - graphical shape and text:



Current version of ETI edition of TightVNC java client implements only one type of shape – transparent circle of some color.

### **ETI Options**

ETI Options include two windows. Main options of the current client and options of marks of remote clients.

#### **Client options**



- 1. List of unique Ids of remote clients, which eye-tracking information is processed. Double-click on the item in the list will open mark options window for corresponding remote client;
- 2. Nickname of the current client. It will be sent to teh server and propagated to other clients to show on the screen;
- 3. Short description of the current client. It will be sent to teh server and propagated to other clients;
- 4. Visibility flag. If not set eye-tracking information wouldn't be sent to the server.

### Mark options



- 1. Unique Id of the client, assigned by the server;
- 2. Color chooser component, allowing to define RGB components of the mark on the screen (alfa channel will be assigned 50% transparency);
- 3. Nickname of the client. Initiality it will be received from the server, but it's possible to define your own value. This text will be drawn on the screen next to the mark;
- 4. Visibility flag. If not set mark for this client wouldn't be shown on the screen;
- 5. Short description of the client, received from server. Read-only.

#### **ETU Driver Options**

This dialog window allows user to control ETU Driver options and control it. Java client can receive eye-tracking information only if this window is open.

ETU Driver	
	Stop
	Options
S	Select source
	Close