# **Real-Time Arousal Detection Using Galvanic Skin Response Asset**

### **Application settings**

The application settings are following:

* LogFile - path to the log file;
* MinAbsoluteArousalArea - the minimum arousal area achieved by all users until the moment The value of this property has to be a positive integer;
* MinAverageArousalArea - the average minimum arousal area achieved by all users until the moment The value of this property has to be a positive integer;
* MaxAbsoluteArousalArea - the maximum arousal area achieved by all users until the moment The value of this property has to be a positive integer;
* MaxAverageArousalArea - the average maximum arousal area achieved by all users until the moment The value of this property has to be a positive integer;
* MinAbsoluteTonicAmplitude - the minimum SCL amplitude achieved by all users until the moment The value of this property has to be a positive integer;
* MinAverageTonicAmplitude - the average minimum SCL amplitude achieved by all users until the moment The value of this property has to be a positive integer;
* MaxAbsoluteTonicAmplitude - the maximum SCL amplitude achieved by all users until the moment The value of this property has to be a positive integer;
* MaxAverageTonicAmplitude - the average maximum SCL amplitude achieved by all users until the moment The value of this property has to be a positive integer;
* NumberParticipants - number of users until the moment The value of this property has to be a positive integer;
* CalibrationMinArousalArea - the calibration minimum arousal area achieved by the current user The value of this property has to be a positive integer;
* CalibrationMaxArousalArea - the calibration maximum arousal area achieved by the current user The value of this property has to be a positive integer;
* CalibrationMinTonicAmplitude - the calibration minimum SCL amplitude achieved by the current user The value of this property has to be a positive integer;
* CalibrationMaxTonicAmplitude - the calibration minimum SCL amplitude achieved by the current user The value of this property has to be a positive integer;
* MinArousalArea - the minimum arousal area achieved by the current user The value of this property has to be a positive integer;
* MaxArousalArea - the maximum arousal area achieved by the current user The value of this property has to be a positive integer;
* MinTonicAmplitude - the minimum SCL amplitude achieved by the current user The value of this property has to be a positive integer;
* MaxTonicAmplitude - the maximum SCL amplitude achieved by the current user. The value of this property has to be a positive integer;
* DefaultTimeWindow - default value for the time window in seconds. The value of this property could be arbitrary, but we recommended to be between 5 and 10 ;
* Samplerate - sample rate of the GSR device. The sample rate can accept one of the following values: 2, 4, 5,10, 20, 25, 50, 100;
* ArousalLevel - number of arousal levels. Expected value for this setting is between 2 and 10.

These application settings can be accessed and changed from the configuration file *DisplayGSRSignal.exe.config*. The configuration file is a xml file with the following structure:

|  |
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| <?xml version="1.0" encoding="utf-8"?>  <configuration>  <configSections>  <sectionGroup name="userSettings" type="System.Configuration.UserSettingsGroup, System, Version=4.0.0.0, Culture=neutral, PublicKeyToken=b77a5c561934e089" >  <section name="DisplayGSRSignal.Properties.Settings" type="System.Configuration.ClientSettingsSection, System, Version=4.0.0.0, Culture=neutral, PublicKeyToken=b77a5c561934e089" allowExeDefinition="MachineToLocalUser" requirePermission="false" />  </sectionGroup>  </configSections>  <startup>  <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5.2" />  </startup>  <appSettings>  <add key="BinaryFile" value="E:/Projects/Rage/GS20160125\_115001.dat" />  <add key="LogFile" value="C:/Users/ddessy/log.txt" />  <add key="MinAbsoluteArousalArea" value="700" />  <add key="MinAverageArousalArea" value="700" />  <add key="MaxAbsoluteArousalArea" value="5000" />  <add key="MaxAverageArousalArea" value="5000" />  <add key="MinAbsoluteTonicAmplitude" value="-0.05" />  <add key="MinAverageTonicAmplitude" value="-0.05" />  <add key="MaxAbsoluteTonicAmplitude" value="3.12" />  <add key="MaxAverageTonicAmplitude" value="3.12" />  <add key="NumberParticipants" value="1" />  <add key="CalibrationMinArousalArea" value="-1" />  <add key="CalibrationMaxArousalArea" value="-1" />  <add key="CalibrationMinTonicAmplitude" value="100" />  <add key="CalibrationMaxTonicAmplitude" value="-100" />  <add key="MinArousalArea" value="-1" />  <add key="MaxArousalArea" value="-1" />  <add key="MinTonicAmplitude" value="100" />  <add key="MaxTonicAmplitude" value="-100" />  <add key="DefaultTimeWindow" value="8" />  <add key="Samplerate" value="20" />  <add key="ArousalLevel" value="7" />    <add key="ClientSettingsProvider.ServiceUri" value="" />  </appSettings>  <system.web>  <membership defaultProvider="ClientAuthenticationMembershipProvider">  <providers>  <add name="ClientAuthenticationMembershipProvider" type="System.Web.ClientServices.Providers.ClientFormsAuthenticationMembershipProvider, System.Web.Extensions, Version=4.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35" serviceUri="" />  </providers>  </membership>  <roleManager defaultProvider="ClientRoleProvider" enabled="true">  <providers>  <add name="ClientRoleProvider" type="System.Web.ClientServices.Providers.ClientRoleProvider, System.Web.Extensions, Version=4.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35" serviceUri="" cacheTimeout="86400" />  </providers>  </roleManager>  </system.web>  </configuration> |

The file *DisplayGSRSignal.exe.config* is located in the same directory where it is also the executable file of the asset. Changes related to the settings: DefaultTimeWindow and Samplerate are load in run-time, but in order to apply changes related to all other settings, the asset has to be restarted.