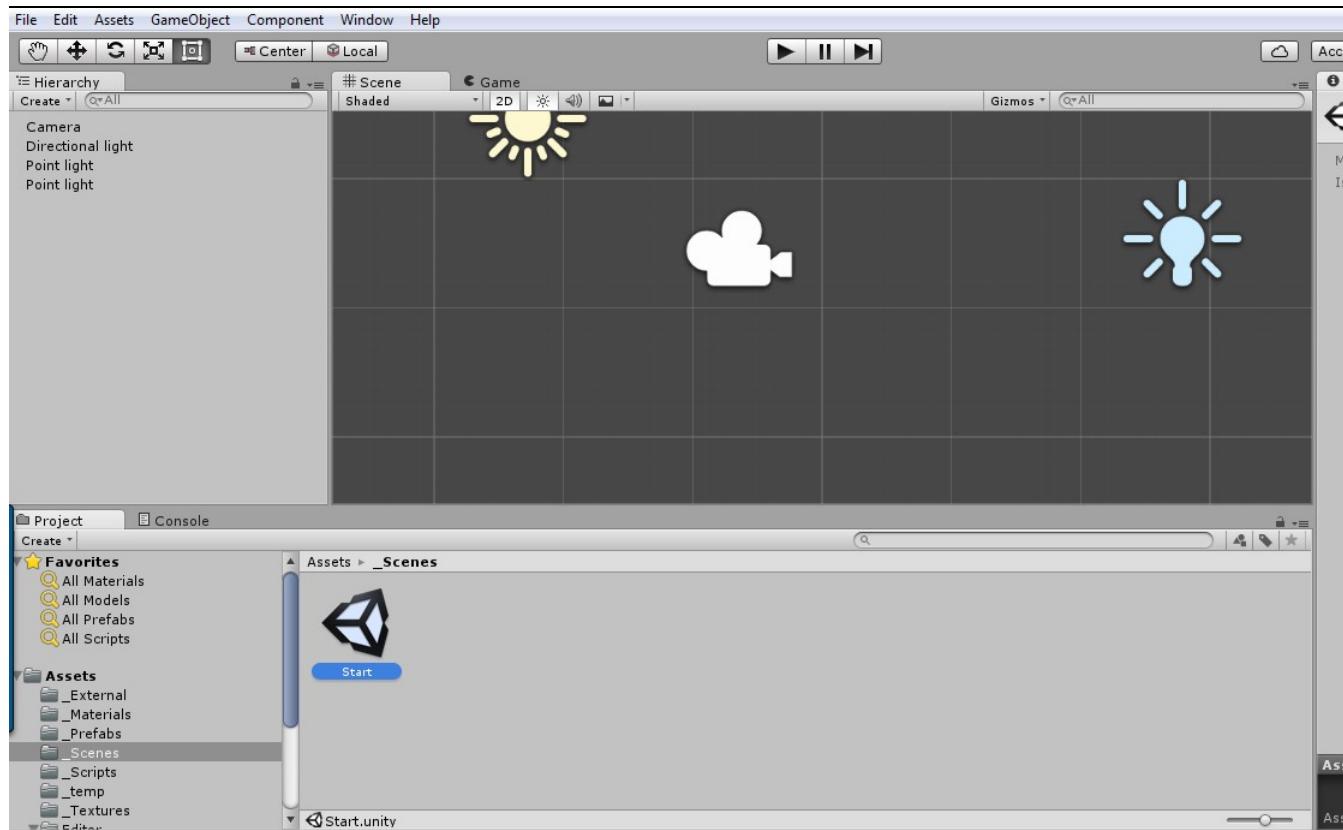


# Introduction

NaturalFront™ 3D Animation Plugin is an innovative plugin that focuses on one of the most challenging tasks in 3D industry – 3D facial animation.



## New to this version

Improvements:

- Animation of eyes;
- Eye-colors;

## Benefits

- The animation will be successful the first time and every time, without any manual intervention from you. This is **drastically different from conventional trial-and-error** that is unavoidably caused by rigging and creating morph targets.
- The unique 1-Click Animation technology enables you to **instantly** get animation you want, **without any need for rigging, morphing, key-framing or motion capture**. All you need to do is one-mouse-click.
- Since the technology is patented and NaturalFront is currently the only patent assignee, the substantial benefits cannot be found in any other legal software.

This software allows professional animators and freelancers to create high-quality 3D facial animation in a tiny fraction of time and cost that would be needed by using other software, since the plugin uses a highly innovative technology. By using the new technology, animation studios and freelancers can **substantially save the cost and shorten the time** for creating high-quality expressive 3D characters, and, by doing so, enjoy a substantial competitive edge.

## System Requirements

- Unity 5.6 or above
- Desktop Mac or Linux (64-bit preferably)

**To create and animate custom-built 3D heads quickly, the following should be considered as minimum:**

- 4-core i7/i5 CPU, or their equivalence.
- 3GHz;
- 64-bit OS;

- 8GB RAM.

## Download Plugin

NaturalFront 3D Facial Animation Plugin should be found in Unity Store pending Unity approval.

<https://www.assetstore.unity3d.com/>

## Package Contents

NaturalFront 3D Facial Animation Plugin package is at:

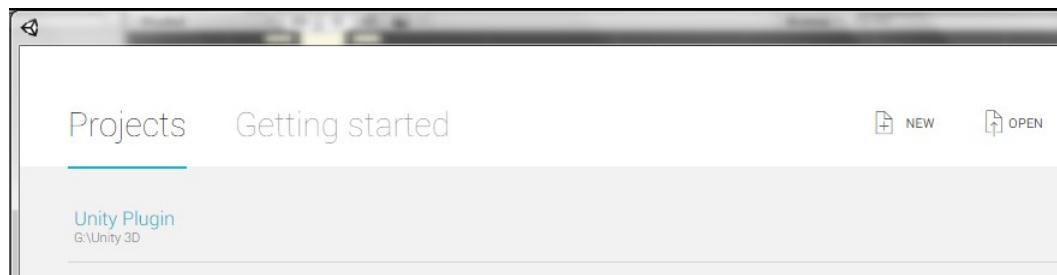
Assets\NIF3DFaceAnimFree32Mac

This package contains the following contents:

Name	Date modified	Type	Size
_CfgDat	19/01/2016 5:22 AM	File folder	
_External	19/01/2016 5:22 AM	File folder	
_FitDat	19/01/2016 5:22 AM	File folder	
_Materials	19/01/2016 5:22 AM	File folder	
_Prefabs	19/01/2016 5:22 AM	File folder	
_Scenes	19/01/2016 5:22 AM	File folder	
_Scripts	19/01/2016 5:22 AM	File folder	
_temp	19/01/2016 5:22 AM	File folder	
_Textures	19/01/2016 5:22 AM	File folder	
documentation	19/01/2016 5:22 AM	File folder	
Editor	19/01/2016 5:22 AM	File folder	
PluginTools	19/01/2016 5:22 AM	File folder	
Resources	19/01/2016 5:22 AM	File folder	
SoundManager	19/01/2016 5:22 AM	File folder	
readme.txt	12/01/2016 11:45 AM	Text Document	1 KB

## Installation

1. Sign In to Unity 3D software.
2. Under **File** menu, click **Open Project**.
3. Select **Open**.
4. Locate NaturalFront 3D Facial Animation Plugin folder on your computer.
5. Click **Select Folder**.



All package contents will be imported in your Unity 3D project and you're ready to start bringing a 3D face to life!

## Features

- Realistic 3D heads.
- Extremely fast and simple modeling and animation, without any need for rigging, morphing, key-framing or motion capture.
- Realistic and wide-range of facial expressions.
- Realistic and wide-range of mouth-shapes.

- Simple and intuitive user interface.
- Supports 64-bit platform (preferably) and 32-bit.
- Free to use.

## Features only available in other versions

Features available in paid versions of NaturalFront Unity plugin:

- Automatic animation between key-frames
- Synchronization between animation and audio
- Supporting lip-sync.
- Exporting high-quality customized 3D-heads AND unlimited realistic animation to FBX files.

Instead of spending hundreds or even thousands of dollars on other software, and days or weeks to model and animate one single head, you can very easily get realistic custom-built 3D heads, as many as you want, in minutes or seconds, all within Unity.

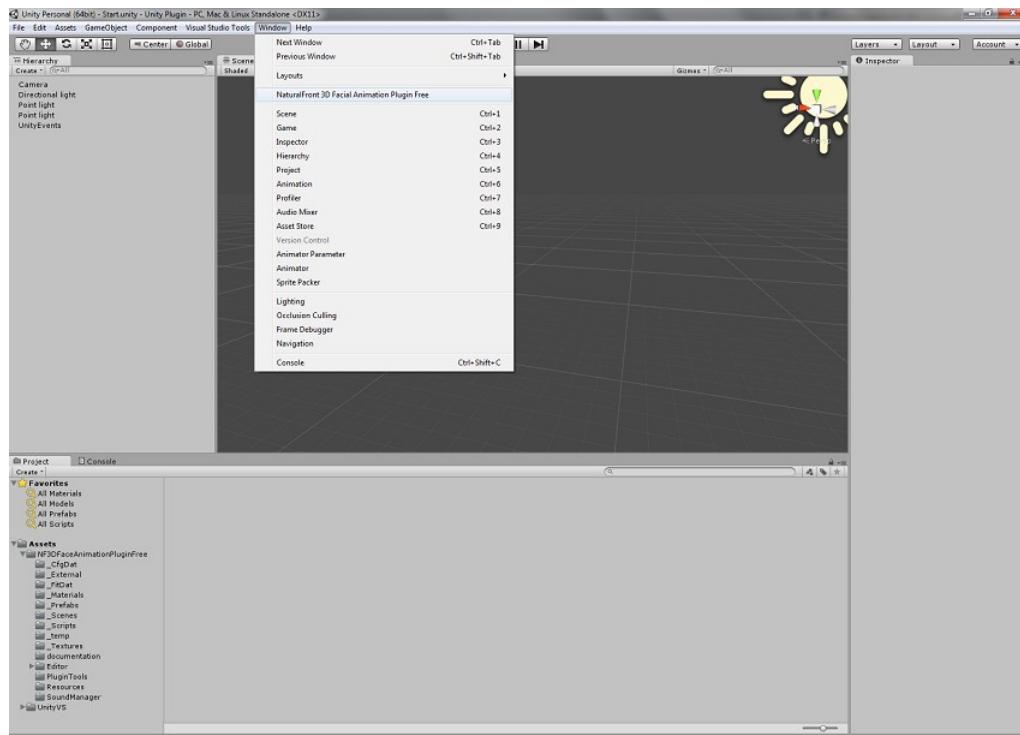
More importantly, once a 3D-head is successfully created, you can **instantly get expressions and mouth-shapes you want**, and blend them together, all by a few simple mouse-clicks, **without any need for rigging, morphing, key-framing or motion capture**.

The process is so intuitive and simple that it is **no more difficult than getting your own face generate expressions and talk**.

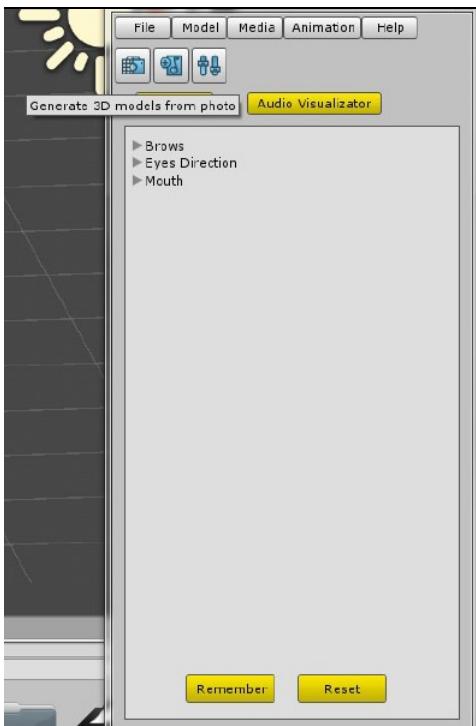
## How It Works?

### Start the Plugin

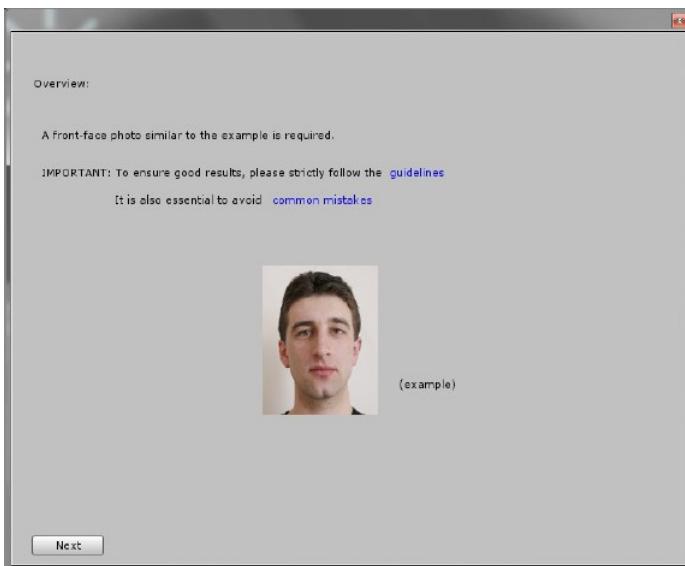
1. Click the **Window** menu option in Unity.
2. Click **NaturalFront 3D Facial Animation Plugin Free**.



3. Click **Generate 3D models from photo** to start a **simple process** that gets you realistic 3D heads with all the animation you want, with a few mouse-clicks, all within Unity.



To get started you only need a good quality head-shot photo of a real-human. Click the *guidelines* or *common mistakes* links to view 2 YouTube videos that show you DOs and DO-NOTs in taking and preparing a suitable photo.

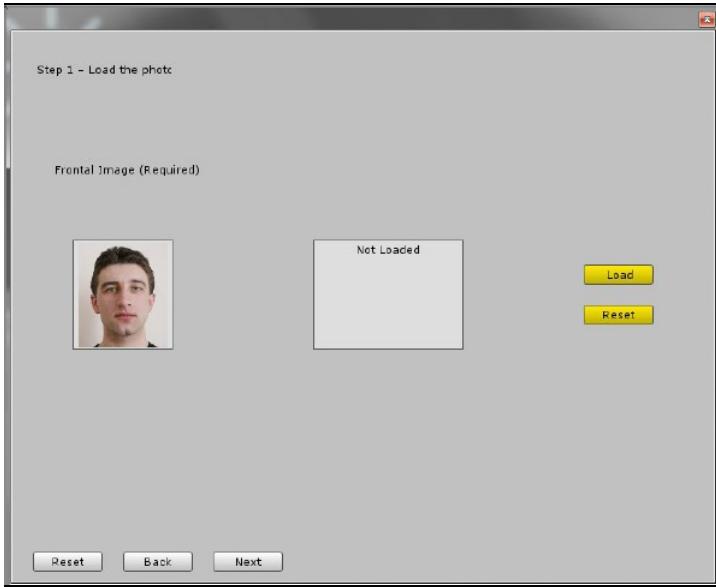


Click the **Next** button to start the process.

## Load Photo

Click **Load** and select a suitable photo stored in your computer.

Click **Next**.



## Click the Points

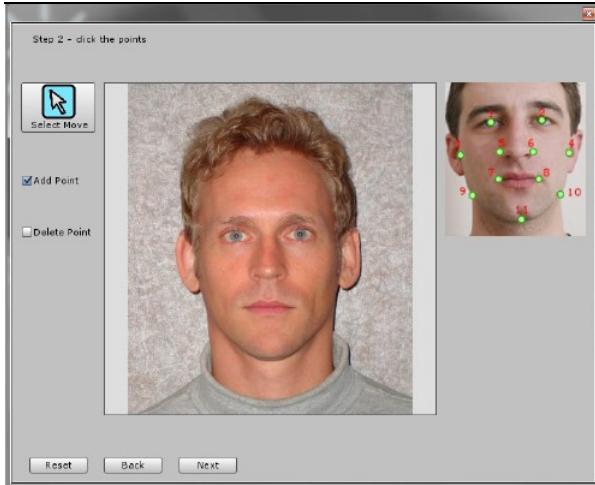
1. Following the example photo shown on the right hand side, left mouse click to place the corresponding points on your photo.

**Make sure to place the points exactly in the order and precise location as shown on the example photo.** Who can click more accurately than a professional like you?

Select **Undo** to remove previous clicks, one-by-one.

Alternatively, select **Delete Point** and click a point to delete it, in case you didn't place it exactly right.

2. Click **Next**.



## Select Preferences

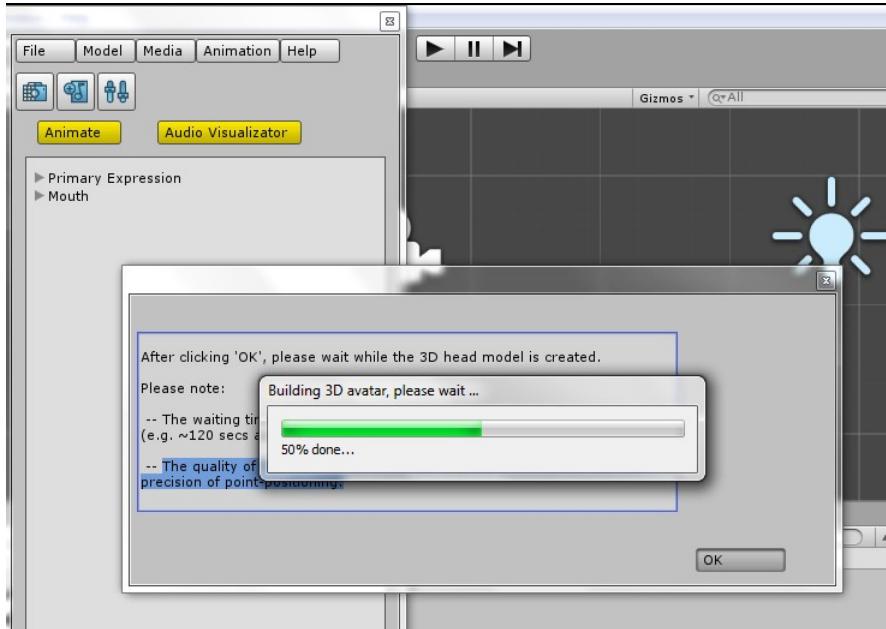
You can choose a processing speed depending on your requirements, or just simply use the default values.

### Choose A Processing Speed

1. Select **Speedy calculation with less tolerance of imprecise point-positioning**. Or,
2. Select **More tolerance of imprecise point-positioning at the cost of speed**.
3. Click **Next**.
4. Click **OK** to start building your 3D avatar.

The time it takes to create the 3D head will depend on the speed of your computer. With the latest CPU and native C-plus-plus code, the process can take less than **15 seconds**.

With code specifically created for Unity, the process generally takes around **120 seconds**.



## Animate 3D Avatar Head

The created 3D head has on average a few thousand vertices. This density has proved to be good for all sorts of facial expressions and mouth shapes.

### Add A Primary Expression

1. Select a primary expression for a 3D face: Neutral, Happiness, Sadness, Surprise, Fear, Anger or Disgust.
2. Set the strength of the primary expression using the slider.

**Note:** Moving the slider will automatically change the pose at the expression-level, without any low-level manual intervention from you, such as rigging or creating morph targets.

### Add A Mouth-Shape

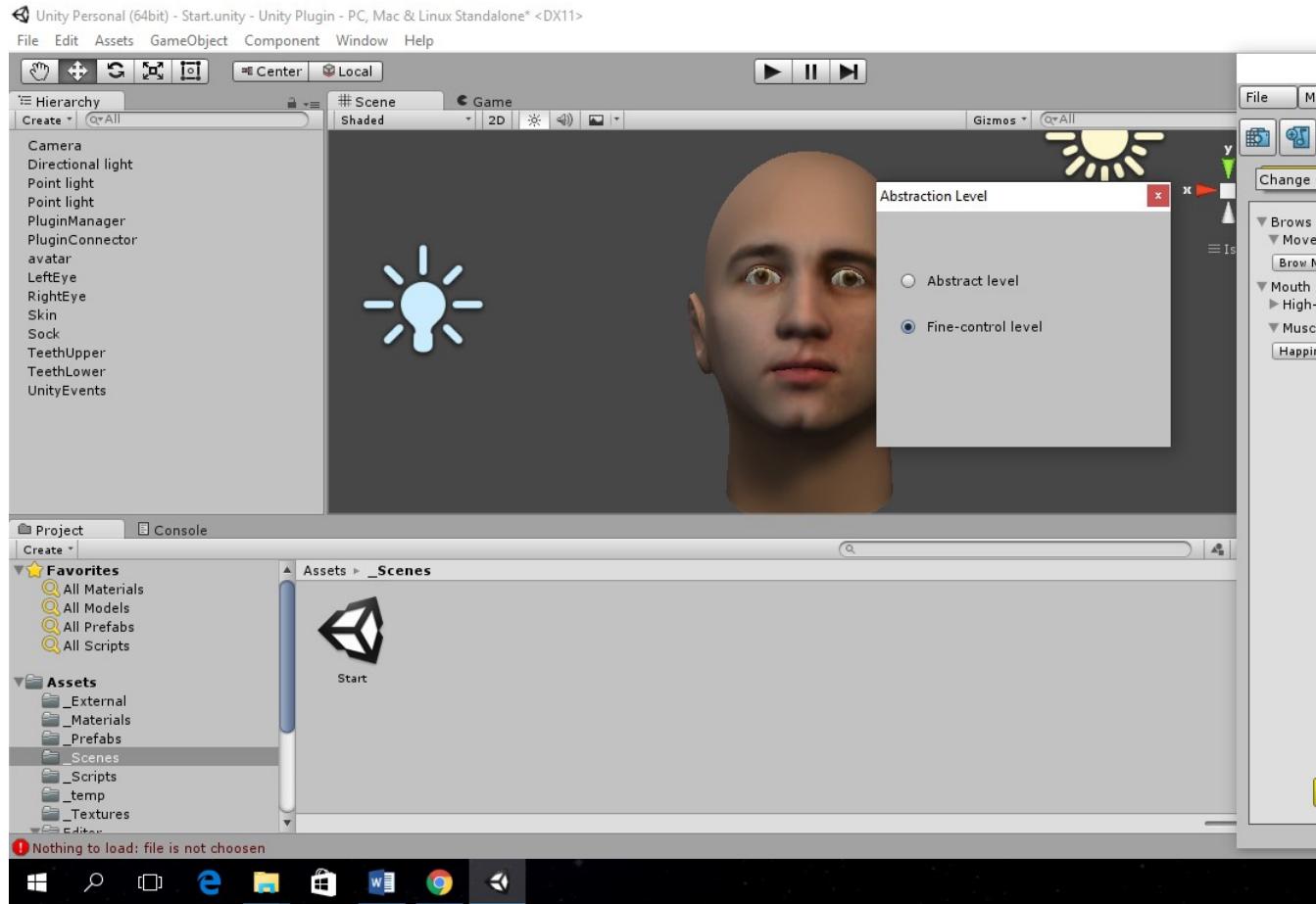
1. Click **Mouth** to set up a mouth-shape.
2. Click High-Level.
3. Set **Lip narrow – Wide** value using the slider.
4. Set **Jaw Close – Open** value using the slider.

**Note:** Moving the slider will automatically change the mouth shape, without any low-level manual intervention from you, such as rigging or creating morph targets. If the model already has an expression set, the mouth shape will automatically try to blend with that expression.



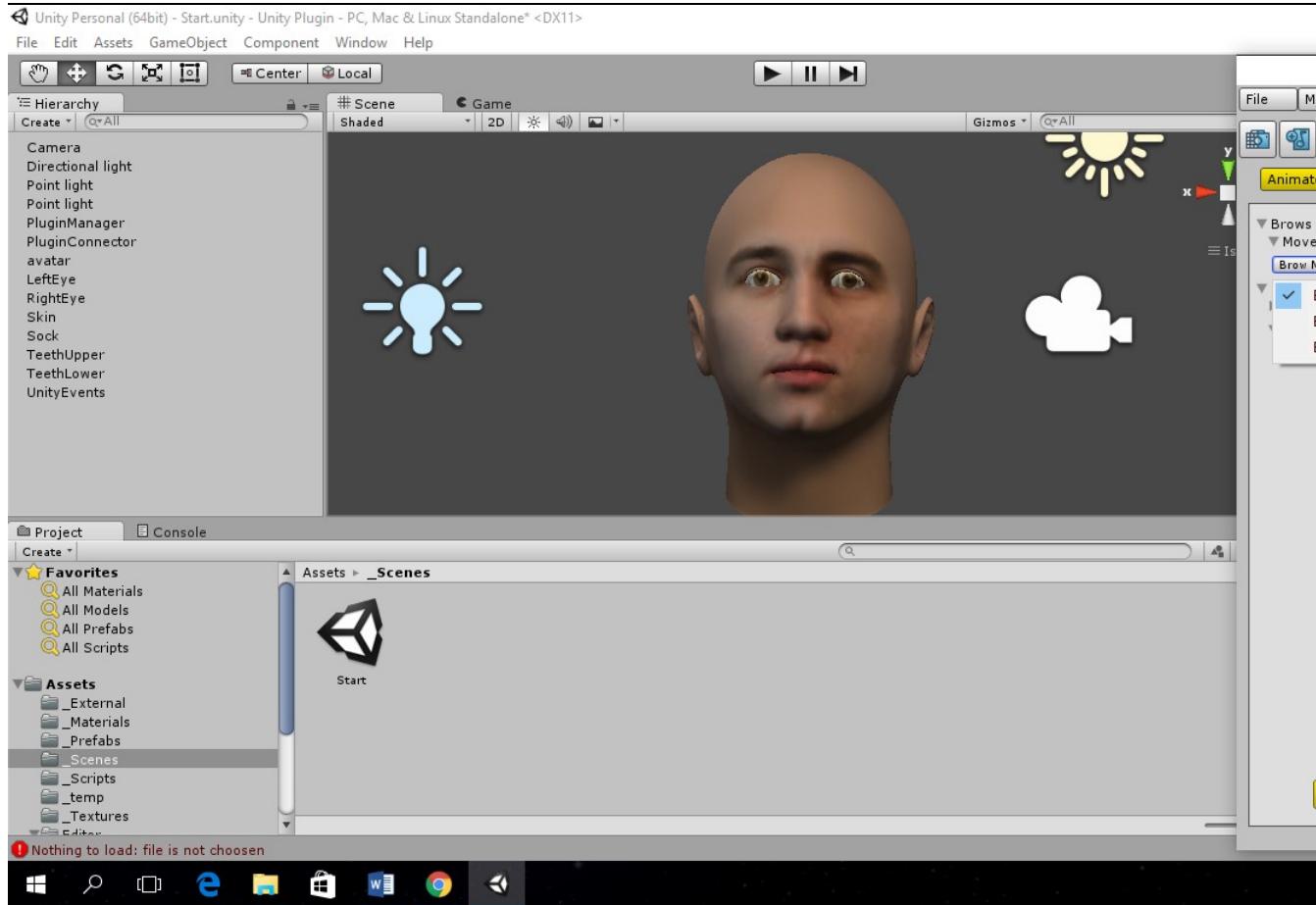
## Set Abstraction Levels

1. Click **Abstraction Level**
2. Selecting **Abstract level** enables you to coordinate the animation of the whole face. Or,
3. Selecting **Fine-control level** enables you to animate the eye-area and the mouth-area separately.



## Fine-control level: Set Brows

1. Click **Brows**.
2. Click **Movements**.
3. Select a movement option: Brow Mid-Up, Brow Mid-Down and Brow Out Up.
4. Set the strength of the movement using the slider.



**Note:** Moving the slider will automatically animate the eye-area according to your desired effect, without any low-level manual intervention from you, such as rigging or creating morph targets.

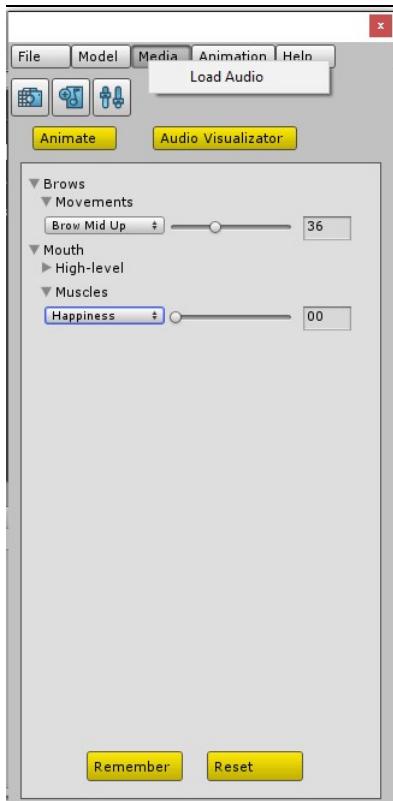
#### Fine-control Level: Set Mouth

1. Click **Mouth**.
2. Click **Muscles**.
3. Select Neutral, Happiness, Sadness, Surprise, Fear, Anger or Disgust. **These are essentially all the muscles you have on your mouth area!**
4. Set the strength of the muscle movement using the slider.

#### Note:

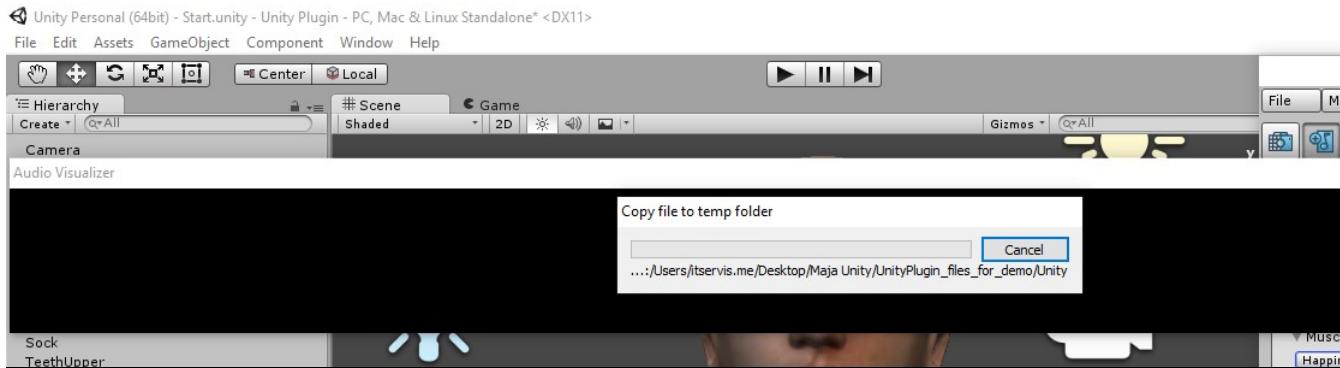
- Expressions are used to name the muscles, because 3D professionals prefer not to use anatomical names that are more accurate but less friendly.
- Moving the slider will automatically animate the mouth-area according to your desired effect, without any low-level manual intervention from you, such as rigging or creating morph targets.

## Set Audio Options (only available in Paid versions)



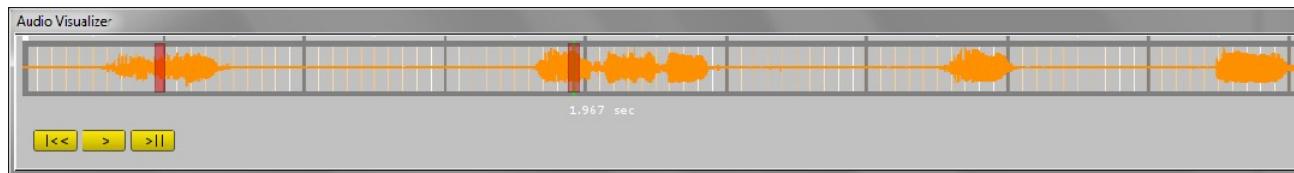
For super simple and fast lip-sync, you can also load and play audio.

1. Click **Load Media** Or,
2. Click **Media** in the plugin menu. Or
  1. Select **Load Audio**.
  2. Select a file from your computer and click **Open**.



To synchronize animation and audio, you can set key-frames in the audio window.

1. Click **Audio Visualizer**
2. Left-click to select a time in the audio track.
3. Click **Add Key**.



- If you have set a pose (by using any of previous procedures), now you can click **Save Key** to save the pose against this key-frame.



If you set a pose at one key-frame and a different pose at another key-frame, you can animate the 3D head automatically among these poses. All animation will be successful the first time and every time, without any manual intervention from you.

However, the automatic synchronization and animation are only available for Paid versions of NaturalFront Unity plugin except for the Free-version. If you get the software remember multiple poses against key-frames along the time-line, now you can click **Animate** button (at the top-left) to get animation that is automatically generated for you.

## Exit Plugin

To exit plugin:

- Click **File**.
- Select **Exit**.

## Pros & Cons

NaturalFront's unique philosophy is to make as simple as possible the task of the traditionally time-consuming and costly 3D-face-animation, and at the same time, the animation will be professional-quality.

These are the key benefits of using NaturalFront 3D Facial Animation plugin:

- Super-fast modeling and animation
- Substantial time-saver
- Substantially cost-effective

Since a user can achieve high-quality 3D modeling and animation without any low-level tasks such as rigging or creating morph targets, the saving of time and cost will be truly **substantial**, in contrast to *marginal saving* that a user might get used to and/or expected, prior to trying the plugin.

These are the limitations of the current version:

- This version is not designed for Windows; for Windows, please download another version from Unity Asset Store.
- only models and animates 3D heads, instead of complete 3D characters;

- only models and animates realistic human 3D heads, i.e. animals and unrealistic/fancy characters are not included;
- the current version focus on 3D modeling and animation, i.e. 2D is not currently supported;

However, we believe that, not only all these current limitations can be overcome in future releases, but also they are far outweighed by the benefits the plugin can offer now.

## Resources

To find out more about the NaturalFront™ 3D Facial Animation plugin, please visit the following YouTube tutorial video:

<https://www.youtube.com/watch?v=fw3r7sK1dbg>

## About reverse-engineering

If this software is being reverse-engineered, its behavior will be un-defined, and NaturalFront is not responsible for any consequences thereof.