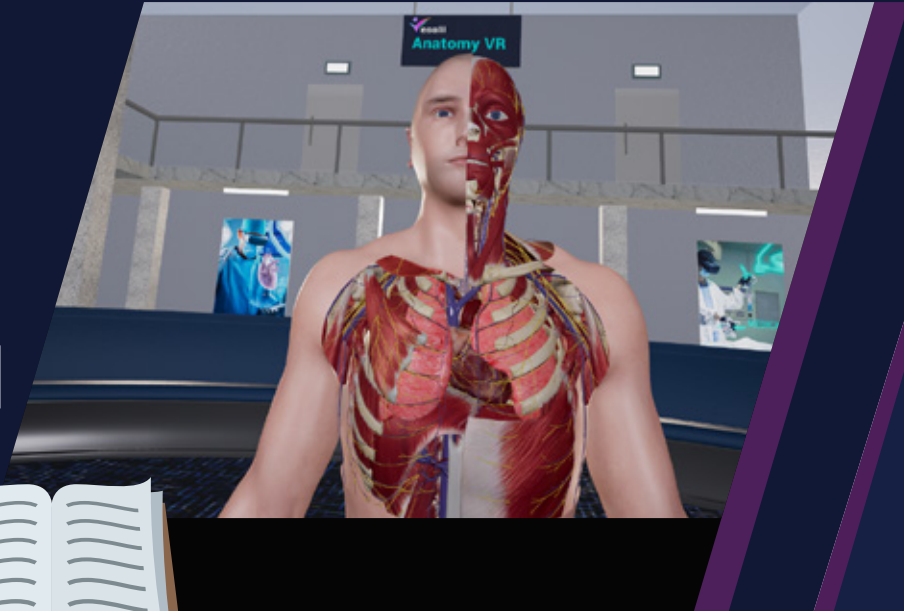
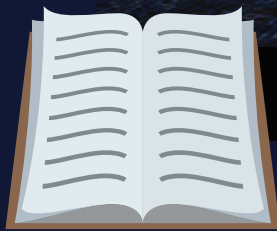




Quick Manual



Vesalii Anatomy VR

About Vesalii

“Vesalii” the biggest medical library in the world, , aims at assisting universities, students, healthcare professionals, and even patients in receiving quality and accurate medical information. It also provides different tools to easily view, study, and understand human anatomy of the male and female using 3D, virtual reality, and real CT scan models.

We have the largest medically accurate content developed by our anatomy experts and doctors, offering more than 1,000 histology images, 50,000 landmarks, 20,000 traceable blood vessel and nerve paths, 500,000 CT images, and over 5 million medical words.



Vesalii Products

Vesalii has created software that mainly focus on the anatomy and histology of the human body in addition to radiology, and DICOM converter for the purpose of learning and harnessing the best tools to facilitate and empower the learning and researching process.

Our Products

Vesalii Anatomy 3D

Explore the comprehensive structure of the female and male human body in a stunning 3D environment, covering every anatomical structure with full medical information for each.

Vesalii Anatomy VR

Explore the comprehensive structure of the female and male human body in an immersive virtual reality environment, covering every anatomical structure with full medical information for each.

Vesalii Dicom Converter 3D

Convert your DICOM files into a 3D model that can be used on your desktop computer or smartphone, allowing you to explore your DICOM images in a 3D environment.

Vesalii Dicom Converter VR

Convert your DICOM files into a 3D model that can be viewed using virtual reality (VR) gear, allowing you to explore your DICOM images in a one-of-a-kind experience you never experience before.

Vesalii Radiology 3D

Learn and understand how to read CT medical images, control tissue density, and body planes (axial, sagittal, coronal) on a stunning 3D model created from over 1 million CT images available for you to study.

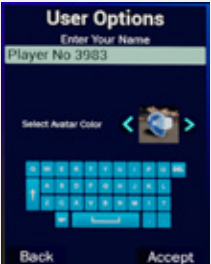
Vesalii Radiology VR


Learn and understand how to read CT medical images, control tissue density, and body planes (axial, sagittal, coronal) on a stunning 3D model viewed using immersive VR technology created from over 1 million CT images available for you to study.

Quick Guide



Figure 1
start screen

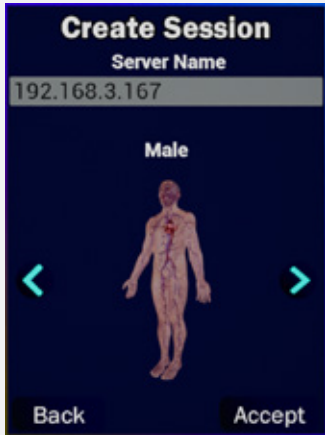
Button	Function
Male	Launch the application with the male 3D model in the VR environment as a single user
Female	Launch the application with the female 3D model in the VR environment as a single user
Name & Avatar Selection 	<p>Customize your name and avatar by:</p> <ul style="list-style-type: none"> * Enter your name in the text * Change your avatar color to be identified when entering LAN workshop

 For the best software performance always choose the right VIVE version

Button

Function

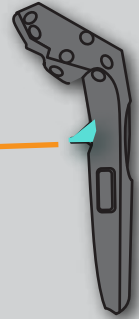
Create Session



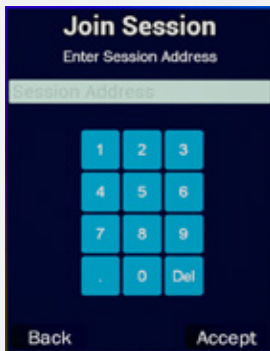
Create a session to get other users involved.

After choosing this option, insert the following:

- ▶ Name of the session in the text field
- ▶ Select 3D body gender (Male or Female)
- ▶ Select accept by pointing at it with the laser using controller 1 and pressing A (trigger) to launch the application and start the session
- ▶ Press back to go to the main menu



Join Session



Join a session over a VPN connection

- ▶ Enter the IP address of the server.
- ▶ Press Accept to join the session.
- ▶ Press back to go to the main menu

Quit

Close the application

To mute or unmute the mic of a specific student, the professor can point the laser at the head of the avatar of the student and press the trigger on the controller.



The server can grant access to clients or revoke it by pointing to the avatar and pressing the trackpad button (thumb-stick).




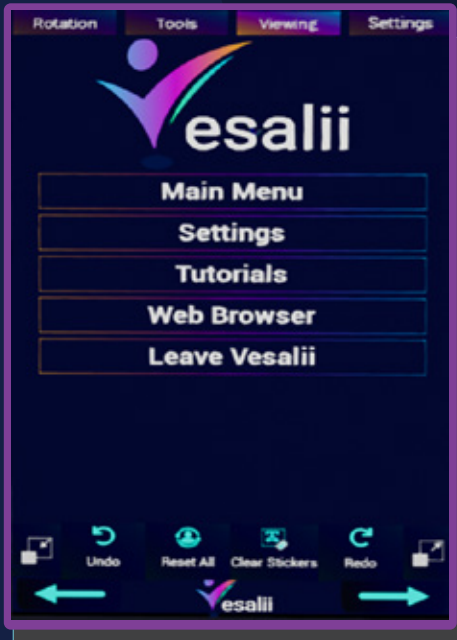
! This icon  appears above the student's avatar if the student's microphone is muted.

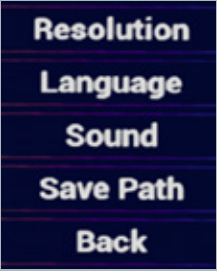


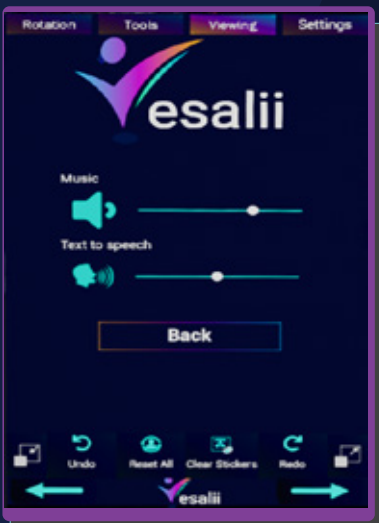
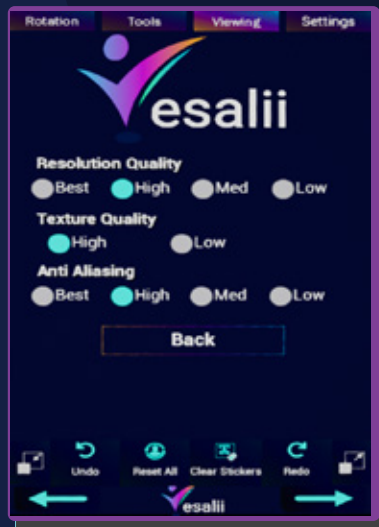
Figure 2
cube navigation




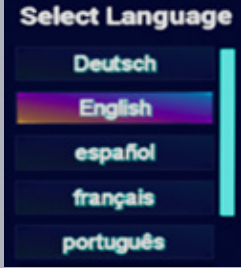

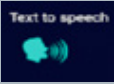


Num.	Button	Function
1	Main Menu	Bring the user back to the main menu (Figure 1 Start Screen)
2	Settings	Display a set of options to set graphic details & resolution
3	Tutorials	Access video tutorials that fully explain how to use Vesalii Anatomy (Coming soon)
4	Web Browser	Surf the internet within the application
5	Leave Vesalii	Exit Vesalii Anatomy VR



Num.	Icon	Name	Function
2		Settings	Open settings menu where resolution, language, sound options, and save path for screenshots and recordings can be changed.

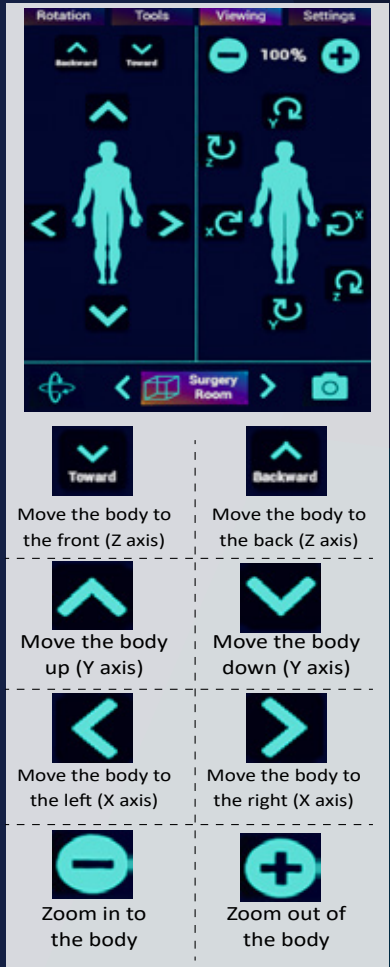


Num.	Icon	Name	Function
2.1	  	Resolution Resolution Quality Texture Quality Anti Aliasing	<p>Change resolution quality (Best, High, Med, or Low).</p> <p>Change the quality of textures (High or Low).</p> <p>Change anti-aliasing option (Best, High, Med, or Low). The higher the setting, the smoother the edges of displayed objects in the scene become.</p>
2.2		Language	<p>Select the language for the application. Language change is application-wide, meaning that it affects all aspects of the application, including menus, bars, panels, and body structure names and description. There are 7 languages available now (German, English, Spanish, French, Portuguese, Arabic, Chinese).</p>
2.3	 	Sound Music Text to Speech	<p>Control background music volume.</p> <p>Control text-to-speech volume.</p>



Num.	Icon	Name	Function
2.4		Save Path	Select the desired save path for screenshots and screen recordings taken through the application.
2.5		Back	Go back to the previous menu.
		Scale down	Reduce the size of the cube by 10% for each click
		Undo	Revert last action
		Reset All	Reset single part/group/multiple to its original location
		Clear Labels	Remove all body part labels
		Redo	Reapply last action (only activated after Undo function)
		Scale up	Used to enlarge the cube by 10% for each click
		Left arrow	Press to switch to the previous cube face.
		Right arrow	Press to switch to the next cube face.

! Undo function will revert the last action as it was taken (if you select a group it will revert all the group back)

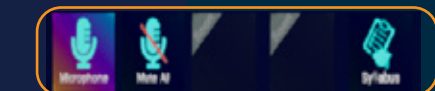
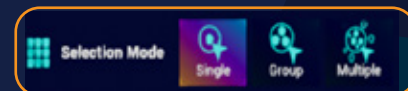
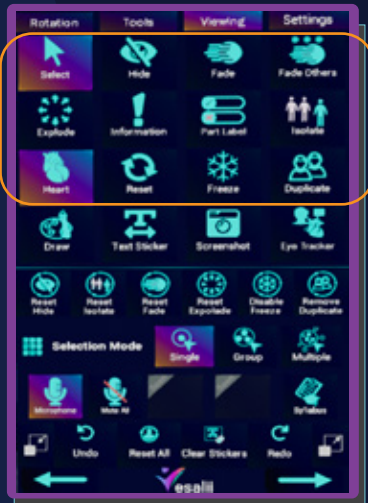


1		Transform Panel	By using the tools and buttons on this Panel you can move the body in the 3D scene
		Show Visual Gizmo	Showing visual (X,Y,Z) axes arrows on the body
		Surgery room	The default VR room where application starts
		Real View	Allow you to see the human body in the actual room you are in

! Note that you can control the body by clicking at any arrow in gizmo
! Pressing on the body image icon the camera will return to the default pose

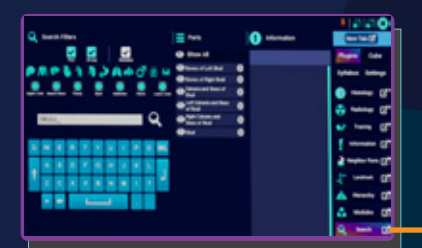
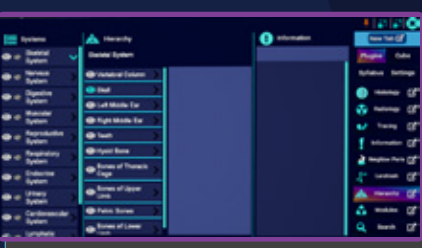
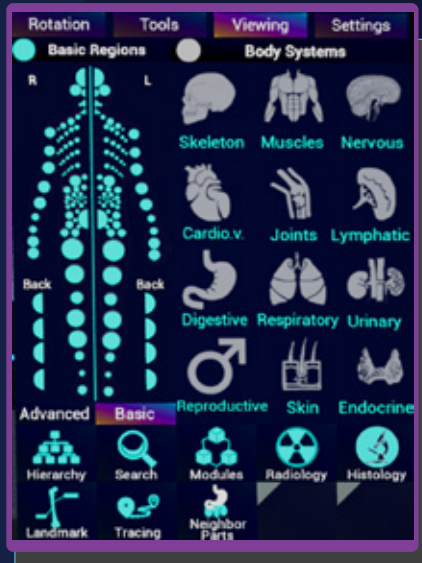
! Switch off the surgery room by clicking on it, you can change the background color using ◀▶

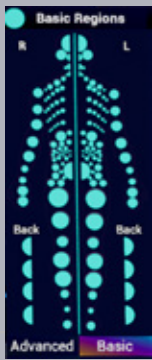
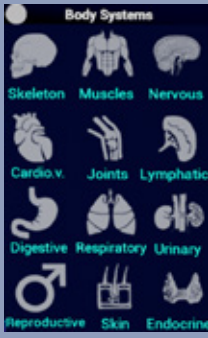



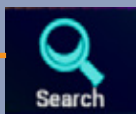
! This will turn on the VR headset camera, so modules might not have this feature




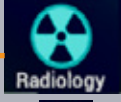



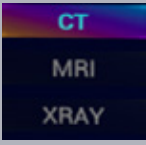

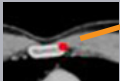





Num.	Icon	Name	Function
1		Select	Select a part to control it
		Hide	Make the selected part/group invisible
		Fade	Make the selected part transparent and see underlying layers
		Fade Others	Make the unselected part transparent and see underlying
		Explode	Expand the selected part to its primary segments
		Information	Used to hide/show the information panel for the selected part
		Part label	Select a body part/group with an indication of it by showing label
		Isolate	Isolate the selected part/group from the whole body in VR view
		Stop Heart	Play/stop the motion of the Heart
		Reset	Reset selected part/group to its original position by clicking on it
		Freeze	Make the selected part unaffected by all functions
2		Drawing	Used to draw on a separate board or directly on the model
		Sticker	Allows the creation of a sticker on any part the user wants
		Screenshot	Takes a screenshot for your current view Displays a black dot that represents the spot where the user is looking
		Eye Tracker	
3		Reset hide	Undo the hiding action
		Reset isolate	Reset all isolated parts to their original setting
		Reset fade	Undo the fade action
		Reset Explode	Undo the explode action
		Disable Freeze	Disable freeze function on the selected part
		Remove Duplicate	Delete the duplicated part/view
4		Single selection	Allows select/hide/fade/isolate on a single part of the human body
		Group selection	Allows select/Hide/fade/isolate on a group of the human body
		Multiple selection	Allows select/Hide/fade/isolate on multi parts of the human body
5		Mute self	Only active in multi-user sessions. Used by student or server to mute the users mic.
		Mute all	Only active for the professor in multi-user sessions. Used to mute the mic of all other users.
		Syllabus	Manage/edit your syllabus (coming soon)

! (Use Grip button on the controller as a quick snapshot shortcut)

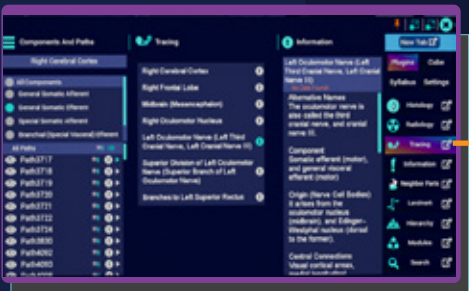
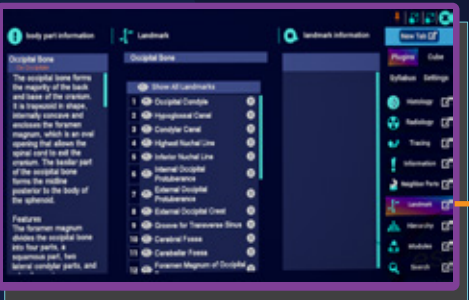


Num.	Icon	Name	Function
1		Regions compone Advanced	A small sample of a dotted human body is displayed in order to turn on/off the dots to show/hide the human body regions in VR Open advanced regions to activate advanced body structure view in more details, for example (show all nerves and blood vessels)
2		Body Systems Component	Enables you to hide/show the human body systems in VR (Skeletal system, Muscular system, Cardiovascular system, Nervous system, Lymphatic system, Joints system, Endocrine system, Digestive system, Urinary system, Respiratory system, Reproductive system, Integumentary system)
3		Hierarchy  	Display the Hierarchy panel that allows the user to discover the systems and their parts and groups in a hierarchical list Expands the hierarchical list Show/hide the part in VR
4		Search	Search button is used to search for a specific part or group or landmark Filter search results (by Part/Group or System)

Num.	Icon	Name	Function	
5		Modules	Display the Modules panel which shows all available modules	
		Create Module	Ability to edit/create new module to be customized	
		Vesalii Modules	View pre-created modules from Vesalii	
		User Modules	View Modules created and customized by the user	
			Take a snapshot of the current view and save it as a module	
			Delete the created module	
6		Radiology	View CT/MRI/X-ray images for the selected part	
			Close	Close the current window
			Scale up	Increase the size of the window by %10
			Scale down	Decrease the size of the window by %10
		CT	Browse CT images for the selected part	
		MRI	Browse MRI images for the selected part	
		XRAY	Browse X-Ray images for the selected part	
		Axial plane	View the image in the axial plane	
		Coronal plane	View the image in the coronal plane	
		Sagittal plane	View the image in the sagittal plane	
	Medical image	Red dot shows the selected point as a landmark on the CT/MRI/Xray image		
		Navigation arrows	Use the   to move between slices	

! Landmark on medical images will remain visible in a dynamic manner as you move across all the slides that show the organ or structure

Num.	Icon	Name	Function
7		Histology	<p>Browse histology images related to cell and tissue structure with their landmarks use to browse between histology images and find image description for each image</p> <p>icon shows more information about image description, tissue category, and tissues</p>
8		Landmark	<p>Click to show/hide landmark number to see all landmarks on the part</p> <p>Click for detailed information</p>
9		Tracing	<p>Follow the path of a blood vessel or nerve impulse on the VR model to trace the path from its origin to the related part.</p> <p>Click to isolate the selected path</p> <p>Click to fade other paths</p> <p>Click for detailed information on the path</p>
10		Neighbor Parts	<p>Reveal the neighboring parts for any selected part from any other system (s).</p> <ul style="list-style-type: none"> • Select a part from the model • Select the system (s) for the neighboring parts you wish to reveal • Move the slider to reveal the neighboring parts in a radius around the originally selected part



1 Menu button (Shoulder)

This button is used to teleport the user within the scene. Press and hold this button, move the circle that appears to where you want to be, and then release the button to teleport (the arrow on the circle shows the direction you will be facing after you teleport).

2 Trackpad Left

Pressing this button will move radiology or histology images to the left.

3 Trackpad Up

a) Pressing this button will move radiology or histology images up.
b) Touching this button without pressing will scroll up on tabs containing text information, such as in the information tab for a body part (the scroll action using this method is slow).

4 Trackpad Right

Pressing this button will move radiology or histology images to the right.

5 Trackpad Down

a) Pressing this button will move radiology or histology images down.
b) Touching this button without pressing will scroll down on tabs containing text information, such as in the information tab for a body part (the scroll action using this method is slow).

6 Trackpad Press (Thumbstick)

a) This button is used to perform the action of a selected tool. For example, pressing this button while pointing at a body part after selecting the hide tool will hide the body part you are pointing at.
b) In a multi-user session, the host (professor) can point at the head of the avatar of another user and press the thumb to grant or revoke access to that user.

When the thumbstick or any of the trackpad buttons (buttons 2 to 6) is pressed, the color of the laser from the controller changes from the default red to blue to indicate that the button has been pressed. The color of the laser reverts to red when the button is released.

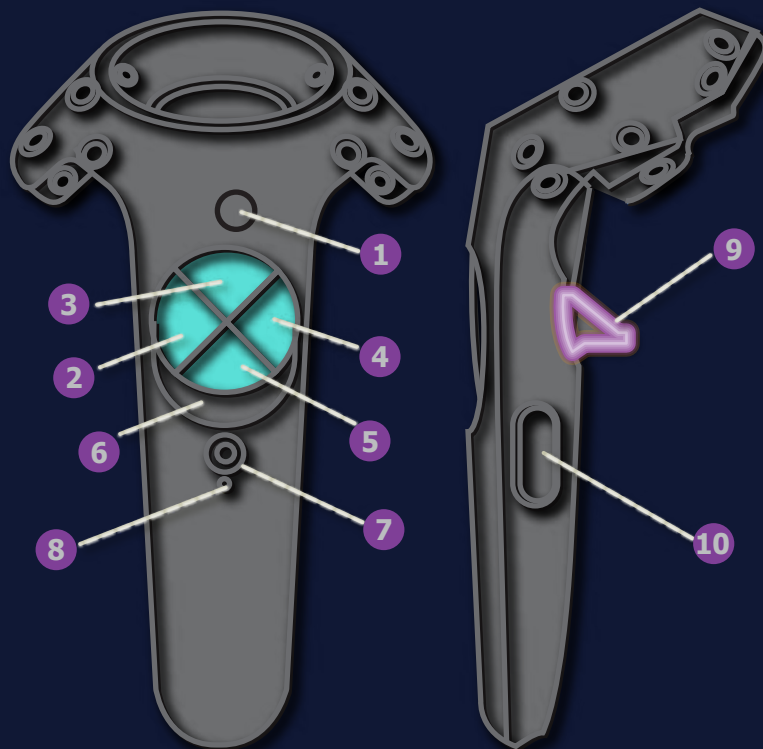
7 System Button

This is the power button for the controller, i.e., pressing this button will turn the controller on.

8 System Light

This light indicates the status of the controller.

- Green** indicates that the controller is on and functioning normally.
- Flashing red** indicates that the controller requires charging.
- Solid red** indicates that the controller is currently charging.
- Blue** indicates that the controller needs to be paired with a device.
- White** indicates that the controller is fully charged.



9 Trigger (Trigger and Trigger Axis)

This button has multiple functions:

1. Move a body part by pointing at it, pressing and holding the trigger, dragging it to where you want it to be, and then releasing the trigger.
 2. Scale up or scale down the size of a body part by pointing at it with both controllers and pressing and holding the trigger on both controllers. While holding the triggers, move the controllers apart to scale up or move them toward each other to scale down.
 3. Select buttons on tabs or the cube by pointing at the button and pressing the trigger once.
 4. Move a slider by pointing at it, pressing and holding the trigger, dragging it as desired, and then releasing the trigger.
 5. Move a tab or window to another location by pointing at it, pressing and holding the trigger, dragging it to where you want it to be, and then releasing the trigger.
 6. In a multi-user session, the host (professor) can point at the head of the avatar of another user and press the trigger to mute or unmute that user.
- When the trigger is pressed, the color of the laser from the controller changes from the default red to green to indicate that the button has been pressed. The color of the laser reverts to red when the button is released.

10 Grip Button (Grip 1)

- a) Pressing both of these buttons at the same time on the controller with the cube will take a screenshot.
- b) Pressing both of these buttons at the same time on the controller opposite to the cube will activate the eye tracker feature.