Visualization Tool

Manual

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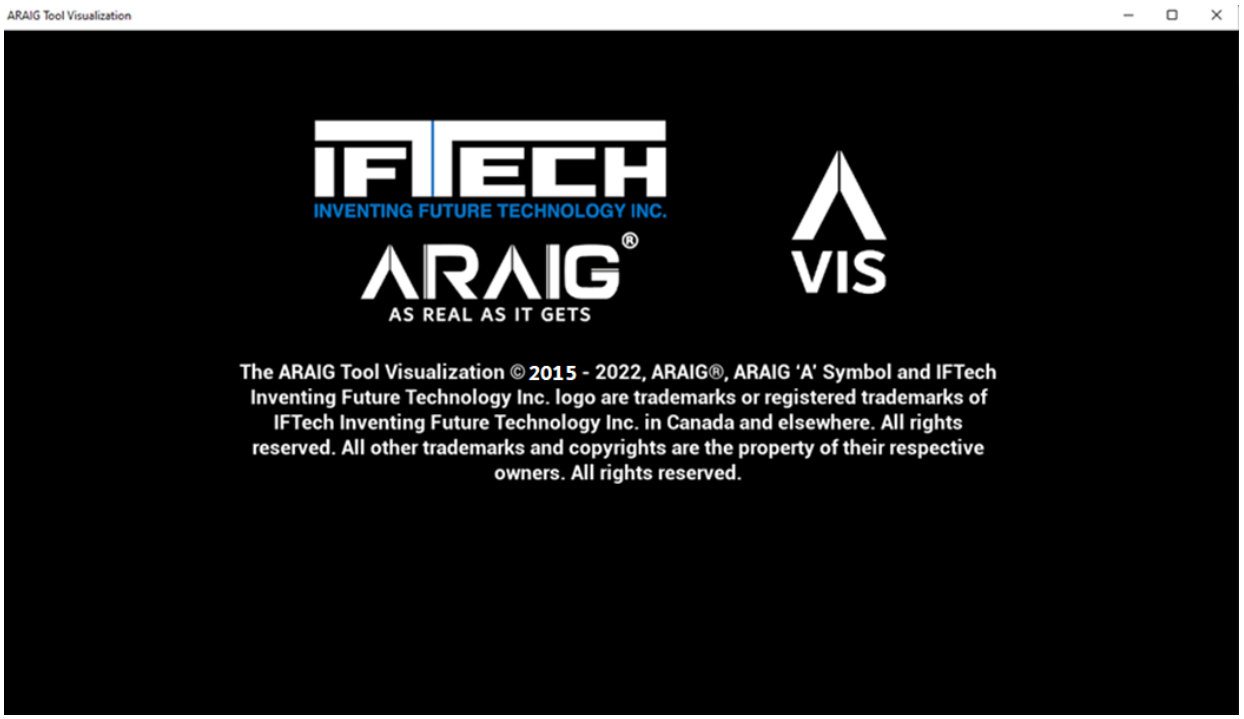
Overview

The ARAIG Visualization Tool's purpose is to provide visual support of what is occurring to the ARAIG hardware. This is done by providing visuals of the outputs that occur from the PC to the ARAIG hardware. The output can be viewed in real-time or uploaded and viewed after an experience.

For development purposes, the ARAIG Visualization Tool is a visual debug tool when integrating the ARAIG hardware into a software application. This can be run while testing or after testing to visually demonstrate sensory activations created for the ARAIG hardware. This visual debugging allows developers a quick check and easy way to validate if the outputs are reasonably accurate without the need to wear the ARAIG hardware while developing.

For end user purposes, the ARAIG Visualization Tool allows the wearer and others to view and assess the output to the ARAIG hardware quickly and easily. This can be valuable during an experience for others to know what is occurring to the wearer in real-time, while afterwards it can be used to help assess the wearer's experience.



Accessing the ARAIG Visualization Tool

To access the ARAIG Visualization Tool you will need to run the ARAIG OS. From the ARAIG OS you will select the “Run Visualization Tool” button from the list on the right side of the ARAIG OS as shown “Figure – Run Visualization Tool”. Once clicked the ARAIG Visualization Tool will run and be available for use.

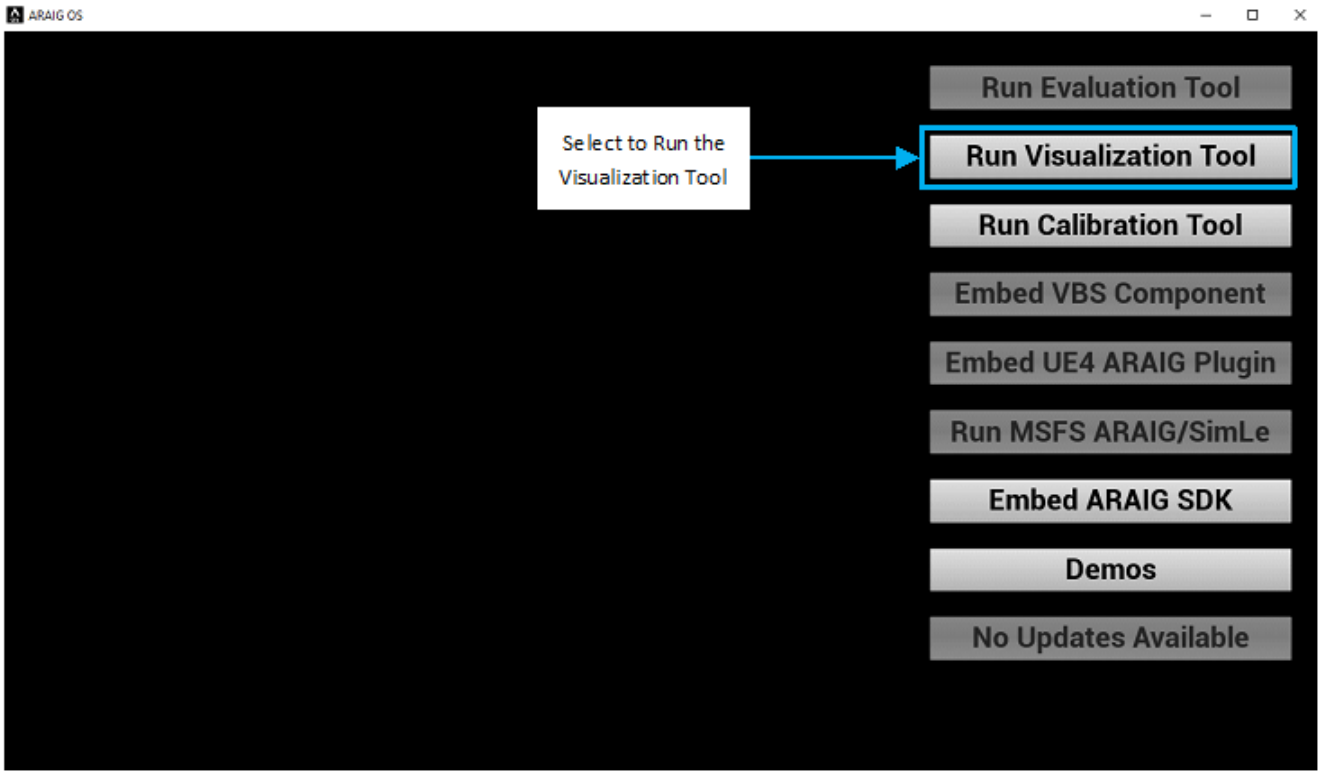


Figure – Run Visualization Tool

Functionality

To effectively use the ARAIG Visualization Tool there are three key menus. Those menus are Initialize, Controls and Display as shown in "Figure – Initialize, Controls and Display Menus". These three sections will provide the ability to load the needed file that is storing all of the ARAIG physical feedback "Visualization Information File"; go through the stored feedback in real-time or afterwards using simple play, pause, rewind and scrolling capabilities; and determine visually to showcase or hide the certain physical feedback devices and their activations.

Figure – Initialize, Controls and Display Menus

Initialize Menu

The Initialize Menu provides the ability load in Visualization Information File so the outputs can be viewed. If the Visualization Information File is getting new outputs in real-time, then then it is possible to continue to collect such data in real time for viewing. If the Visualization Information File is not being output to continually in real time, then the Visualization Information File can be read and loaded once for use. To load in the Visualization Information File the following steps must be followed:

1) Select the Initialize Menu button to bring down the Initialize Menu functionality as shown in "Figure – Initial Menu"

Figure – Initial Menu

2) Use the dropdown menu to select the location of the Visualization Information File. The list includes pre-set file locations for several known locations a Visualization Information File will be based on the software being run as shown in "Figure – Dropdown List of Pre-set File Locations".

Figure – Dropdown List of Pre-set File Location

If the software being run is not in the list, a custom location can be input to grab the Visualization Information File as shown in “Figure – Select Custom File Location”.

Figure – Select Custom File Location

3) With the Visualization Information File location selected, either “Real Time” or “Read File” must be selected as shown in “Figure – Real Time or Read File”. The “Real Time” button should only be selected if the Visualization Information File is still receiving data so the Visualization Tool can keep checking for new data to view, otherwise “Read File” should be selected so the Visualization Tool does not need to keep checking the Visualization Information File for new data.

Figure – Real Time or Read File

4) With the loading in of the Visualization Information File via the “Real Time” or “Read File” button, access to the Controls Menu and Display Menu be available for use. At any point in time a different Visualization Information File can be loaded and will replace the currently loaded Visualization Information File. This concludes the Initializing menu functionality, and the Display Menu should be the next menu used.

Display Menu

The Display Menu provides the ability to show or hide the physical sensory devices and feedback provided to those devices. By default, the devices themselves are hidden but the feedback is set to visible as shown in the “Figure – Default Display Menu”.

Figure – Default Display Menu

The Vibration buttons “Devices” and “Activations” can be used to show or hide the devices and activations of the vibrational feedback. If the buttons are highlighted green, they will be visible, and if the Devices button is grey, or the Activations button is red, they are hidden as shown in “Figure – Adjust Vibrational Display Settings - Visible” and “Figure – Adjust Vibrational Display Settings - Hidden”.

Figure – Adjust Vibrational Display Settings - Visible

Figure – Adjust Vibrational Display Settings - Hidden

The StimS buttons “Devices” and “Activations” can be used to show or hide the devices and activations of the StimS feedback. If the buttons are highlighted green, they will be visible, and if the Devices button is grey, or the Activations button is red, they are hidden as shown in “Figure – Adjust StimS Display Settings - Visible” and “Figure – Adjust StimS Display Settings - Hidden”.

Figure – Adjust StimS Display Settings - Visible

Figure – Adjust StimS Display Settings - Hidden

Once the Display Menu options have been adjusted to showcase what the viewer would like to see they can now use the Controls menu to view the data from the Visualization Information File. At any point in time after Initialization, the Display Menu options can be adjusted.

Controls Menu

With the Visualization Information File loaded in using the Initialization and the Vibratory and StimS devices and activations set for viewing, the Controls Menu can now be properly used to display the Visualization Information File output information for the ARAIG Hardware. The Controls Menu will look like the following “Figure – Controls Menu”.

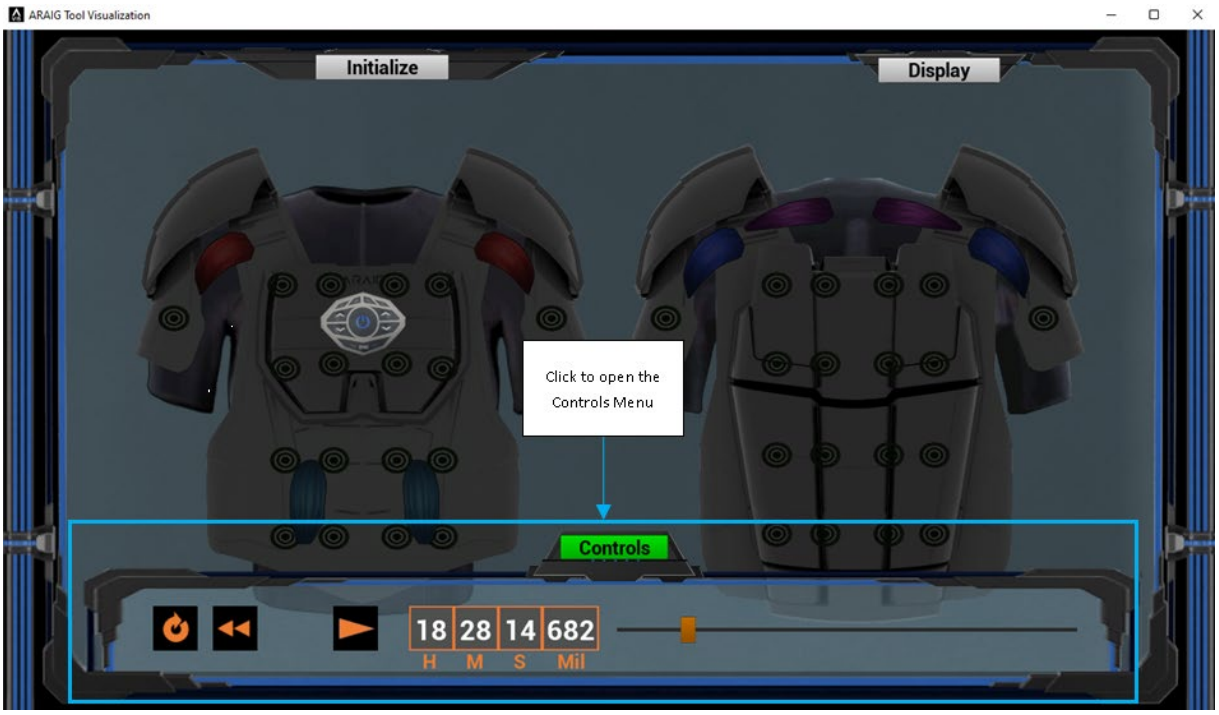


Figure – Controls Menu

There is no particular order in which the Controls Menu functionality has to be used as that is dependent on

what the viewer would like to see. Therefore, the following will provide details about the Control menu and its functionality but any of the functionality can be used at any time depending on what the viewer is trying to accomplish.

Timeline

The Controls menu has several buttons that can be used to allow for viewing of the various outputs. All these controls relate to the location currently being viewed on “Timeline” as shown in the “Figure – Controls Timeline”. The “Timeline” is the period that was recorded where outputs occurred from beginning to end in the Visualization Information File. All other functionality interacts with the timeline to showcase the outputs.

Figure – Controls Timeline

Timeline Slider

The slider on the timeline provides the ability to move across the timeline quickly and to an approximate location on the timeline to view outputs or position for using other controls as shown in “Figure – Timeline Slider”.

Figure – Timeline Slider

Timeline Current Time

The time showcased beside the timeline is the exact time in Hours, Minutes, Seconds and Milliseconds that is being looked at on the timeline relative to the PCs internal clock as shown in "Figure – Current Time on Timeline". Whereby hour 18 would mean 6 PM in the current time zone and location of the PC that output the data for the ARAIG hardware. This also provides an accurate time should the visual outputs need to be compared against other data or actions that occurred.

Figure – Current Time on Timeline

Play Button

The “Play” button changes the current position of the timeline forward in real time speed to showcase how the outputs occurred in real time as shown in “Figure – Play Button”. If the “Play” button is clicked again, it will pause where the location on the timeline.

Figure – Play Button

Rewind Button

The “Rewind” button changes the current position of the timeline backwards in real time speed to showcase the outputs in reverse order in real time as shown in “Figure – Rewind Button”. If the “Rewind” button is clicked again, it will pause where the location on the timeline.

Figure – Rewind Button

Restart Button

The “Restart” button changes the current position of the timeline to the beginning of the timeline as shown in “Figure – Restart Button”. This is an alternative way of getting back to the beginning of the timeline instead of dragging the slider to the beginning of the timeline.

Figure – Restart Button

Conclusion

Thank you for taking the time to review the ARAIG Visualization Tool Manual. Should you have any questions or inquiries please contact us at Developer.Support@IFTech-Technologies.com.