FaceRig Guide v1.0

1. Introduction

FaceRig is a virtual puppeteering program that lets you control digital characters via your own head motions and expressions filmed by a regular webcam, but also via regular computer input. We are currently focusing on the portrait, but we plan to expand to body motion in the future.

The program output can be recorded as a movie or live-streamed to Skype, Twitch, Hangouts and it should work with any service that traditionally uses a webcam input. In order to do this, FaceRig creates a virtual camera that streams out a video feed where you are replaced by the digital avatar.

2. Installation

The install process of FaceRig (and redeeming a key on Steam) can be tricky for someone who is new to computers (or new to Steam), so we have put together this simple step by step guide. Please read it carefully as a faulty install can lead to trouble when running the program.

If FaceRig is installed on a machine that has lower specs than the minimum requirements it might work poorly, not start at all or cause other problems. Please verify that the computer specs correspond at least to the minimum requirements before installing FaceRig.

Minimum Requirements

OS: Windows® 7 or later
Processor: Intel® Core™ i3-3220 or equivalent
Memory: 2 GB RAM
Graphics: NVIDIA GeForce GT220 or equivalent
DirectX: Version 9.0
Hard Drive: 2 GB available space

Step 1: Getting a Steam account and Installing the Steam Client.

Right now FaceRig is being distributed exclusively via the Steam service. If you don't already have a Steam account and the Steam client installed, please go to http://store.steampowered.com and follow the instructions there to install the Steam client and get a Steam account. If for some reason you are unable to use the Steam service, let us know via the contact form on the facerig.com website.

If you are weary about installing the Steam client, we can tell you that the Steam service is ran by Valve, a respectable U.S. based company and is (arguably) the best digital marketplace for entertainment software on PC, with tens of millions of customers.

Step 2: Adding FaceRig to your Steam Account.

If you have received a program key for FaceRig, go in the Steam client in the top menu to "Games" and choose "Activate a Product on Steam". Enter the key. FaceRig should activate and appear in your software library and will begin downloading.

If the key / product code does not work, get in contact with us on the FaceRig Steam forums, on the facerig.com forums or by using the contact form on the facerig.com webpage so we can figure the problem. Do not post your key publicly prior to redeeming it or someone else might redeem it before you.

If you do not have a key and you wish to purchase one and get access to FaceRig, simply go to its Steam store page either via your preferred Internet browser at http://store.steampowered.com/app/274920/ or just look up FaceRig in the Steam client. That's where you can purchase it.

Step 3: Download and Install.

After redeeming the key or purchasing the program, Facerig should automatically be added to your Steam software library (which is on a different tab than your Steam games library). At this point it will start downloading. After the download is ready you can press "Launch" and the first time install process will start.

The install process will take a few minutes as it will install various redistributables that are needed to run FaceRig. Do not cancel, change the install options or skip any of these. Allow them to install. We will never ask you to install any funky toolbars, video players or any other type of bloatware or spyware.

You will also need to agree to the Program EULA. Please read it carefully (as you should do with the EULA of any software you install).

Step 4: Starting the program.

After the install process has finished the FaceRig Launcher will start (later you can launch it by pressing the Launch button without the install process being needed again). After making any modifications you might want in the FaceRig Settings by clicking the "cogwheel button" on the launcher, you can start FaceRig by clicking the "Action" button. Loading it up may take a few seconds as FaceRig runs on a fully featured cross-platform game engine (this way we can later scale up to having multi avatar scenes, with fully animated 3d backgrounds.) If the program does not start, ends up in an infinite starting loop, starts on a black screen or presents any other erratic behavior refer to either the FaceRig Steam forum for Support or the facerig.com forum. Remember, right now FaceRig is still very much in development, and anomalies and crashes will happen every now and then.

Step 5: Uninstalling the program

If there are errors during the install process, it is best to uninstall the program completely and re-install it again. To uninstall right click on the program name in the Steam client Software Library, chose "remove local content". After the uninstall has finished restart your computer.

To install FaceRig again just right click on the program name in the Steam client Library and chose to download and install it again.

If the the program does not start, or ends up in an infinite starting loop starts on a back screen or present any other erratic behavior refer to either the FaceRig Steam forum for Support or the facerig.com forum

Step 6: FaceRig Virtual Webcam Initial Set-up.

If you plan to use FaceRig with online communication software such as Skype it is best to restart that software after FaceRig has finished installing otherwise the FaceRig Virtual Webcam will not show up in their webcam choice list. If you are unsure on how to do that, simply perform a system restart after FaceRig has finished installing. If you need help on getting Facerig to work with other programs or web services refer to the FaceRig support forums.

3. Body and pose

3.1 Neutral Pose.

At start, when detecting a new face or when doing a tracker reset, FaceRig asks for a neutral pose confirmation. Getting a good neutral pose is crucial for good tracking and mouth re-targetting. Please make sure the user is positioned facing the camera with their head looking straight ahead (preferably adjust the camera to fit their height by lowering/lifting it) with their eyes open, looking at the camera, lips in neutral position (not smiling or making a "sad face"), eyebrows in neutral position (not frowning or doing the "surprised look" expression).

3.2 Head orientation

For best results, please make sure that the user's head is properly framed by using the web camera control feed. For a good expression "read"(best results) the user should not turn more than 30 degrees from directly facing the camera

4. Moving the avatar

You can move and rotate the avatar (to bring it closer to the screen for inspection) by Keyboard and USB Mouse at the moment(for now), or by Touch input (if system allows it) using pinch gesture to zoom in and out, rotate gesture to rotate the avatar and dragging to move the avatar around.

Alt + MouseWheel moves avatar back and front

Alt + MiddleClick moves avatar left/right and up/down

Alt + LeftClick rotates avatar

5. User Interface

Once the program is running, you will see the avatar, your own image in the lower left corner and two interface bars. The one on the top is the Utility bar, the one on the right is the Customization bar.

5.1 Manual for minimalist interface

FaceRig starts with **minimalist interface**. To switch to advanced one, press the Advanced UI button(last button on the top menu bar), to switch back to the basic one, press the Minimalist UI button(last button on the top menu bar).

The manual descriptions follow the advanced interface buttons, which are all included in the minimalist version, excepting the fact that record performance and export movie are merged into one button.

The Program starts with the audio based lipsync turned ON by default. It needs to be toggled on from the top menu, after setting the correct noise gate value!

The manual below goes into detail on menu items in the Minimalist interface:

5.1.1. Avatars
- activated by pressing the Avatar button

Each avatar has a title(avatar name), listed on the blue bar, and a thumbnail. Each avatar has one or more skins. Clicking on the icons under the avatar icon will select the avatar skin.
To load an avatar, simply click the thumbnail once and click the Load button.

The search bar above the avatar names bar allows you to search through the avatars by inputting one or more characters. If string is present in the avatar name(s), the avatar name(s) will appear on the left side of the title bar, in a scrollable menu.

In addition to this, the gallery thumbnails will be filtered to match the search result.

To cancel the search (unfilter results), delete the string in the search bar.

Each avatar has an A or an R on its thumbnail, signaling that it's animation-atomics based or retargeting-based.
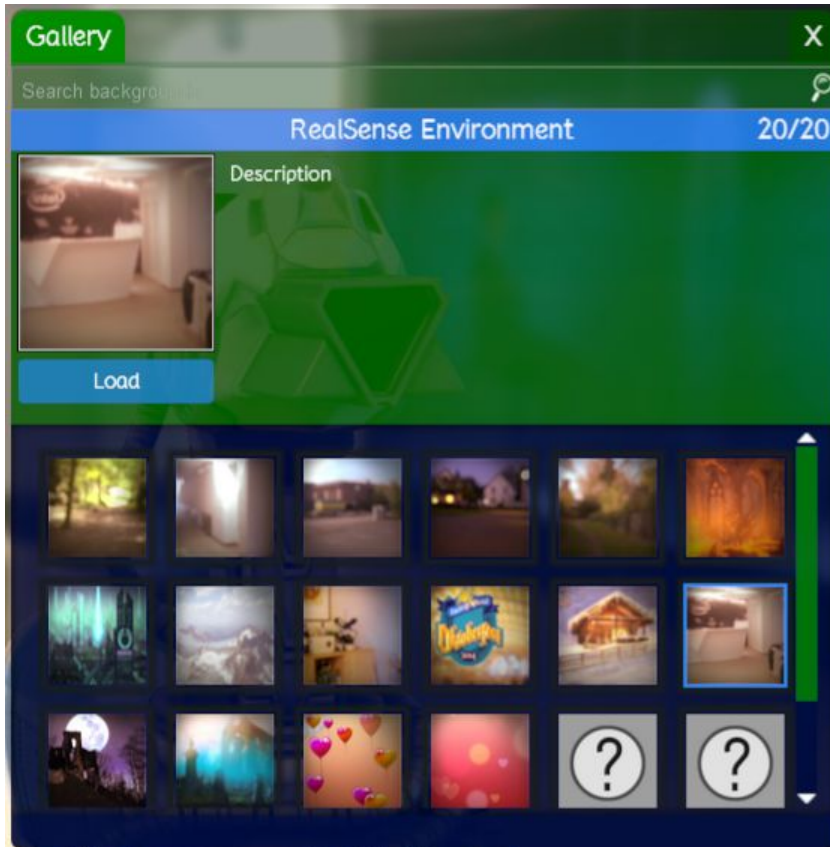
5.1.2. Environments

Backgrounds gallery
 - activated by clicking the Environments button
Each background has a title(background name), listed on the blue bar, and a thumbnail.

To load a background, click the thumbnail once and then click the Load button.

The search bar above the background names bar allows you to search through the backgrounds by inputting one or more characters. If the string is present in the background name(s), the background name(s) will appear on the left side of the title bar, in a scrollable menu.

In addition to this, the thumbnails will be filtered to match the search result.

To cancel the search (unfilter results), delete the string in the search bar.

5.1.3. Auto-calibrate tracking

It lightly calibrates tracker and orientates avatar to camera.

Expressions are moved to neutral pose when head angles (yaw/roll/pitch separately) get values over some pre-set thresholds. The default thresholds are: Yaw - 20 degrees, pitch 35 degrees, roll 20 degrees.

When user clicks this button, the "Quick Tracker Calibration" box will appear. Pressing "Calibrate" will overwrite all Expression Configurations in the Advanced Tracking Configuration menu.

5.1.4. Re-initialize Tracking button

It is located on the upper menu. It needs to be used if the tracker is not responsive at all or it gets too glitchy (examples: does not detect faces though the user is facing the camera while in neutral pose, picks up a face on background objects, while facing the camera all debug dots present in the Tracker Source Feed are red, etc)
It reinitializes the tracker, displaying the "New face detected" message box with the instructions for the neutral pose the user needs to assume.

5.1.5. Lipsync

 Turns on or off the sound-based Lipsync module. A quality headset with a good noise cancelling microphone is recommended for optimal lipsync, as any background noise may interfere with its accuracy. When lipsync is on, this icon indicates it by changing the color of the grey area to white. The lipsync module is an audio based tracker that detects the phonemes from spoken tongue and translates them as atomic animations applied to the avatar.

5.1.6. Make Movie

Record Performance and Export Movie are merged into one single button in the minimalist interface.

To Record a performance, click the Record Performance button. You will be prompted with a file dialog to set the location where all needed files for performance and the exported movie are saved. There are several files saved for a single performance:
- the .rpl file holds avatar movement information
- the .tkc file holds advanced tracking configurations set specifically for this performance
- the .wav file is the sound recorded mixed into the final exported movie

If you want to reset the avatar pose and expressions, click the Reset Tracking button while recording or before.

Click the Record Performance button again to end the recording, then the export movie process automatically starts.

The exported movie file will be saved in the same location the other performance files reside, having the same name, although having a different extension (.webm).

5.1.7. Reset configurations to Default

Clicking the Reset config button will reset all custom configurations for avatars and environments.

5.1.8. Picture-in-Picture

Pressing the picture button will toggle different modes of the webcam feed.
1- webcam feed box visible in the lower left corner
2- webcam feed box not visible
3- webcam feed box is full screen, taking the place of the avatar
4- webcam feed box is full screen, behind the avatar.

5.1.9. Switch to Advanced UI
Toggling this will enable the Advanced UI.

5.2.Manual for full interface

Once the program is running, you will see the avatar, your own image in the lower left corner and two interface bars. The one on the top is the Utility bar, the one on the right is the Customization bar.

5.2.1. Utility bar
In the Utility bar you will find the following tabs: Toggle Hide Interface, Screenshot, Toggle Pic in Pic Mode, Toggle Broadcast, Toggle Face Tracking, Reset Face Tracker, Toggle Lipsync, Play Performance, Record Performance, Export performance as movie, Load Video as Input Source.

5.2.1.1. Toggle Hide Interface
- only available in the Advanced Interface

Hides the interface. To access the interface again hover with the mouse over any part of the interface (including menu dialogs). In order to make the interface stay always on just press the Toggle Hide Interface button again.

5.2.1.2. Screenshot

- only available in the Advanced Interface

Takes a screenshot of the FaceRig window. The screenshots will be saved by default in Documents\Holotech\FaceRig\Screenshots. To change where screenshot are saved, go to General Options and choose the new path you wish your screenshots to be saved to by clicking Browse and selecting the desired path.

5.2.1.3 Picture-in-Picture

Pressing the picture button will toggle different modes of the webcam feed.
1- webcam feed box visible in the lower left corner
2- webcam feed box not visible
3- webcam feed box is full screen, taking the place of the avatar
4- webcam feed box is full screen, behind the avatar.

5.2.1.4. Toggle Broadcast

- only available in the Advanced Interface

When selected (toggled ON) it will let FaceRig broadcast via Skype, Twitch, etc. through the FaceRig Virtual Cam.

If it's toggled OFF, then FaceRig will only show a message "FaceRig Application is Offline" in Skype, Twitch, etc.

The same message is shown if FaceRig is entirely turned off.

5.2.1.5. Toggle Face Tracking

- only available in the Advanced Interface

Turns on or off the face tracking. This is especially useful when you are customizing the avatar or want to take snapshots with the avatar in certain positions.

When toggling this feature off, tracking will cease and the avatar will remain in the last tracked position.

Toggling this feature ON will initialize the tracker. As a result of this, the calibration message and the box for "neutral pose" will be displayed.

5.2.1.6. Reset Face Tracker

This button will only be present when Facial Tracking is toggled on.
 It needs to be used if the tracker is not responsive at all or it gets too glitchy (examples: does not detect faces though the user is facing the camera while in neutral pose, picks up a face on background objects etc)

5.2.1.7. Toggle Lipsync

Turns on or off the sound-based Lipsync module. A quality headset with a good noise cancelling microphone is recommended for optimal lipsync, as any background noise may interfere with its accuracy.
The Program starts with lipsync turned OFF by default. It needs to be toggled on from the top menu, after setting the correct noise gate value!
 The lipsync module is an audio based tracker that detects the phonemes from spoken tongue and translates them as atomic animations applied to the avatar.

5.2.1.8. Play Performance
- only available in the Advanced Interface

If you have a recorded performance that you want to see how it looks on different avatars, you can simply load it here and the avatar will follow the previously recorded pattern, instead of what is shown on the camera.

5.2.1.9. Record Performance

This option allows you to record a performance in a special file format that can be used as input in FaceRig. This can be used to record different actions and then just test how they look on different avatars by using the Load Performance option.

There are several files saved for a single performance:
- the .rpl file holds avatar movement information
- the .tkc file holds advanced tracking configurations set specifically for this performance
- the input video feed may also be exported.
- the .wav file is the sound recorded saved so that when exporting a movie it will get mixed in.
  Record Performance and Export Movie are merged into one single button in the minimalist interface.

This button lets you export movie from a performance file (*.rpl) . To do so, select the desired Resolution, Frame Rate, Video Quality, Bitrate Type, whether you wish for the export to done frame by frame (this will save a *.bmp file for each of the video frames) and Browse to select the *.rpl file you wish to export from. Then click Export!

Record Performance and Export Movie are merged into one single button in the minimalist interface.

Pressing the button 1st time will display the window where the user selects the filename and path where they wish for the recording to be saved.
Pressing the buttons a 2nd time will stop stop the recording process.
1. Record Performance (3rd button on top menu). When you are done recording, just press Record Performance button again.
2. Export Performance as Movie . Choose the .rpl file (saved performance file) you like to export
3. Pick the desired framerate
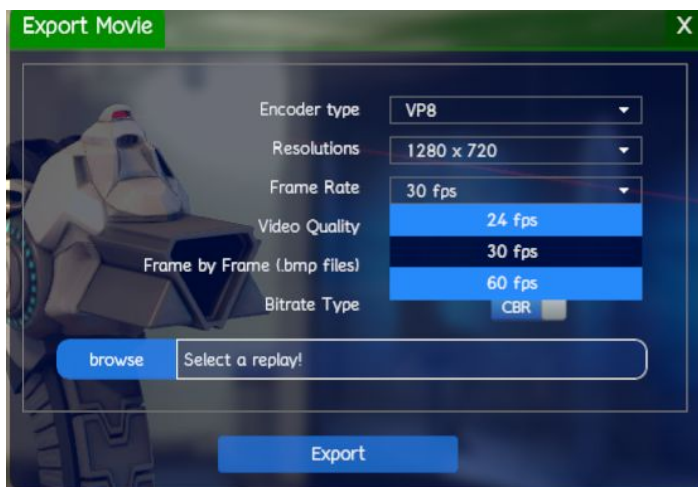
4. Choose the export quality (low/medium/high)
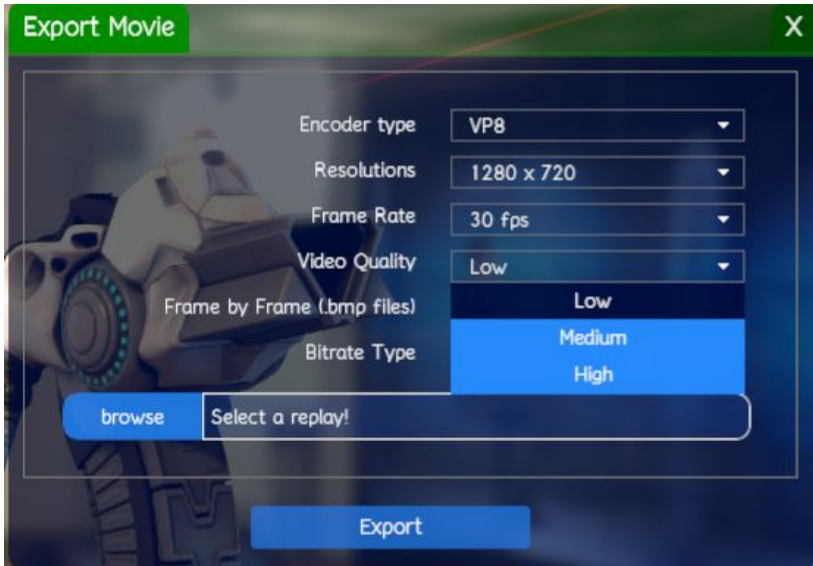
5. choose the desired codec

6. choose the export file path by clicking browse and going to the desired location and picking a file name

7. When you are all set with the options, just click export.

8. To view the .webm file, we suggest using VLC Player, though it should work with any other video player.

5.2.1.11. Load Video as Input Source

 - only available in the Advanced Interface

> This option allows you to load a video as input source. This way FaceRig will track the movements shown on the prerecorded video, temporarily replacing your webcam device as input source. Just browse your folders to find the video file you wish to load.

> After pressing this button, the browsing window appears where the user selects the path and file to be loaded.

> Supported file format(s) : *.avi

5.2.1.12. Switch to basic UI
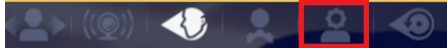
 - only available in the Advanced Interface

Toggling this will enable the Advanced/Mini UI.

only available in the Advanced Interface

Clicking this will do a quick calibration for the body/head position
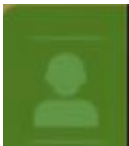
5.2.1.13. Quick auto-calibrate Expressions

Clicking this will do a quick calibration for facial expressions.

5.2.2. Customization Interface

In the Customization Interface you will find the following tabs: Avatars, Environments, Pose Avatars, Advanced Tracking Configuration, Karaoke Panel, Voice Effects, General Options, Help.

5.2.2.1. Avatars

This menu lets you select your avatar, customize it and add props to it.
First, select the avatar you wish to use by clicking on its thumbnail and clicking Load Avatar.
If you wish to customize your avatar, go to the Customization tab (right next to the Avatar Gallery tab.) In the Colors subtab, you can select the colors you want for each of the avatar features (eyes, skin, fur, other body parts etc.). Proceeding to the Features subtab will allow you to scale body parts to make them smaller or bigger. All avatars are customizable at a certain level, but customization features may vary from avatar to avatar and from skin to skin (the Custom skin on every avatar has the most customization options).
Note that at any time during your customization process you can click the Reset to Defaults button if you wish to start over.

Avatar Gallery

Each avatar has a title(avatar name), listed on the blue bar, and a thumbnail. Each avatar has one or more skins, which you can browse by clicking the arrow buttons under its name.
To load an avatar, simply click the thumbnail once and click the Load button.

The search bar above the avatar names bar allows you to search through the avatars by inputting one or more characters. If string is present in the avatar name(s), the avatar name(s) will appear on the left side of the title bar, in a scrollable menu.

In addition to this, the thumbnails will be filtered to match the search result.

To cancel the search (unfilter results), delete the string in the search bar.

Avatar Customization *- only available in the Advanced Interface*
    To customize the avatar's colors the first thing you need to do is choose the Custom skin from the Choose Avatar and Background menu.
    After the Custom skin is selected, just go to the Customization tab and play around with different colors and features.

## I. Color *- only available in the Advanced Interface*
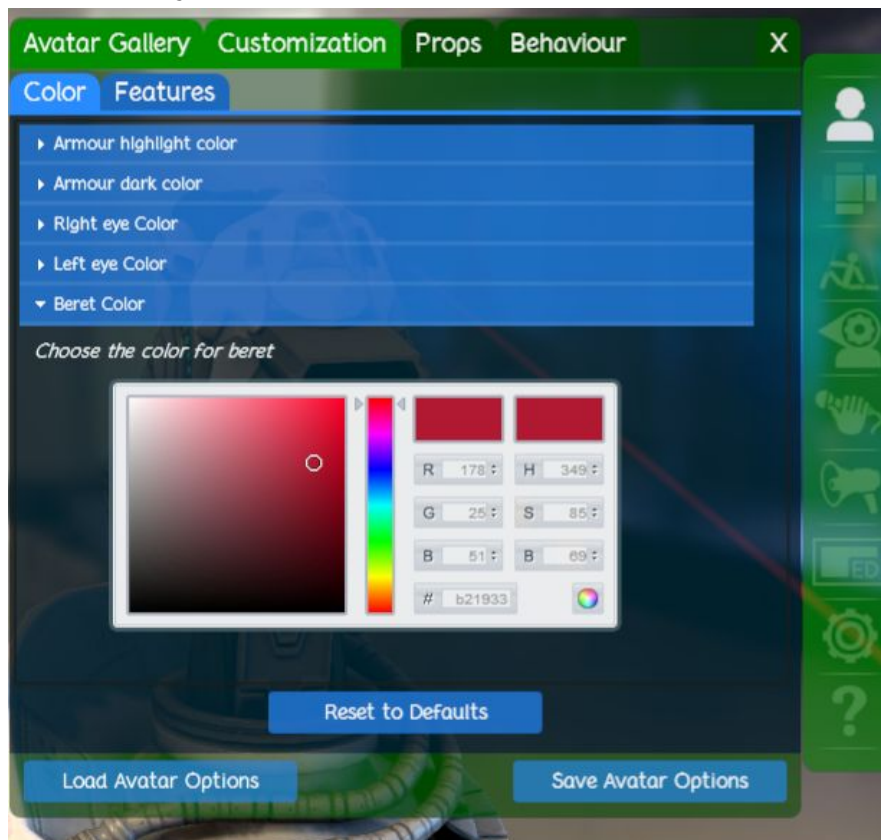
    The Color tab allows you to change the colors on the avatar based on what masks are available. The masks dictate the fur, eye, clothes, etc color patterns. Everybody can make their custom masks and import them, but the custom skin also comes with a default mask. Mask customization (importing a custom mask) is available only on the Custom skin of the Avatar.
    Each avatar has different parts that can be customized, for example fur, skin, hair, accessories, etc. The easiest way to choose a color is by adjusting the slider and positioning the pointer on the color board; additionally, you can input the color code.
    Once you get the avatar to look the way you want it to, you can save the template by using the Save Options button in the corner right part of the Color window. The template will be saved in a FaceRig specific format and can be loaded at any time by using the Load Options button that is placed on the left of the Save Options.
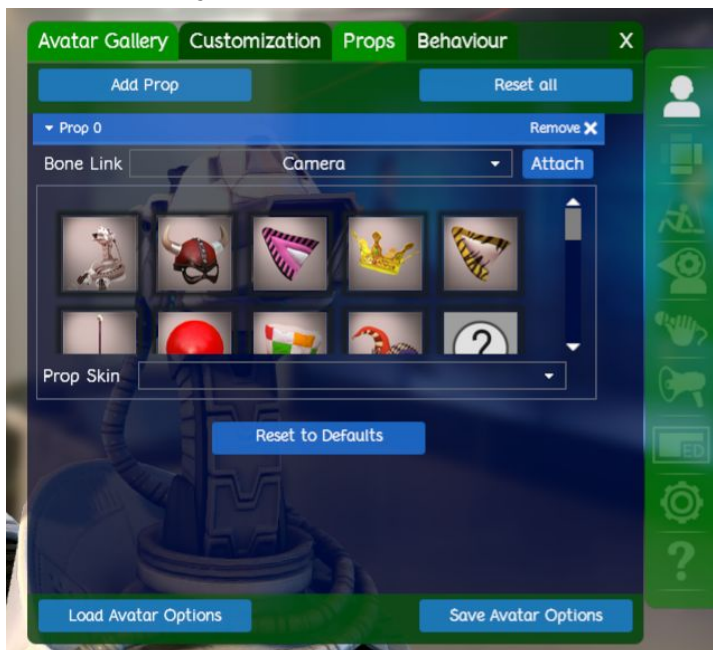
II. Features *- only available in the Advanced Interface*
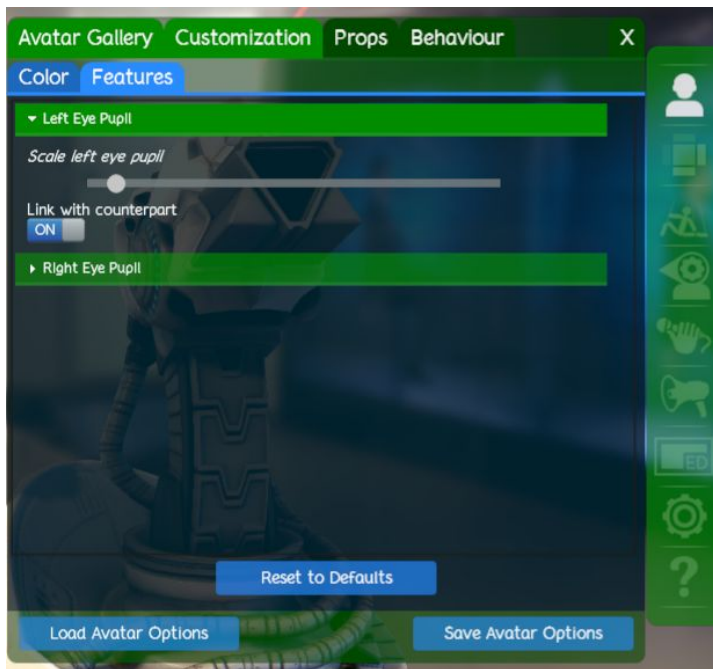
The Features tab allows you to change the physical features of the avatars. The option in this tab differ depending on the avatar.

The different features that can be changed from this tab are: ears, eyes, nose, head, mouth or eye pupil.

III. Props *- only available in the Advanced Interface*

The Props tab allows you to customize the avatars by adding props. Props can be virtually placed anywhere in the proximity and on the avatar. First you need to select a base location, this is done by attaching the prop to a bone in the model's skeleton (clicking the Attach button), then fine tune the props position relative to its current one using either the position sliders, either by free move feature (the Prop

move option) which allows moving and rotating the prop just like the avatar (the Alt + mouse control scheme).

　　　　To customize the prop placement you have the following options under the Prop Skin drop down menu:
Scale: Scales the prop
Yaw: Rotates the prop around the yaw axis
Roll: Rotates the prop around the roll axis
Pitch: Rotates the prop around the pitch axis
Position X: Moves the prop on the X axis
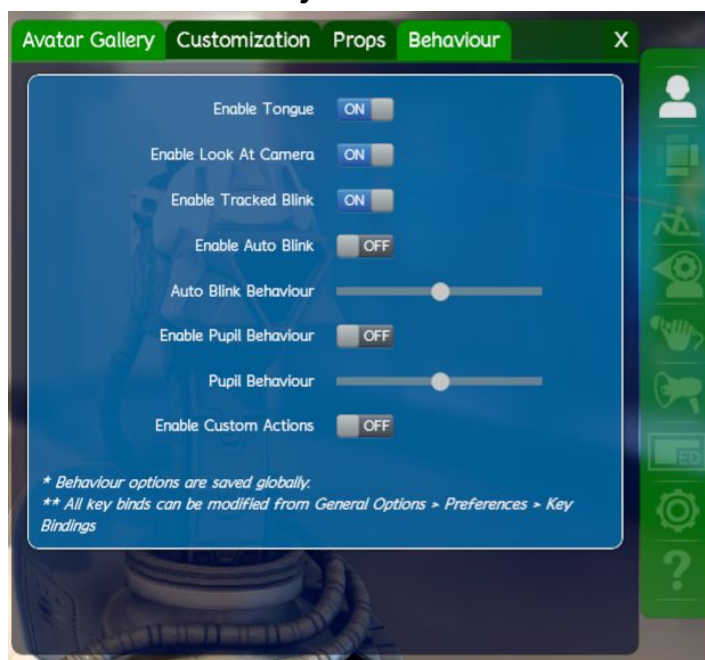Position Y: Moves the prop on the Y axis
Position Z: Moves the prop on the Z axis

To reset the changes just press the Reset to Default button.
To remove the prop, click Remove.
You can add multiple props.

IV. Behavior Tab *- only available in the Advanced Interface*

　　　　Enable custom actions - will enable tongue, hands and other special actions control, letting you use your mouse or keyboard to make your avatar stick out its tongue, raise its hands in various directions. DISABED BY DEFAULT
　　　　If you choose to control it via keyboard you can customize the keys that drive the different possible tongue movements (tongue out, tongue left, tongue right, tongue up, tongue down). You can do this in the Key bindings tab in General options> Preferences>Key Bindings.
　　　　The Look at Camera Ratio option will keep your avatar's pupils pointed at the camera at all times when set to max value (slider all the way to the right), underline disabling eye pupil tracking and eye pupil puppeteering (posing.) If set to minimum, the avatar will try to mimic your eye movement very accurately (some errors might result from low/improper lighting in this case)

Toggling "enable tracked blink" ON will cause the blinking eye motions to be tracked. Toggling it off will cause FaceRig to no longer trigger a blink animation in the avatar when the user blinks (blink tracking - disabled).

Toggling "Enable Auto Blink" ON, will cause your avatar to automatically blink at certain intervals (to appear natural) even when not tracking your face.

The Autoblink Behavior and Pupil Behavior sliders will adjust how often the avatar blinks automatically and how much the pupils blink. They have 3 levels: tired, normal and alert.

Enable Cross Eyes will do exactly what it says - will disable or enable the Cross eyes behavior in avatars. While cross eyes is a fun feature to have, be advised that any small tracking error can be interpreted to trigger that animation, making the avatar look odd. Feature should be used as "fun"/"experimental".

5.2.2.2 Environments

In the Environments tab you will be able to choose the environment you want to use.
Some environments are predefined for certain avatars(e.g. The Lava Pits work best with The Lava Baron).

Gallery - this is where you pick your background by selecting the thumbnail and double clicking or clicking Load.

Each background has a title(background name), listed on the blue bar, and a thumbnail.

To load a background, simply double-click its thumbnail or click the thumbnail once and then click the Load button.

The search bar above the background names bar allows you to search through the backgrounds by inputting one or more characters. If the string is present in the background name(s), the background name(s) will appear on the left side of the title bar, in a scrollable menu.

In addition to this, the thumbnails will be filtered to match the search result.

To cancel the search (unfilter results), delete the string in the search bar.

Customization and **Postprocessing** are mainly aimed at advanced users, allowing them to adjust things like Lighting, Shadows, Ambient, Fog, Tonemapping, Bloom, Depth of Field and others. ***- only available in the Advanced Interface***
Control + Left Mouse Click will allow you to rotate the background, if the background being used at that time is a full 360 degree environment cube, not just a 2d backdrop.

<u>5.2.2.3. Pose avatar (previously known as puppeteering)</u>

- only available in the Advanced Interface -

      Only available while the tracking is off. While tracking is turned off, you can change the way your avatar looks on-screen with the sliders. This feature is more used for precise posing and if you want to test out certain looks on avatars, for example if you are making your own or just want to capture a screenshot in a particular pose.

5.2.2.4. Advanced Face Tracking Calibration

- only available in the Advanced Interface -

The Advanced Tracking Calibration menu is split into two parts: Body and Head Pose, Expression Units.

The Body and Head Pose options controls the default positioning of the body and head.

Side to Side Rotation Options – turns the avatar's head left or right.
Up and Down Rotation Options – turns the avatar's head up or down
Tilt Options – Tilts the avatar's head
Body Up and Down – Leans the avatar forward or backward.
Body Tilt – Tilts the avatar's body
Auto Calibrate – Auto adjusts the values so that no matter how you are sitting, the avatar is facing the camera.

The Expression Units are used to fine tune the tracking based on your appearance and/or preferences. For example, if you want your avatar to keep his eyes half closed, here's where you can adjust the values to get that result.

All expression units have a disable option so you can choose if you want the avatar to completely ignore certain actions (for example pursed lips).

The Expression units tab has four sub-tabs: **General, Eyes, Mouth** and **Retargeting**.

Tracker Input Range shows the minimum and maximum values for different expressions. Min white bar means minimum value and has a certain action linked with it (e.g. closed mouth), Max white bar represents the maximum value and has the opposite action from the Max white bar linked to it (e.g. open mouth), and the black bar is the actual value that the tracker outputs based on the user's actions.

To adjust the interval just pull the sliders.

The facial expressions that have a LEFT and RIGHt attribute cand be linked together, setting identical ranges for both of them by clicking Link to counterpart to toggle it on/off.

Jaw Drop - Specifies the interval between closed and opened mouth. When the black bar is over the "Min" white bar both the avatar's mouth and your mouth should be closed and when the black bar is over the Max white bar, the mouths of both you and the avatar should be open.

Pursed Lips – Sets the interval for pursed lips. When the black bar is over the Min white bar both you and the avatar should not have pursed lips and when the black bar is over the Max white bar, both you and the avatar should have pursed lips.

Pursed Lips Left/Right – Sets the interval for pursed lips direction. Min white bar corresponds to pursed lips towards the right and Max white bar corresponds to pursed lips towards the left. Pursed lips front (like a kiss) is automatically set as 66% of the pursed lips left/right interval.

Opened Pursed Lips Left/Right – Sets the interval for open mouth pursed lips direction. Min white bar corresponds to open mouth pursed lips towards the right and Min white bar corresponds to open mouth pursed lips towards the left. Open mouth pursed lips front (like a kiss) is automatically set as 66% of the open mouth pursed lips left/right interval.

Corner Depressor – Sets the interval for the mouth corners direction (happy->up and sad->down). If the black bar is closer to the Min white bar then the avatar will smile while if the black bar is closer to the Max white bar, the avatar's mouth corners will give him a sad expression.

Lip Stretch Left – Sets the interval for the min and max positions of the left mouth corner. When you are smiling, the value read by the tracker (the black bar) should be closer to the Max white bar (depending on how big the smile is, it might even go further to the right than the Max white bar specifies). When your mouth is in neutral position, the value read by the tracker (the black bar) should be either over the Min white bar or as close to it as possible.

Lip Stretch Right – Sets the interval for the min and max positions of the right mouth corner. When you are smiling, the value read by the tracker (the white bar) should be closer to the Max white bar (depending on how big the smile is, it might even go further to the right than the Max white bar specifies). When your mouth is in neutral position, the value read by the tracker (the white bar) should be either over the Min white bar or as close to it as possible.

Upper Lip Raiser – Sets the interval for the min and max values for raising the upper lip. When in default position, the value read by the tracker (the black bar) should be either on top of the Min white bar, or to the left of the Min white bar. When the upper lip is risen, the value read by the tracker (the black bar) should be closer to the Max white bar (if not on top of it, or more to the right, depending on how much your upper lip is risen).

Lower Lip Drop – Sets the interval for the min and max values for lowering the lower lip. When in default position, the value read by the tracker (the black bar) should be either on top of the Min white bar, or to the left of the Min white bar. When the lower lip is pulled down and the teeth are showing, the value read by the tracker (the black bar) should be closer to the Max white bar (if not on top of it, or more to the right, depending on how much your lower lip is pulled down).

Nose Up/Down - Sets the interval for the min and max values for raising and lowering the nose. When in neutral position, the value read by the tracker (the black bar) should be positioned in the middle between the Min white bar and the Max white bar. The Min white bar represents the value for which the nose will be completely lowered and the Max white bar represents the value for which the nose will be completely risen.

Eyebrow Left Interior – Sets the interval for the min and max values for raising and lowering the left interior eyebrow. When you look angry (therefore the left interior eyebrow is at its lowest point), the tracker read value (the black bar) should be the same as for the Min white bar (so the black bar should be either on top of the Min white bar, or to the left of it). When have a surprised expression (therefore the left interior eyebrow is at its highest point), the tracker read value (the black bar) should be the same as the one for the Max white bar (the black bar should be either on top of the Max white bar or a bit to the right of it).

Eyebrow Right Interior – Sets the interval for the min and max values for raising and lowering the right interior eyebrow. When you look angry (therefore the right interior eyebrow is at its lowest point), the tracker read value (the black bar) should be the same as for the Min white bar (so the black bar should be either on top of the Min white bar, or to the left of it). When you have a surprised expression (therefore the right interior eyebrow is at its highest point), the tracker read value (the black bar) should be the same as the one for the Max white bar (the black bar should be either on top of the Max white bar or a bit to the right of it).

Eyebrow Left Exterior - Sets the interval for the min and max values for raising and lowering the left exterior eyebrow. When you look angry (therefore the left exterior eyebrow is at its lowest point), the tracker read value (the black bar) should be the same as for the Min white bar (so the black bar should be either on top of the Min white bar, or to the left of it). When you have a surprised expression (therefore the left exterior

eyebrow is at its highest point), the tracker read value (the black bar) should be the same as the one for the Max white bar (the black bar should be either on top of the Max white bar or a bit to the right of it).

Eyebrow Right Exterior - Sets the interval for the min and max values for raising and lowering the right exterior eyebrow. When you look angry (therefore the right exterior eyebrow is at its lowest point), the tracker read value (the black bar) should be the same as for the Min white bar (so the black bar should be either on top of the Min white bar, or to the left of it). When you have a surprised expression (therefore the right exterior eyebrow is at its highest point), the tracker read value (the black bar) should be the same as the one for the Max white bar (the black bar should be either on top of the Max white bar or a bit to the right of it).

Eye Left Pos Left/Right – Sets the positioning interval for the left eye iris. When you are looking directly at the screen, the tracker read value (the black bar) should be in the middle of the interval determined by the Min and Max white bars. When you are looking to the left, the black bar should be either on top of the Min white bar, or a bit to the left of it. When you are looking to the right, the black bar should be either on top of the Max white bar or a bit to the right of it.

Eye Right Pos Left/Right – Sets the positioning interval for the right eye iris. When you are looking directly at the screen, the tracker read value (the black bar) should be in the middle of the interval determined by the Min and Max white bars. When you are looking to the left, the black bar should be either on top of the Min white bar, or a bit to the left of it. When you are looking to the right, the black bar should be either on top of the Max white bar or a bit to the right of it.

Eye Left Pos Up/Down – Sets the positioning interval for the left eye iris. When you are looking directly at the screen, the tracker read value (the black bar) should be in the middle of the interval determined by the Min and Max white bars. When you are looking up, the black bar should be either on top of the Min white bar, or a bit to the left of it. When you are looking down, the black bar should be either on top of the Max white bar or a bit to the right of it.

Eye Right Pos Up/Down – Sets the positioning interval for the right eye iris. When you are looking directly at the screen, the tracker read value (the black bar) should be in the middle of the interval determined by the Min and Max white bars. When you are looking up, the black bar should be either on top of the Min white bar, or a bit to the left of it. When you are looking down, the black bar should be either on top of the Max white bar or a bit to the right of it.

Eye Left Closed – Sets how opened or closed the left eye is. The Min white bar means the eye is opened and the Max white bar means the eye is closed. The interval should be decided depending on your preferences.

Eye Right Closed – Sets how opened or closed the right eye is. The Min white bar means the eye is opened and the Max white bar means the eye is closed. The interval should be decided depending on your preferences.

Eye Left Squint - Sets the limits for the squint animation on the left eye. The min white bar means the is not squinting and the max white bar means the eye is squinting. The interval should be decided according to preference.
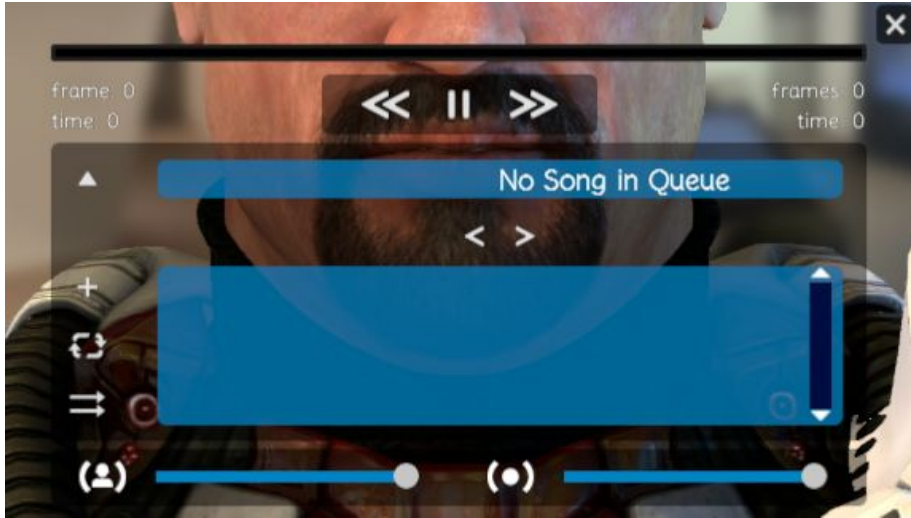
Eye Right Squint - Sets the limits for the squint animation on the right eye. The min white bar means the is not squinting and the max white bar means the eye is squinting. The interval should be decided according to preference.
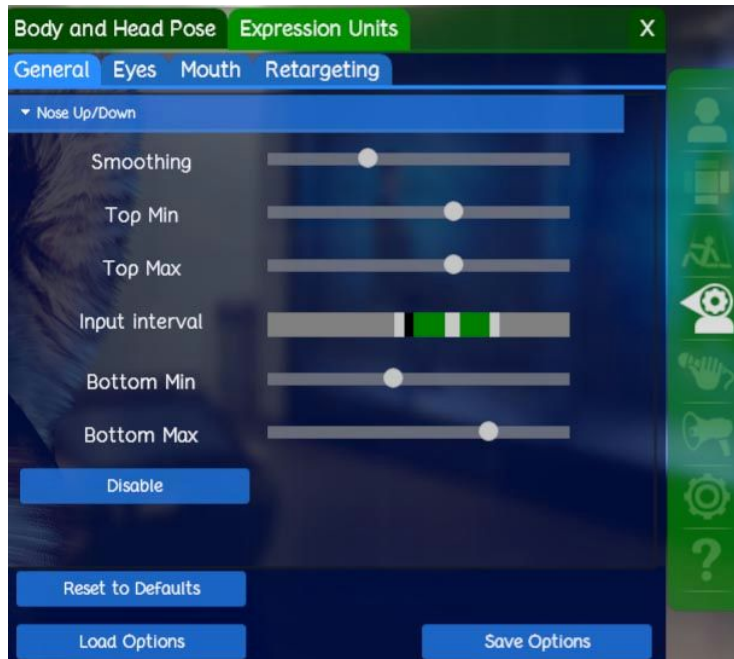
5.2.2.5. Karaoke Panel

 - only available in the Advanced Interface

Press the + sign to add a song to the playlist. Press the cycling arrows and the arrows pointing right buttons to Toggle Repeat and Shuffle ON or OFF, depending on preferences.

Press Play/Pause, Backward, Forward to navigate songs.

The triangle sign will hide the playlist, leaving only the upper side of the panel visible. Clicking the triangle once more will make the playlist appear again.

Supported file formats - *.mid, *.kar, *.avi


5.2.2.6. Voice Effects

- only available in the Advanced Interface -
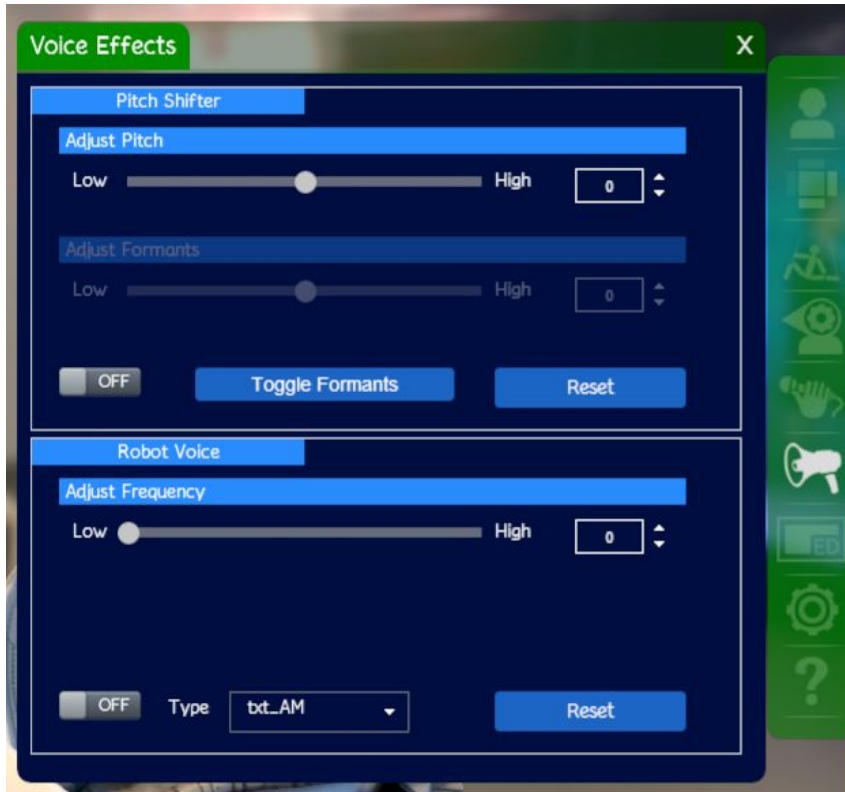
      Here's where you can choose to use sound effects to alter your voice.You can choose to use either the pitch shifter (adjusting the pitch using the slider) or use a robot voice, adjusting its frequency using the slider. Both/either can be reset to their default values using the Reset buttons.

5.2.2.7. General Options
- only available in the Advanced Interface -

Preferences

+General
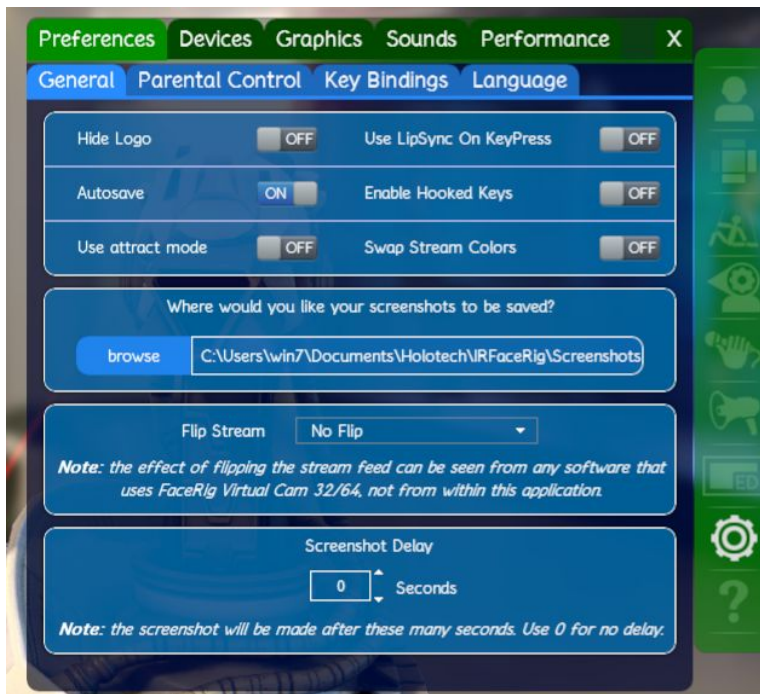
        Hide logo - toggle the FaceRig logo ON/OFF

        Autosave - toggle autosave for avatars settings ON/OFF

        Use LipSync On KeyPress - toggle Lipsync on keypress ON/OFF. When on, pressing H will enable lipsync. Enabling this will disable the ability to manually activate lipsync.

        Enable Hooked Keys - toggle hooked keys ON/OFF to be able to send the shortcut keys to FaceRig while focusing a different window.

        Swap Stream Colors - toggle ON/OFF if you are having issues with weird color distortion on your webcam feed.

        Use attract mode ON/OFF - will enable or disable attract mode videos being loaded after 2 minutes of the tracker being inactive/not detecting a face.

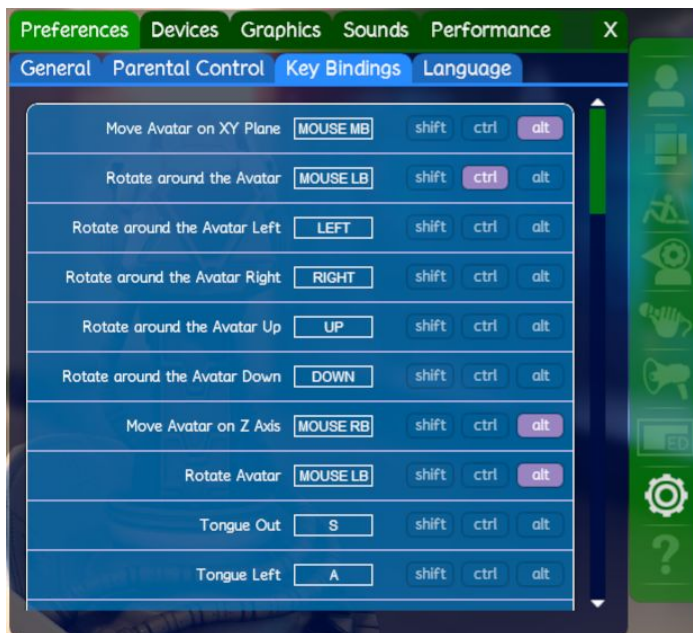You have the ability to select where your Screenshots will be saved.
You can flip the video from the output of the FaceRig Virtual Cam.

+Parental controls
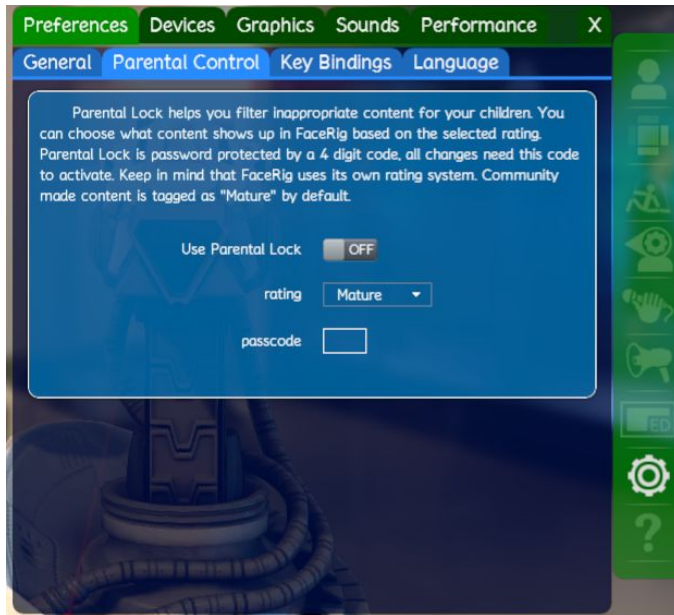
This tab lets you enable Parental controls. Enter the passcode, set the rating (mature/teen/everyone) and toggle it ON/OFF, the press Apply.

+Keybindings

This tab lets you assign shortcut keys to various features/actions.

Devices

Here is where you can change the device where FaceRig gets its video feed from (your webcam in most cases), adjust the source feed resolution. This is also where you select your microphone or whatever else device you want FaceRig to "hear" as a recording (input sound) device and where the sound output goes to. Usually users prefer to have the Audio Playback Device to their speakers/headphones, but this can also be set to the VB Audio virtual cable, so that any sound modifications made by FaceRig can be picked up by other software.

Graphics
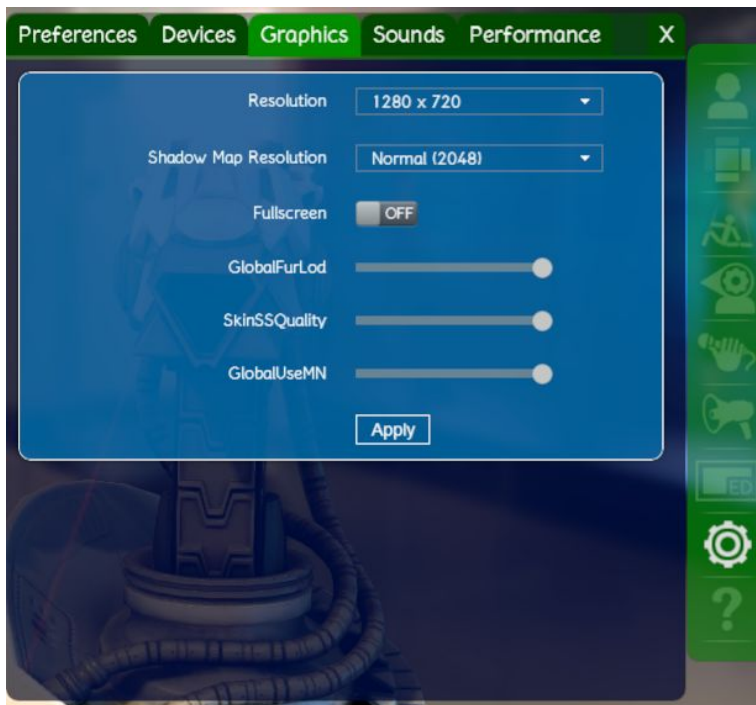
This tab allows you to change the resolution of the FaceRig window and adjust the Shadow Map Resolution (lowering them might result in better performance on lower spec machines)

You can also toggle Fullscreen ON/OFF.

The GlobalFurLod changes the quality of the fur (lower values will result in better performance on lower spec machines)

The SkinSSQuality changes the skin subsurface scatering quality(lower values will result in better performance on lower spec machines)

The GlobalUseMN toggles if the application should use multiple normals.

Don't forget to click Apply after making your changes :)

Sounds
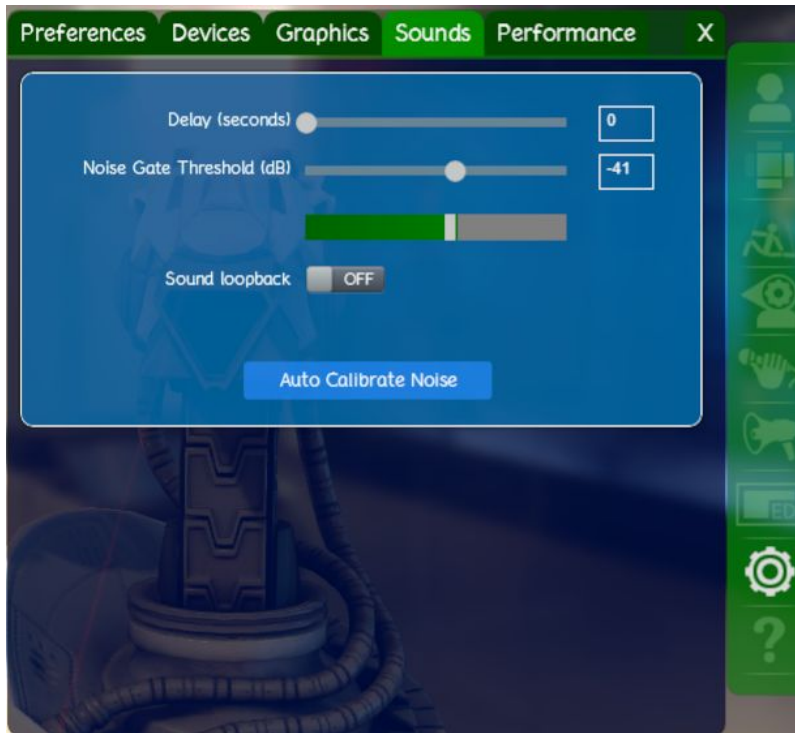
        To achieve perfect sync between the lipsync (lip movements and actual sound, you should adjust the delay)

The Silence Threshold (Noise Gate threshold) needs to be adjusted based on how much and loud the background noise is in the room where FaceRig will be used. The closer it is to the left side, the more background sounds it will catch and therefore the lipsync will be buggy, but it can't be too much to the right side either as then it might not clearly hear what you are saying. One way to adjust this is by using Auto Calibrate.

        Enabling Sound Loopback will let you hear the sound from your microphone or the modified sound if you're using Voice Effects.

        When using this option be mindful of the audio feedback phenomenon. To avoid it start with a very low microphone volume and a very low speaker volume (also a head-set with a noise cancelling microphone may be preferable to speakers when using FaceRig).   Allows the user to hear what the microphone is recording (the actual input for the program). This will help you figure out what environment sounds interfere with the lipsync and how well your voice is actually heard.

Performance
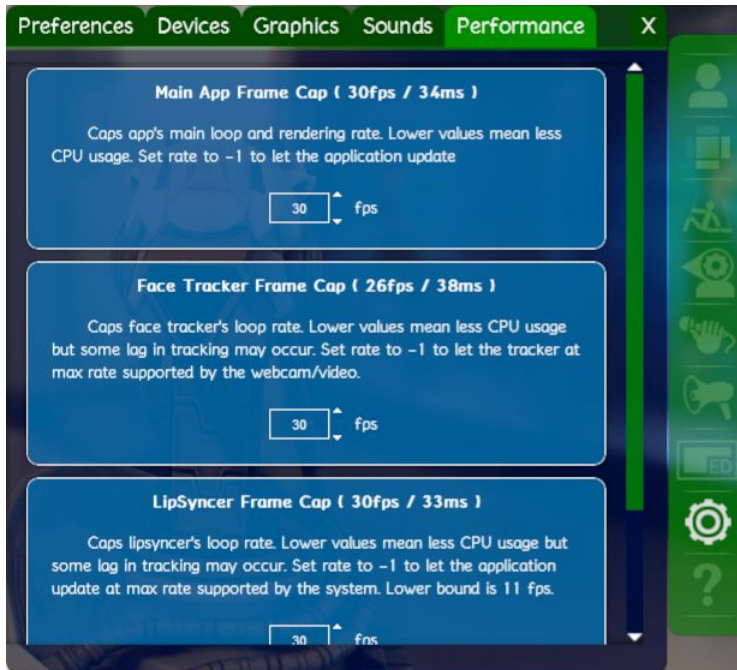
This tab allows you to set a frame cap for various FaceRig elements. This feature is aimed mainly at users with lower spec computers, allowing them to adjust performance of the FaceRig process; changes can be toggled on/off.
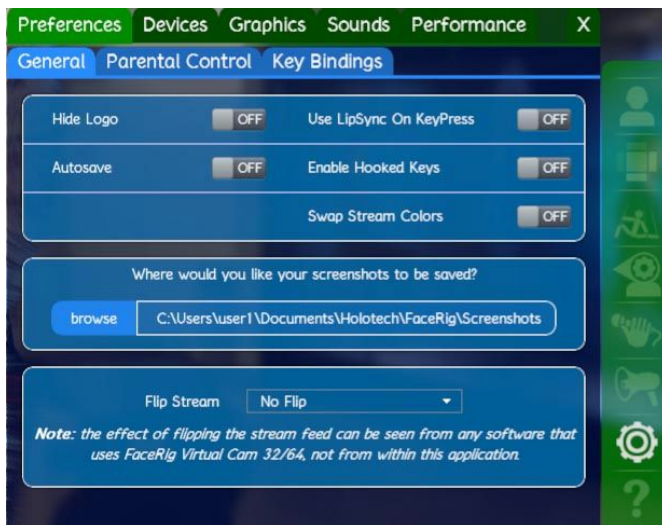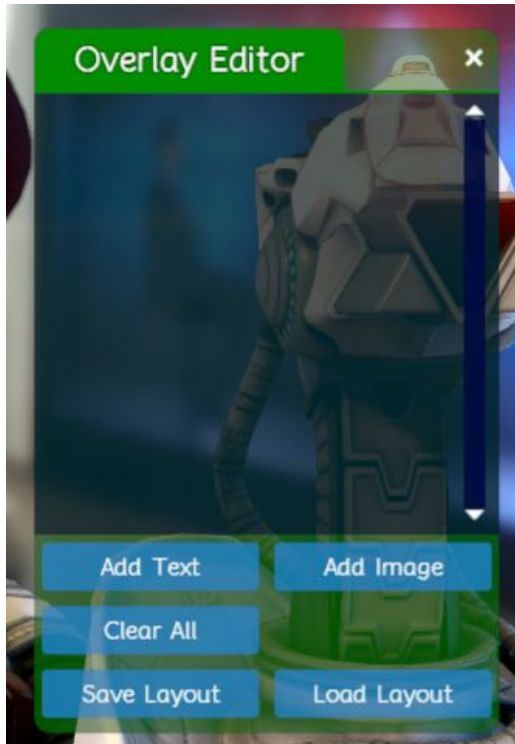

5.2.2.8. Overlay Editor
This is how the button looks in the mini-UI

This is how button looks in the advanced UI

This is how the overlay editor looks just as it opens

Click Add Text and then click anywhere on the FaceRig window screen to place the text there. Click inside the text box to edit the text.

You can set the color of the shadow the text drops (Drop Shadow), the horizontal coordinate at which the shadow is placed (H Shadow), the vertical coordinate at which the shadow is placed (V Shadow) and the amount of blur on the shadow (Blur).

You can close the Text Editor box at any time by pressing X and return to editing the text at any time while the Overlay Editor is open by clicking on a piece of text you've placed.
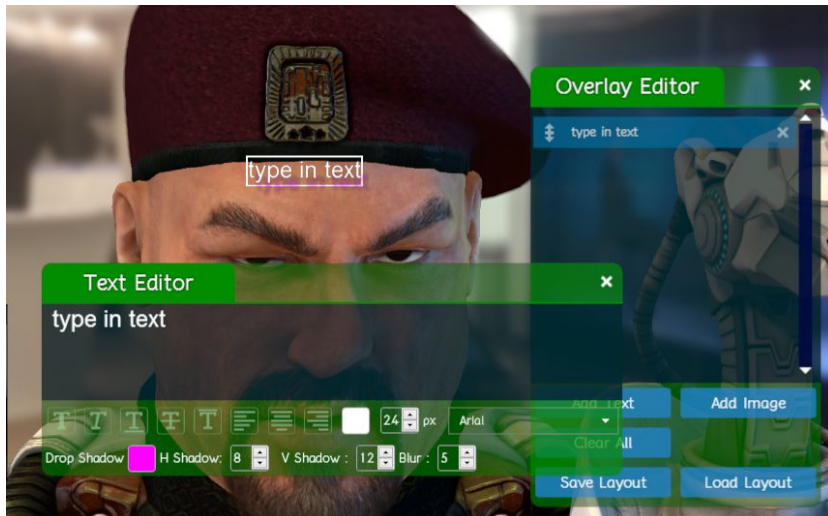

You can add an image by clicking Add Image and clicking anywhere on the FaceRig window screen to place it there.

You can set the Width or Height of the image separately or you can link them together using the link sign in between them.

You can rotate the image by setting a value to Rotation.

You can set the image shadow color (Drop Shadow), the horizontal coordinate at which the shadow is placed (H Shadow), the vertical coordinate at which the shadow is placed (V Shadow), the amount of blur on the shadow (Blur) and the amount of Spread.
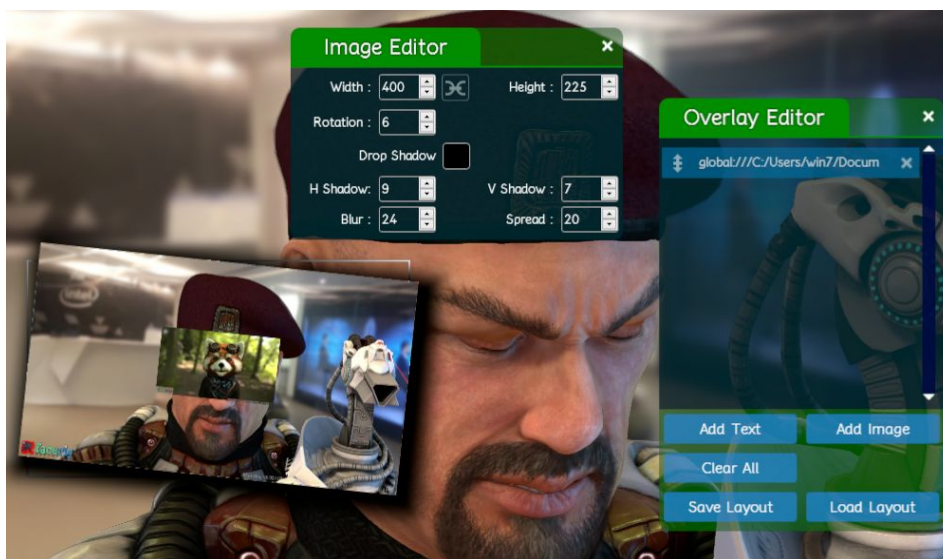
The Overlay editor allows you to rearrange layers by moving their bars inside the Editor box.

You can choose to Save Layout and Load Layout.

The Clear All button will delete all Overlay Editor elements.

6.How to use with Skype

 - only available in the Advanced Interface due to the Broadcasting menu option only being available on the Advanced Interface.
Steps
- Go to Advanced UI
- Toggle Broadcast ON
- Go to Skype>Tools>Video
- Select FaceRig Virtual Camera
- Save.

Make sure you have the FaceRig Virtual Camera installed.

If you are not sure about the first, first try restarting your PC, and if that doesn't work, do this:
make sure skype is closed (rightclick the icon and select QUIT)

Go to <steam install directory>\steamapps\common\FaceRig\Bin\prerequisites\FaceVirtualCamDriver
Rightclick the right installer for your system (and if you have Windows 10, use the Windows 8 one) and select run as administrator.

In order to use FaceRig with Skype, you first need to have both programs opened and working. Some users have reported needing to have the broadcasting option in FaceRig turned OFF while setting it.

While streaming, it will show the same image you are seeing, minus the interface.