

Augmented Reality (AR) Glasses

User guide / Reference manual



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Introduction

One of the innovative concepts and solutions incorporated into the NIGHTINGALE Toolkit is the use of Augmented Reality (AR) Glasses for triage-related on-field activities during an incident, with the aim to facilitate as much as possible a hands-free operational experience for the FR. The AR glasses constitute an alternative device for running the Triage and Vital Signs App (TVSA) (which can run also on a smartphone) and will thereby communicate bidirectionally with the Digital Triage Tag (DTT).

AR



AR glasses



Power on/off button

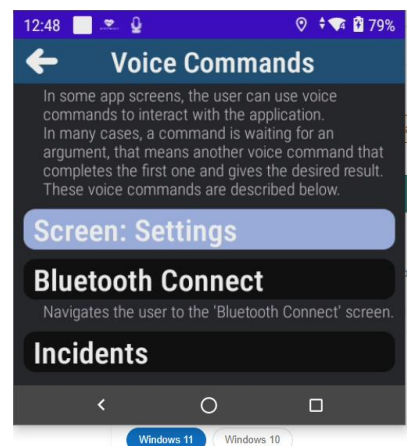
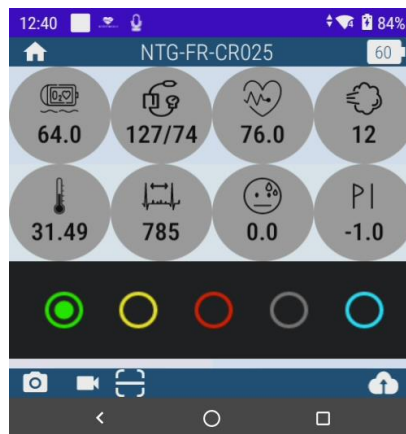
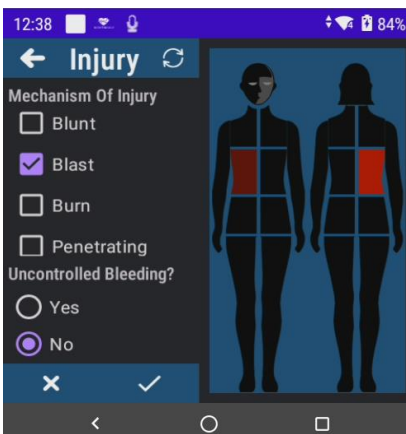
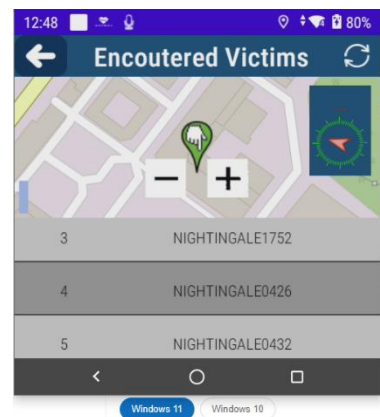
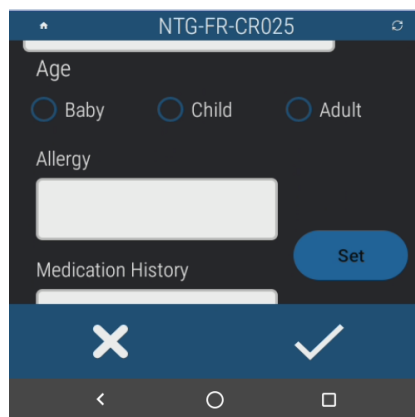
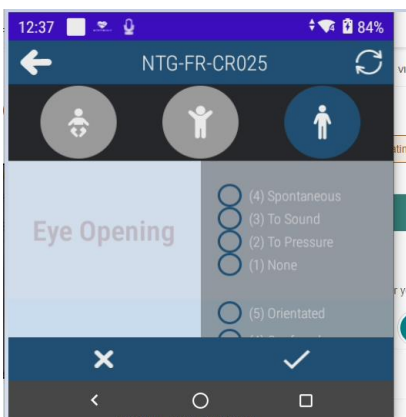


Touchpad

How to use: step-by-step guideline

1. Menu Navigation

Using the Touchpad, the user can navigate to the mobile application TVSA through the AR glasses with a slightly different resolution. Indicative you can find below captures from different menus.



2. Voice commands

Using the voice commands below you can interact with the app and the AR glasses handsfree. In some app screens, the user can use voice commands to interact with the application. In many cases, a command is waiting for an argument, that means another voice command that completes the first one and gives the desired result. These voice commands are described below.

To navigate to Screen: Settings

- **Bluetooth Connect:** Navigates the user to the 'Bluetooth Connect' screen.
- **Incidents:** Navigates the user to the 'Incidents' screen.
- **Basic Triage:** Navigates the user to the 'Basic Triage selection' screen.
- **Send Location:** Navigates the user to the 'Send Location' screen.
- **Update Nearby Devices:** Navigates the user to the 'Update Nearby Devices' screen.
- **Encountered Victims:** Navigates the user to the 'Encountered Victims' screen.
- **Register New Device:** Navigates the user to the 'Register New Device' screen.
- **Guidelines:** Navigates the user to the 'Guidelines' screen.
- **Get DTT History:** Navigates the user to the 'Get DTT History' screen.
- **Change DTT Id:** Navigates the user to the 'Change DTT Id' screen.
- **Manual for Voice:** Navigates the user to the 'Voice Commands manual' screen.
- **Manual Vitals:** Navigates the user to the 'Manual Vitals' screen.
- **Clear Data:** Navigates the user to the 'Clear Data' screen.
- **Bluetooth Status:** Navigates the user to the 'Bluetooth Status' screen.
- **Warnings:** Navigates the user to the 'Warnings' screen.
- **Handle DTT:** Navigates the user to the 'Handle DTT' screen.
- **Logs:** Navigates the user to the 'Logs' screen.

To navigate to Screen: Personal Info

- **Name:** This command is waiting for one or more arguments. The possible values are:
 - **Letters, Numbers:** Any letter or number of the english alphabet is accepted and can be applied to this command. For example, if the user say 'Name' 'j' 'o' 'h' 'n', the name field in the victim's information form, will be filled with the word 'john'.
 - **Clear Text:** Clears the contents of the respective field.
 - **Erase Last:** Erases the last written character of the respective field.
 - **Words:** This is applicable only to mobile applications. Any word will be filled in the correct field.
- **Surname:** The same arguments as 'Name' voice command are applied.
- **Age:** This command is waiting for one or more arguments. The possible values are:
 - **Baby:** Sets the respective option to 'Baby'
 - **Child:** Sets the age range of the selected victim to 'Child' years range.
 - **Adult:** Sets the age range of the selected victim to 'Adult' years range.
- **Pregnant:** This command is waiting for an argument. The possible values are:
 - **Yes:** Sets the respective switch to 'On' position
 - **No:** Sets the respective switch to 'Off' position
- **Longitude:** The same arguments as 'Name' voice command are applied, but only numbers are accepted. The fractional part is declared with the word 'point'. For example, if the user

says 'Longitude' '3' '7' 'point' '2', the respective field in the victim's information form, will be filled with the number '37.2'. In mobile application, the whole number can be accepted as well.

- **Latitude:** The same arguments as 'Longitude' voice command are applied.
- **Apply Form:** Saves locally the fields of the form for the victim's information. The data are also sent to the central Data Base.
- **Cancel Form:** Hides the form of the victim's information. The changed data are not stored or sent.

To navigate to Screen: Basic Triage

- **Set color:** To make this command work, a device must be selected first This command is waiting for an argument. The possible values are:
 - **Green:** Sets the led color of the selected device to Green
 - **Yellow:** Sets the led color of the selected device to Yellow
 - **Red:** Sets the led color of the selected device to Red
 - **Black:** Sets the led color of the selected device to Black
 - **Cyan:** Sets the led color of the selected device to Cyan
 - **White:** Sets the led color of the selected device to White

For example, if the user say 'Set color' 'Red', the led color of the selected device will turn to red.

- **Save:** Saves locally the fields of the form for the victim's information. The data are also sent to the central Data Base.
- **Home:** Terminates the Advanced Triage form and navigates the user to the Main screen.
- **Back:** Terminates the Advanced Triage form and navigates the user to the Main screen.
- **Photo:** Navigates the user to the Photo gallery.
- **Video:** Navigates to a screen where the user can stream and receive video.
- **Scan QR:** Opens the camera together with a Barcode Scanner to scan QR or Barcode.
- **Responsive:** Sets, if exist, or the status of the selected victim to 'Responsive'. If it is said twice, unsets the status to 'No Value'.
- **Unresponsive:** Sets, if exist, the status of the selected victim to 'Unresponsive'. If it is said twice, unsets the status to 'No Value'.
- **Baby:** Sets the age range of the selected victim to 'Baby' years range.
- **Adult:** Sets the age range of the selected victim to 'Adult' years range.
- **Airways:** Sets the 'Airways' treatment for the selected victim. If it is said twice, unsets the status of airways to 'No Value'.
- **Haemorrhage:** Sets the 'Haemorrhage' treatment for the selected victim. If it is said twice, unsets the status of haemorrhage to 'No Value'.

To navigate to Screen: Advanced Triage

- **Set color:** To make this command work, a device must be selected first This command is waiting for an argument. The possible values are:
 - **Green:** Sets the led color of the selected device to Green
 - **Yellow:** Sets the led color of the selected device to Yellow
 - **Red:** Sets the led color of the selected device to Red
 - **Black:** Sets the led color of the selected device to Black
 - **Cyan:** Sets the led color of the selected device to Cyan
 - **White:** Sets the led color of the selected device to White

For example, if the user say 'Set color' 'Red', the led color of the selected device will turn to red.

- **Save:** Saves locally the fields of the form for the victim's information. The data are also sent to the central Data Base.
- **Home:** Terminates the Advanced Triage form and navigates the user to the Main screen.
- **Back:** Terminates the Advanced Triage form and navigates the user to the Main screen.
- **Photo:** Navigates the user to the Photo gallery.
- **Video:** Navigates to a screen where the user can stream and receive video.
- **Scan QR:** Opens the camera together with a Barcode Scanner to scan QR or Barcode.

To navigate to Screen: Injury

- **Back:** Terminates the Injury form and navigates the user to the Advanced screen.
- **Side:** This command is waiting for an argument. The possible values are:
- **Front:** The user is able to select body parts from the front side of the victim.
- **Back:** The user is able to select body parts from the back side of the victim.
- **Refresh:** Re-downloads the data of the victim in case that someone else has changed the victim's data in the meanwhile.
- **Body:** After this command, the user can select a body part of the front or the back side of the victim, depending on the side selected. This command is waiting for one or more arguments. The possible values are:
 - **Head:** Selects the head of the victim.
 - **Arm Left:** Selects the left arm of the victim.
 - **Arm Right:** Selects the right arm of the victim.
 - **Up Left:** Selects the upper left body part of the victim.
 - **Up Right:** Selects the upper right body part of the victim.
 - **Middle Left:** Selects the middle left body part of the victim.
 - **Middle Right:** Selects the middle right body part of the victim.
 - **Bottom Left:** Selects the lower left body part of the victim.
 - **Bottom Right:** Selects the lower right body part of the victim.
 - **Leg Left:** Selects the left leg of the victim.
 - **Leg Right:** Selects the right leg of the victim.

- **Injury:** After this command, the user can check or uncheck one or more of the available injury boxes, depending on the body part selected. This command is waiting for one or more arguments. The possible values are:
 - **Blunt:** Checks or unchecks the 'blunt' check box of the selected body part of the victim.
 - **Blast:** Checks or unchecks the 'blast' check box of the selected body part of the victim.
 - **Burn:** Checks or unchecks the 'burn' check box of the selected body part of the victim.
 - **Penetration:** Checks or unchecks the 'penetration' check box of the selected body part of the victim.
- **Apply Form:** Saves locally the fields of the form for the victim's injuries. The data are also sent to the central Data Base.
- **Cancel Form:** Hides the form of the victim's injuries. The changed data are not stored or sent.
- **Bleeding:** After this command, the user can specify is there is uncontrolled bleeding on the victim. This command is waiting for one more argument. The possible values are:
 - **Yes:** Sets the respective switch of uncontrolled bleeding to 'On' position
 - **No:** Sets the respective switch of uncontrolled bleeding to 'Off' position

To navigate to Screen: Bluetooth Connect

- **Scan:** Scans for nearby devices that support Bluetooth protocol.
- **Numbers:** Numbers from 0 to 9 are accepted for AR glasses. Numbers greater than 9 can be created by speaking more digits. In mobile application, the whole number can be accepted as well.
- **Clear Text:** Clears the number spoken, to let the user say a new number.
- **Erase Last:** Erases the last written character of the respective field.
- **Select:** **Selects** the device that corresponds to the number in the list.
- **Connect:** Connects to the selected device, if it is not connected or disconnected. Otherwise it disconnects it.
- **Disconnect:** Disconnects the selected device, if it is connected. Otherwise it connects it.
- **Back:** Terminates the Bluetooth Connect form and navigates the user to the Settings screen.