# CohuHD Rise Interface

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## Introduction

CohuHD Costar™ is an HD CCTV video surveillance camera system for monitoring border security, transportation, traffic, airports, and railways. The camera system includes the physical camera and a digital interface to view and manipulate footage it captures. The focus of this review is the digital interface.

A usability test is intended to determine the extent an interface facilitates a user’s ability to complete routine tasks. The test is conducted with a group of potential users either in a usability lab, remotely (using e-meeting software and telephone connection), or on-site with portable equipment. Users are given scenarios and asked to complete a series of routine tasks. Sessions are recorded and analyzed to identify potential areas for improvement to the web site.

## Methodology

### Sessions

The participants were recruited through CohuHD. The test administrator sent e-mails to attendees informing them of the test logistics and requesting their availability and participation. Participants responded with an appropriate date and time.

Each individual session lasted approximately Forty-five minutes. During the session, the test administrator explained the test session and asked background questions. Participants then read the task scenarios and tried to complete the given task on the CohuDH Rise web interface.

### Participants

Four participants were scheduled over the two testing dates. Two participants were involved in testing on April 27th and the other two on April 30th. All four participants were male.

|  |  |  |  |
| --- | --- | --- | --- |
| **Participant 1** | **Participant 2** | **Participant 3** | **Participant 4** |
| Bench Technician | Technical Support | Technical Support and testing | Technical Support |

### Scenarios and Tasks

Test participants attempted completion of the following tasks

* Changing the camera zoom and focus
* Changing the camera angle
* Adding text or logos to the image stream
* Setting up a network connection
* Checking and troubleshooting the network connection

## Findings

### Task 1

Changing the camera zoom and focus

**Findings:**

Participants could intuitively change the zoom and focus of the camera.

**Recommendations:**

No changes recommended

### Task 2

Changing the camera angle

**Findings:**

* P1 and P2 managed to complete the task after exploring the interface for a while. They were looking for controls to move the camera angle. Their initial thought was that the camera is fixed and can’t be moved.

“Seems like the camera is fixed” – P1

“Seems like the camera can only zoom in and out. Can’t really change the angle” – P2

* The functionality to change the camera angle was not very intuitive to them. After playing with the interface P1 discovered the hamburger functionality where as P2 discovered the drag gestures (on the image/stream) functionality to change the angle.

“Never seen a PTZ function represented as a hamburger” – P1

* P3 and P4 successfully completed the task

“The cameras a little on the slow side when you zoom in, that’s good…. I like how it auto adjusts the speed when you zoom in.”

**Recommendations:**

* Display the functions to change the camera angle upfront and avoid hiding them under the hamburger button.
* Use coach marks for first time users to help them discover the on-screen display gestures.

### Task 3

Adding text/logo to the image stream

**Findings:**

* While adding text to the image stream, P1 accurately selected the first level menu item, ‘On Screen Display’, but struggled a bit to select the second level option. He didn’t understand the ‘OSD wizard’ and went on to select ‘OSD Banner Settings’. Also, P1 struggled to select the font size as he didn’t understand what the text size would look like in relation to the image.
* P2 and P3 accurately selected the primary menu option and the secondary menu option to add text on the display.

“Seems like it’s pretty flexible on what you can add” – P3

* Items highlighted under the OSD settings screen confused the user.

“I don’t know what the highlight means. Once you hit remove on one of the options, it unhighlights the other options.” – P4

* P4 couldn’t save the updates after adding text as all the fields were not filled. He expected an error message, ‘Please enter all the fields’ as a feedback. He also expected feedback after clicking saving on the ‘Create OSD element’ pop-up. The task was successfully completed after an assist was provided by the moderator.

**Recommendations:**

* Show preview while adding on-screen display in pop-up to prevent pogo-sticking.
* Consider providing feedback message like ‘Saved successfully’, ‘All the fields are mandatory’ or something similar after clicking on save.
* Consider merging the all secondary on-screen display menu options into one single screen
* Avoid diverting from the conventional web control behaviors.

### Task 4

Setting up a network connection

**Findings:**

* P1 and P4 confidently completed the task.
* P2 and P3, both first clicked ‘System’ menu option and after skimming through the secondary options moved on to select the ‘Network’ menu option. Once navigated into the ‘Network’ menu option, he managed to complete the task successfully.

“(after exploring for while) …that’s what I’d do… go to Network>Network Settings, put the configuration in there and see if it’s working with the camera” – P3

**Recommendations:**

* Consider relabeling the ‘Systems’ menu option as users might get confused between ‘Systems’ and ‘Network’

### Task 5

Checking and troubleshooting the network connections

**Findings:**

Participants successfully completed the task

“If they are not getting any image, then I probably shouldn’t be getting one either. That means something’s wrong with the network or port settings.” – P2

**Recommendations:**

No changes recommended

**Executive Summary**

**Task Completion Rates**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Participant** | **Task 1** | **Task 2** | **Task 3** | **Task 4** | **Task 5** |
| **1** | √ | √ | √ | **√** | **√** |
| **2** | √ | √ | **√** | √ | **√** |
| **3** | √ | √ | **√** | √ | **√** |
| **4** | √ | √ | X | **√** | **√** |
| **Success** | **4** | **3** | **2.5** | **3** | **4** |
| **Completion Rates** | **100%** | **75%** | **62.5%** | **75%** | **100%** |
| √ = Completed successfully | | √ - Struggled but completed | | X - Failed | |

The test identified a few problems and some good stuff including:

**Major problems**

* Hidden camera functions and gestures
* Unclear labels of menu items
* Poor feedback on click of ‘Save’ button
* Absence of preview while adding/editing on-screen display elements

**Minor problems**

* Unconventional use of web controls

**Good stuff**

* Upfront zoom and focus options
* System auto-adjusts camera speed upon zooming in

Good use of jargons and abbreviations  
  
We recommend short-term quick fixes and long-term improvements as follows:

**Quick fixes**

* Display the functions to change the camera angle upfront and avoid hiding them under the hamburger button.
* Use coach marks for first time users to help them discover the on-screen display gestures.
* Show preview while adding on-screen display in pop-up to prevent pogo-sticking.
* Consider providing feedback upon saving changes/updates.
* Consider relabeling the ‘Systems’ menu option as users might get confused between ‘Systems’ and ‘Network’
* Avoid unconventional use of web controls

**Long-term improvements**

* Consider merging the all secondary on-screen display menu options into one single screen

## Next Steps

* Step 1
* Step 2
* Step 3

**Appendix**

**Scenario 1**

You are working as the IT manager in the traffic control department for the state of Texas. You asked one of your techs to install a new traffic camera on a highway and he has reported to you that the hardware is installed and should be connected to the network. You then go into the CohuHD Rise software to set it up to stream the way you want to the traffic control center. Please take the steps to set it up.

***Tasks to complete using this scenario:***

* *Changing the camera zoom and focus (PTZ>Zoom)*
* *Changing the camera angle (Image>Image Angle>control buttons)*
* *Adding text or logos to the image stream (On-Screen Display>OSD Wizard>follow wizard)*
* *Setting up a network connection (Network Settings>IP address)*

**Scenario 2**

A year goes by and you get a report from the traffic control monitoring team that the image feed is no longer feeding to the software that they are using to view it. Please take the necessary steps to correct this.

***Task to complete using this scenario:***

* *Checking and troubleshooting the network connection*