ACCES
APPLICATION-CENTRED COMPUTATIONAL ENGINEERING SCIENCE
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SCHOOL OF ENGINEERING
SCHOOL OF ARCHITECTURE, CIVIL & ENVIRON. ENGINEERING

ACCES CoViz Facility

USER MANUAL

(26 January 2017)

Contents

1. Overview

2. Basic session operation

3. Visualization

4. Videoconferencing (including Quickstart guide)

5. CoViz room access

6. Contact details

1. Overview

1. Preamble

The ACCES CoViz facility should be accessible with a minimum of knowledge of how to operate the hardware and software.

This guide is designed to provide users with the basic knowledge required to use the CoViz facility for both visualization and videoconferencing. Please contact acces@epfl.ch if additional information is required.

Information regarding the goals of the CoViz facility and the installed hardware and software can be found on the ACCES wiki (http://wiki.epfl.ch/acces.viz).

2. Basic component overview

The CoViz facility consists of a number of interconnected components, as illustrated in the following image. The main components for operation are:

- a Wacom touch-screen control panel, located on the high desk
- two 84" 4K stereoscopic display screens
- a display server (Windows 7 computer), housed in the black enclosed rack
- a Cisco SX80 videoconferencing codec and associated cameras
- four speakers located in the corners of the room
- four wireless microphones, located in their charging units

3. Visualization

To display images on the large screens from a variety of input sources, please follow Section 2 to initialize the CoViz system, followed by Section 3 for instructions on connecting different devices.

4. Videoconferencing

To perform a videoconferencing session with a remote site, please follow Section 2 to initialize the CoViz system, followed by Section 4 for instructions on operating the Cisco SX80 videoconferencing codec.
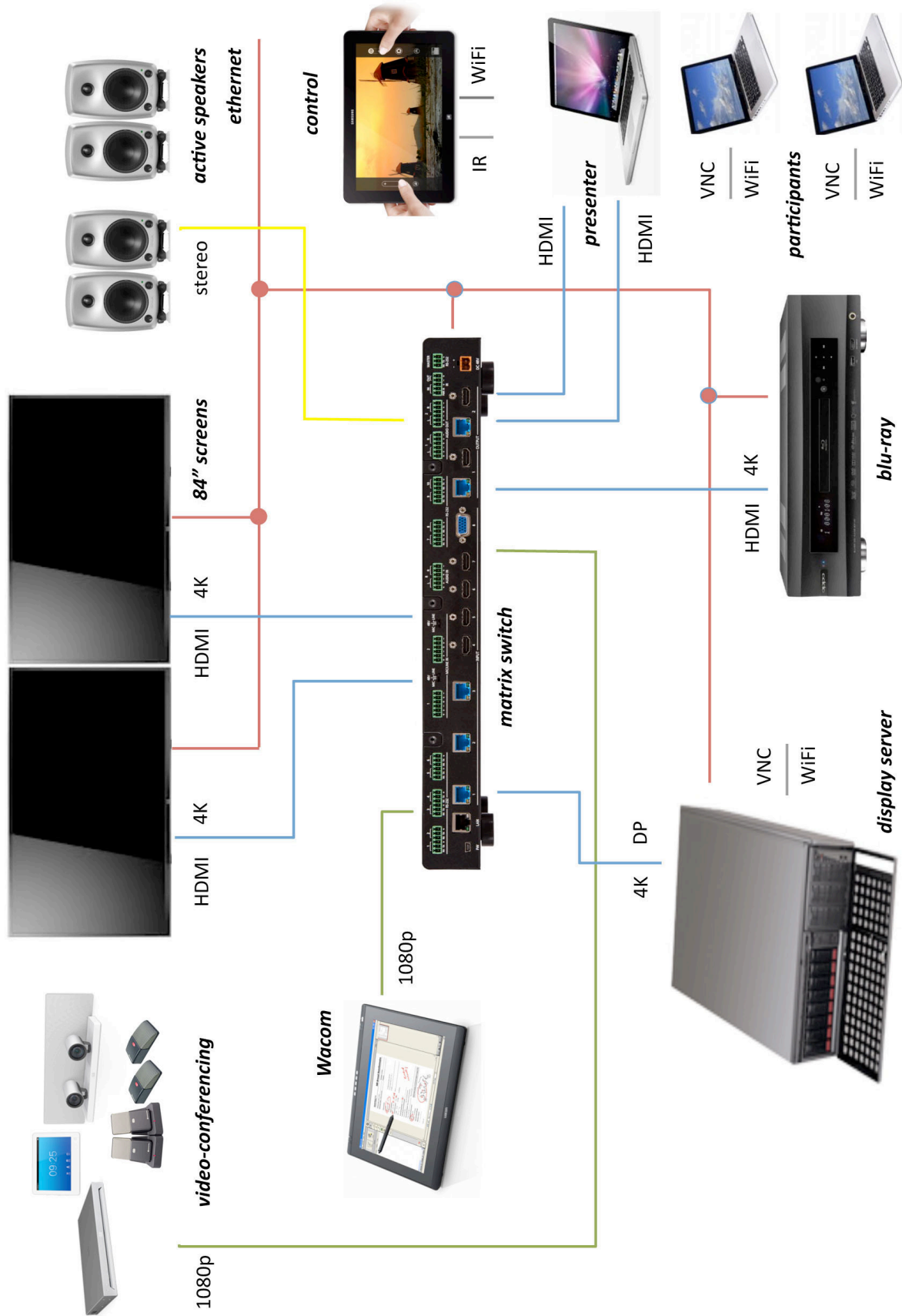
Overview of CoViz components and interconnection

2. Basic session operation

1. Control panel

The CoViz facility is managed by a web-based control panel, as shown in the figure below. This panel is generally accessed from the Wacom tablet, but is also available e.g. on the mobile Samsung tablet. Both of these tablets have a touch screen.

Choice of the input source and the display configuration is controlled using this control panel.
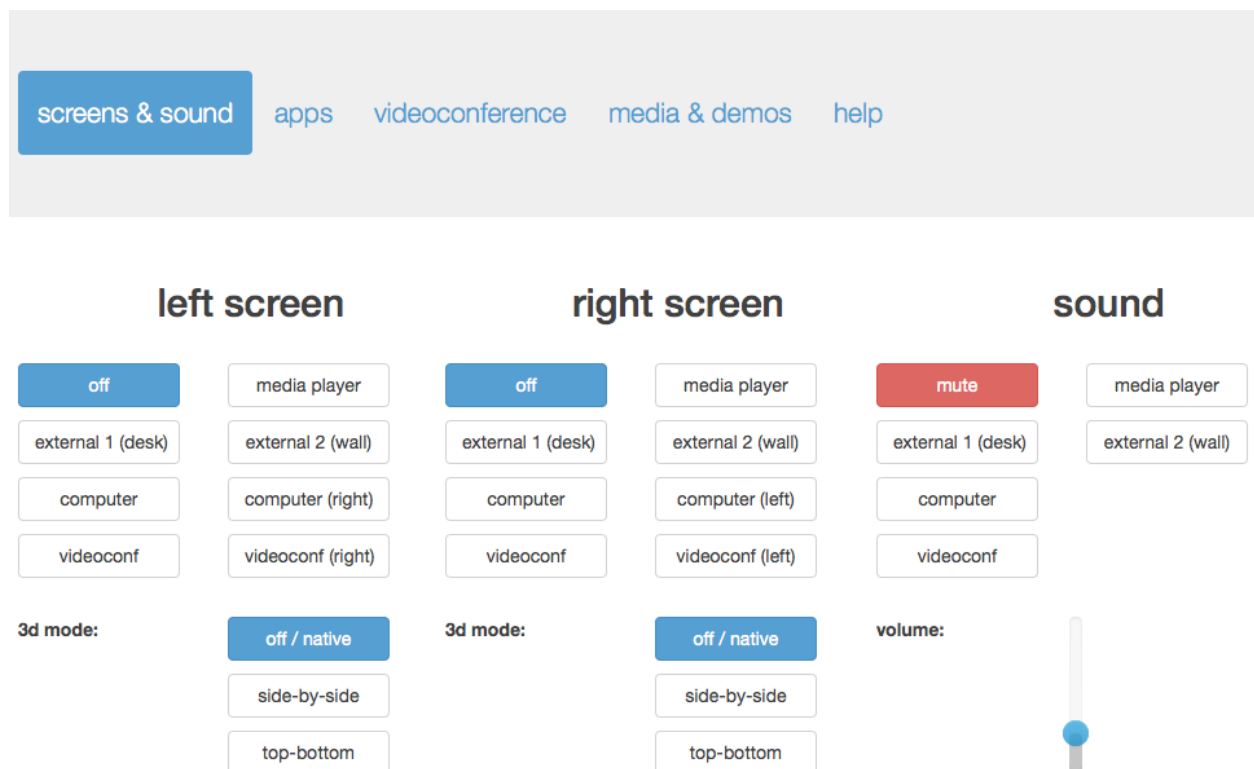
CoViz web-based control panel

2. Initializing your session

The system is operated as follows:

- Switch on the Wacom tablet (using button at top right)
- Logon with username "user" (there is no password required)

- Select the CoViz Control Panel (generally the default selection, but if not click on "control panel" icon at bottom left)
- Select "screens & sound" from the top horizontal menu (generally the default selection)
- Switch on the left and/or right main screens, by selecting the input source:
    - *off*: switch the screen off (at the end of your session)
    - *media player*: input from OPPO Blu-ray player
    - *external 1 (desk)*: input from RHS Wacom to e.g. laptop, Wacom tablet
    - *external 2 (wall)*: input from box on window ledge to e.g. laptop
    - *computer*: input from CoViz display server
    - *computer (right/left)*: input from CoViz display server to other screen
    - *videoconf*: input from videoconferencing system
    - *videoconf (right/left)*: input from videoconferencing system to other screen

    You should hear an audible click from each screen when switched on, before a visual image appears a short time later.
- The sound source can be similarly controlled using the "sound system" menu. The sound level is adjusted using the slider. (Caution: do not slide to excessively high value.)
- If appropriate, from the top horizontal menu select:
    - *apps*: run application software via the control panel interface
    - *videoconference*: web control interface for videoconferencing
    - *media & demos*: general and lab-specific examples of presentations, images, movies and demos
    - *help*: useful information to assist operation

3. Closing your session

When finished with the CoViz facility, perform the following tasks using the Wacom screen:

- Close all of your applications
- Display the Control Panel (if not already visible)
- In the "sound and screens" menu, select *off* for both left and right screens and the sound system
- Switch off the Wacom screen (using button at top right)

IMPORTANT: Please leave the CoViz facility in the same state (both hardware and software) as you found it. This will avoid possible confusion for subsequent users.

3. Visualization

1. Using the graphics server

The graphics server (accessrv1.epfl.ch; 128.178.24.48) is installed in the 19-inch cabinet in the CoViz room. The Windows 7 operating system is installed, with the three screens configured in an extended desktop:

| Wacom tablet | Left main screen | Right main screen |
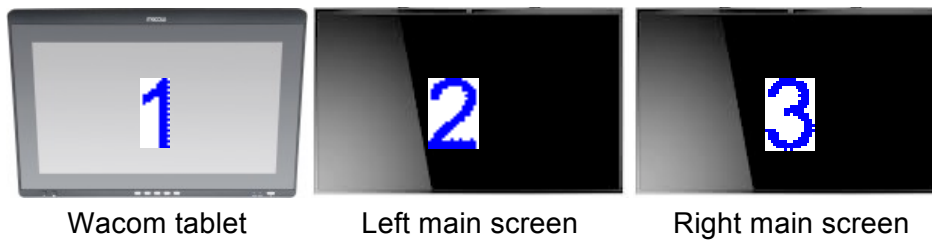
Individual windows can be placed on selected screens by:
- Manually dragging the window with the mouse,
- Using screen selection menu within the application software (if available),
- Using the control panel.

A number of application software is installed on the graphics server; see the ACCES wiki (http://wiki.epfl.ch/acces.viz) for more details.

The applications and file system are accessed via the Wacom tablet:
- Select "screens & sound" from the top horizontal menu (generally the default selection)
- Switch on the left and/or right main screens, by selecting the input source:
  - *computer*: input from CoViz display server
- Run your application just as in a standard Windows 7 PC.

The display screen can be changed (from 1 to 2 or 2 to 1) by selecting appropriately:
  - *computer (right/left)*: input from CoViz display server to other screen

User files can be placed on the Windows desktop. Note that this is not permanent storage as the desktop is automatically cleaned each night.

2. Using an external laptop

It is possible to connect your own laptop as an external source, and show the display on one (or both) of the main screens:
- Connect the laptop to box behind the RHS of Wacom via a HDMI or VGA cable, and select the appropriate input channel (1 or 3, respectively).
- On the control panel select "screens & sound" from the top horizontal menu (generally the default selection)
- Switch on the left and/or right main screens, by selecting the input source:

- o *external 1 (desk)*: input from laptop
- Run your application as in normal operation.
- A similar external connection can be made using the other box located on the window ledge, and then selecting the input source:
  - o *external 2 (wall)*: input from laptop

3. Using a USB memory stick

It is possible to transfer data from a USB memory stick to the display server, for example, to show a presentation:

- Connect the USB memory stick to a "Data" input on one of the three available USB 3.0 ports (black half golf balls located on the 19" rack)
- Copy your presentation files to desktop of the display server
- Set up the Wacom control panel as indicated above in "1. Using the graphics server"
- Run your application (e.g. PowerPoint, Adobe Acrobat) as in normal operation
- Remove your files from the desktop when no longer required. (Note: desktop files will be removed without notice. For more permanent storage, use the Scratch directory on the display server file system.)

4. Displaying the Wacom screen

It is possible to display the Wacom screen on one (or both) of the main screens:

- Connect the HDMI cable labelled "external 1" to the left side of the Wacom tablet
- Select "screens & sound" from the top horizontal menu (generally the default selection)
- Switch on the left and/or right main screens, by selecting the input source:
  - o *external*: input from Wacom tablet
- Use the Wacom tablet as in normal operation.

5. Control devices

The Wacom and Samsung tablets both have touch screens. However, in addition, various devices are available for controlling the information on the screens.

- *Gyration gyromouse*

  Wireless device that functions on a table as an ordinary mouse, or in the air as a 3D gyroscopic mouse (click button on lower surface).

  This device allows content manipulation while in front of the screens.

- *3Dconnexion SpaceNavigator*

  Wireless, table-based mouse with 3D capabilities. Requires compatibility with application software being used.

- *Smartphone / Tablet*

  ParaView can be controlled wirelessly on either iOS or Android devices using the Mobile Remote Control plugin.

6. Using the render server

The rendering and remote visualization server (accessrv2.epfl.ch; 128.178.131.196) is installed in the 19-inch cabinet in the server room INJ 019. The Ubuntu Linux operating system is installed.

The main supported software packages are:
- ParaView for remote visualization
- Blender (using GPU-enabled cycles renderer)
- POV-ray renderer
- Tachyon renderer

See the ACCES wiki (http://wiki.epfl.ch/acces.viz/renderserver) for general guidelines on using this server.

4. Videoconferencing

1. Preamble

The ACCES CoViz facility is equipment with a high-quality videoconferencing system that can be used to connect to up to 4 external participants. It enables, for example, the following usage:
- chat sessions between distant collaborators
- project meetings with exchange of documents
- seminars, thesis defences, workshops, etc. involving a formal presentation

Hardware

The system is based on a Cisco SX80 codec, which includes SpeakerTrack cameras and a touch control panel (see below). This choice is consistent with the UC system (telephones, videoconferencing) being installed at EPFL. The SpeakerTrack system includes a microphone matrix that allows the cameras to be automatically oriented in the direction of the person speaking.

The basic functionality of the SX80 is described on the following Cisco Quick Reference Guide and also in the ACCES wiki (http://wiki.epfl.ch/acces.viz/videoconference).

Four high-quality wireless desktop microphones are integrated into the videoconference system. To operate them:
- Place them throughout the room, e.g. on the appropriate desks and presenter's table.
- Push the button to open wifi connection to receiver (in 19" rack).
- Push button to mute individual microphones.
- Return to their charging stations when no longer in use.

CoViz videoconferencing equipment

Software

A variety of SIP or H323 compliant software can be used with the videoconferencing system. The main options are the Cisco software, Jabber and WebEx.

The Jabber software has two different possibilities:

- *Jabber Softphone* – complete software to be installed on Windows or Mac OSX (see: http://uc.epfl.ch/jeveuxmonjabber); uses the EPFL server uc-pres.epfl.ch

- *Jabber Guest* – provides a light web access on Windows or Mac OSX requiring a browser plug-in (e.g. call CoViz room using https://jabberguest.epfl.ch/call/35560)

To employ the WebEx software, the following version is required:

- *WebEx collaboration meeting room* – This allows connection to the SX80 codec (which the freely downloadable version does not). It also allows remote users to share their documents/desktop (which Jabber does not). A WebEx session can be created by contacting:
  - Luc Venries, UC-IT, MA C0 589 (Tel: 34536)
  - Nicolas Borboën, STI IGM-IT, ME A2 424 (Tel: 35455)

Tips:

- To share content, the machine with the presentation must be connected directly to a "PC input" connection of the SX80 via an HDMI cable.

- The SpeakerTrack cameras can be operated manually in an independent manner via the menu obtained by clicking on the camera icon at the top right of the control screen.

- The CoViz SX80 startup image (see below image) provides useful information regarding establishing connections.

CoViz SX80 startup image

2. Videoconferencing Quickstart guide

Basic operation of the Cisco SX80 codec in the CoViz facility can be initialized as follows:

- arrange appropriately tables in room (generally in a U configuration facing the screens); note that there are mains power sockets located in the floor.

- open a CoViz session using the Wacom control panel (see Section 2.2 of this manual)

- select *videoconf* for both left and right screens and sound (ensure volume is set to ~ 25% of scale); both screens should display the SX80 startup image (see Section 4.1)

- wake up the Cisco SX80 codec (if in sleep mode) by touching its screen

- at lower right of SX80 screen frame, ensure that sound and microphones are not muted

- remove one or more microphones from their charging units and place on suitable table(s) in the room (these microphones are sufficiently sensitive so that two are generally sufficient); press button on each microphone, which should remain red.

- set up camera operation by touching camera icon at top right of SX80 screen to open the Camera Positions menu

   o select operation of 2 front cameras (usually set Tracking to *on*)

   o select *Cam3* at bottom of menu pane to display back camera view

   o select selfview if required; close menu pane and use touchscreen to move its position on main screen.

- establish connection with external parties (see Section 4.1), using either of following

   o external user calls in (e.g. using JabberGuest)

   o dial out using SIP or H.323 address of external party using the Dial or Contacts menu at centre bottom of SX80 screen

- share local laptop screen (e.g. PowerPoint presentation) by connecting long blue HDMI cable to laptop (connectors available in far right cupboard below screens; the SX80 will ask you to confirm screen sharing.

- ensure that left screen displays camera images (remote and selfview) and right screen displays laptop screen

- when the videoconference session if finished, return all equipment to its original state (see Section 2.3); the SX80 codec will automatically revert to sleep mode.

If a more complex videoconferencing configuration is required, please contact user support well before scheduled session; in particular, it is possible to videoconference seminars to external sites using the CoViz system.

IMPORTANT: Operation of the CoViz videoconference system, including connection with the remote party, should be tested well ahead of the scheduled videoconferencing session. Remember that you do not control the external equipment, so that problems may frequently arise.

TC7.2

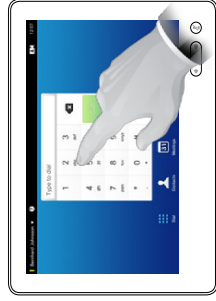Quick Reference Guide

Cisco TelePresence MX200 G2/MX300 G2/MX700/MX800/SX80
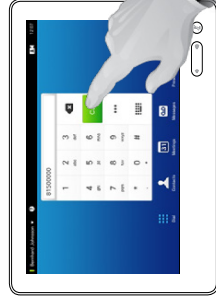
Calling someone

1 Tap **Dial**, as outlined.

2 Key in the number, as outlined.

3 When the number has been keyed in, tap the **Call** key to place the call.
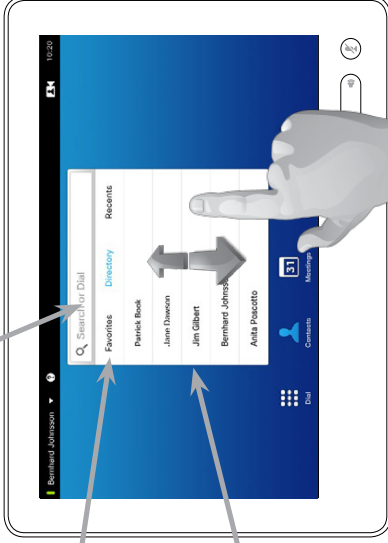
Using the list of contacts to call

To search for someone, tap here to invoke the virtual keyboard and then key in the name or number. Matches will appear as you type. All three lists will be examined for possible matches.

1 If you are going to look in a specific list only, tap the corresponding tab first.

Any matches will appear here. Tap to select an entry. The selected entry will appear on a blue background.

To locate an entry, you may also scroll through a list as you would do on a smartphone. Tap to select an entry.

2

Call
Add to Favorites
Edit & Call
Call Rate 1920 kbps
Remove from History

When an entry has been located and selected the *Call* menu will appear.

Tap **Call** to place the call. There are some options available. These are always context sensitive, which means that meaningless options are not shown. For example **Add to Favorites** is not available for entries already residing in the list of *Favorites*.

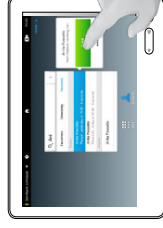## Initiating a video conference (optional feature)

Method A (Multisite):

In a call tap **Add**.

Search or dial in the usual way.

Tap **Add** to turn the current call into a conference.

Repeat the procedure to add more participants.

Tap **END** to terminate the conference.

Method B (MultiWay/CUCM):

In a call tap **Add**.
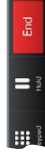
Place a new call in the usual way.

Tap **Merge** to turn the current call into a conference.

Repeat the procedure to add more participants.

Tap **END** to terminate the conference.

Keyboard layout

Tap as outlined to go betwen dialpad and alphanumerical keyboard.

TC7.2

Quick Reference Guide
Cisco TelePresence MX200 G2/MX300 G2/MX700/MX800/SX80

A tour of the Touch pad

Scroll in lists as on a smart phone.

Tap a button to activate its function.

Tap the touch screen to wake up the system, if needed.

Tap the **Camera** icon to activate self-view and camera settings.

Time of day is indicated in the upper right corner.

Tap the **?** to contact or access the *Help desk*, if available.

Tap the upper left corner to activate /deactivate the *Do not disturb* feature, to activate / deactivate the *Standby* feature, and to access the *Settings*.

Tap **Dial** to invoke the dial pad.

Tap **Contacts** to invoke the list of contacts including *Favorites*, *Directory* and *History*.

Tap **Meetings** to invoke a list of upcoming scheduled meetings.

Tap **Messages** to invoke the voice mail system, if applicable.

Tap **Presentation** to start sharing content and to conduct presentations.

Press the **Microphone** button to mute / unmute microphone.

Press and hold the left side of the **Volume** button to decrease the loudspeaker volume and the right side to increase the volume.

Sharing content

Make sure your presentation source is switched on and connected to the video system before you tap **Presentation**.
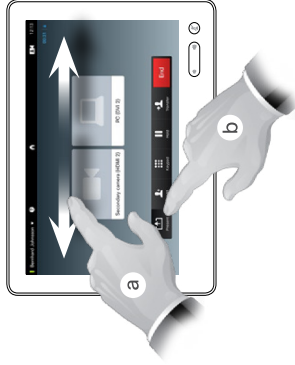
1 Make sure your source is connected and on. Tap **Presentation**, as outlined.
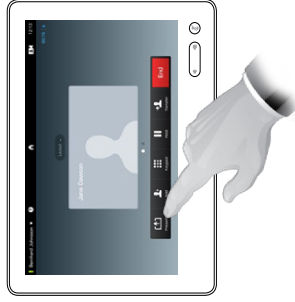
2 Scroll horizontally (**a**), if needed, to locate the required source, as outlined. Then tap **Present** (**b**). You should now see the presentation on the screen.

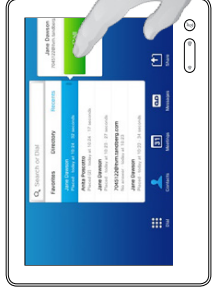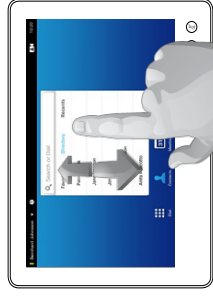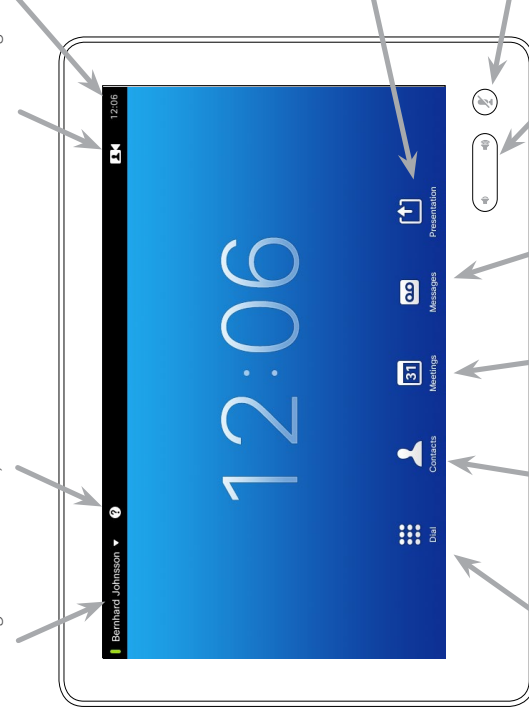**3** When the presentation is over, tap **Stop Presenting**, as outlined.

cisco

5. CoViz room access

1. General access

The ACCES CoViz room is accessed via a Camipro SALTO offline system. Access is restricted to authorized people, who have validated their Camipro card (see below).

There is no key access to the Coviz room.

If your Camipro card does not have authorization, please ask any of the following for access to the room:

- a secretary/assistant listed in Section 5 of this User guide
- a staff member in a neighbouring room
- in case of emergency, contact: Mark Sawley (STI-GE ACCES, ELB 113, Tel: 36965)

2. Requesting Camipro access

Should you have need to access regularly the CoViz room, please contact acces@epfl.ch for authorization of your Camipro card. This procedure generally takes some time

Once your name is included in the Camipro database for the room, you will need to validate your card by the following steps:

1. validation at a Camipro Oscar station (e.g. in the entrance hall of the ELB building)

2. pass card at a Camipro hotspot reader (e.g. at the entrance to SV 094.7)

More details can be found on the accompanying instruction sheet.
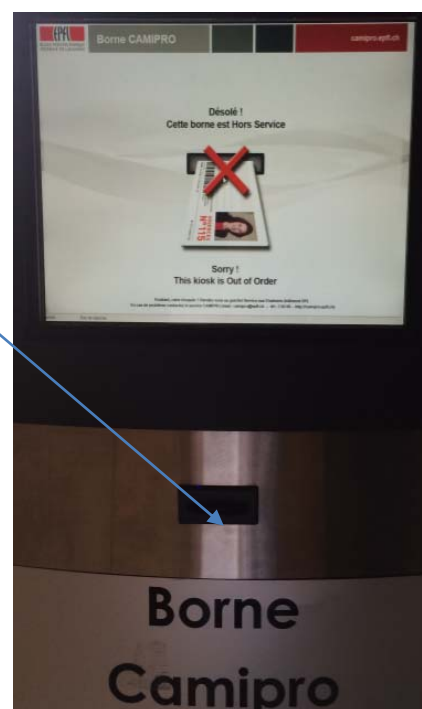
Système contrôle d'accès SALTO Offline

1. Le nouveau système de contrôle d'accès SALTO mis en place dans vos locaux

2. Ce nouveau système nécessite la segmentation des cartes CAMIPRO pour ce faire il faut passer une fois votre carte dans une borne CAMIPRO (OSCAR) et valider les données :

   Emplacement des bornes CAMIPRO :

   Voir Plans EPFL :

3. Une fois ceci effectué, vous devez présenter votre badge CAMIPRO devant un lecteur HOTSPOT (laisser votre badge env.10sec. Afin d'écrire vos droit d'accès sur votre Badge

   1. Lecteurs périphérique du bâtiment BI
   2. Lecteur entrée BS 94.7
   3. SV 094.17
   4. STCC sous-commission

HOTSPOT CAMIPRO

6. Contact details

For general information (e.g. usage of CoViz facility)

- Mark Sawley, STI-GE ACCES, ELB 113 (Tel: 36965)

For technical information (e.g. details of available hardware/software)

- Mark Sawley, STI-GE ACCES, ELB 113 (Tel: 36965)
- STI-IT services c/o Dominique Quatravaux, STI-IT, ELB 132 (Tel: 35624)

For system administration support (e.g. hardware failure reporting)

- STI-IT services c/o Dominique Quatravaux, STI-IT, ELB 132 (Tel: 35624)

For administrative information (e.g. room reservation and access)

- Rosana Blanchard, STI IMX-LTP, MXD 341 (Tel: 31180)
- Lysiane Bourquin, STI IMT-GE, MC A4 304 (Tel: 54343)
- Irène Laroche, STI THEOS-IMX, ME D2 1726 (Tel: 31128)
- Christina Mattsson, STI IBI-GE, AI 1206 (Tel: 39668)
- Géraldine Michau, ENAC IIC-LSMS, GC A2 485 (Tel: 32452)
- Sylvie Moreau, STI-GE, ELB 113 (Tel: 36868)