

# MOJO

MOJO .....	1
Introduction.....	1
Basic Components .....	1
Scene .....	1
Track Group.....	1
Track .....	1
Action.....	2
Key .....	2
Common Operations .....	2
Creating a new Track Group .....	2
Finding a Track Group's Actor .....	2
Show/Hide a Track in a Track group .....	2
Create Multiple Tracks of the same category .....	2
Erasing a Track .....	2
Creating a New Action.....	3
Adjusting an Action's Time Offset .....	3
Creating an Output Key for an Action.....	3
Deleting an Action's Output Key .....	3
Attaching an Action to a Key.....	3
Tutorials.....	3
Sequencing Animations .....	3
Spacing Overlapping Actions.....	3

## INTRODUCTION

The cut scenes in Tribes®: Vengeance created in Mojo, a cut scene scripting tool that's included in the retail version of the game. This guide can be used to create new and original cut scenes in Tribes®: Vengeance.

ATTENTION: Mojo is recommended for experienced users and is not supported by technical support. For more advice on making modifications to Tribes: Vengeance visit the Tribes: Vengeance website at <http://www.tribesvengeance.com> and visit the community section for useful links to fan-based developer communities.

## BASIC COMPONENTS

### Scene

A scene consists of a set of keys, track groups and actions placed on tracks in the track groups. A single level can have multiple scenes stored for it.

### Track Group

A track group contains a set of tracks and actions to be played on a single actor in a scene. Each actor can have at most one track group. A track group is shown in the track pane UI as blue bar with the actors name in it. Track groups can be expanded or collapsed to show their component tracks and actions. Selecting a track group by clicking its title bar will also highlight the associated actor in the viewport window.

### Track

Every track group can contain multiple tracks, with each track representing a different category of actions. Actions can only be placed on the type of track that they belong to. Right clicking on a track group title bar will bring up a list of possible tracks for the given actor. Tracks can be shown/hidden by selecting them in this popup menu. It is also possible to create extra tracks for a given category.

## Action

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Actions are represented by orange boxes placed on tracks, and a handle attached to these boxes by a dotted line. The handle shows the key that the action is currently attached to. When an action is selected, its settings can be modified in the properties window. When an action is first placed in a scene, it will have a red border around it to show that it is 'dirty'. The next time the scene is played through, the actions length will be recorded, and the action will no longer be dirty.

## Key

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Keys allow the timing of actions to be synchronised correctly, so that one action (or set of actions) will never start playing until another action has completed. Any action can have a single output key created for it (represented by a vertical line in the track pane view). Other actions can then be attached to this key by dragging their handles close to the key so that they 'lock' on to it. During playback, when the keyed action finishes, it will 'trigger' its output key, and all actions attached to that key will then start playing. By dragging the box part of actions away from the key they are attached to, they may also be set to play at a certain time offset after the key triggers. All scenes contain at least one key, the root key, which is the first key triggered when the scene starts and is always at time 0.

# COMMON OPERATIONS

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## Creating a new Track Group

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There are multiple ways to create a track group for a given actor. Note that none of these will do anything if a track group already exists for the actor.

### *By Viewport Selection*

Right click on the actor in the viewport window (they should highlight green), and choose 'Edit Tracks' in the popup menu. Note that this cannot be done for the player actor.

### *By Named list*

Right click in an empty area in the track pane view (ie on the green background), and choose 'Add Track For Actor'. This will bring up a list of actor names to choose from.

### *Camera and Player Track Groups*

The camera and player actor can have track groups added for them by selecting 'Add Camera Track' or 'Add Player Track' from the 'Scene' menu.

## Finding a Track Group's Actor

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Right click on the title bar of the track group, and select 'Find Actor'. This will move the viewport camera so that it is looking at the actor associated with the track group.

## Show/Hide a Track in a Track group

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Right click on the title bar of the track group to bring up a list of track categories. Different track categories can be shown or hidden by selecting them from this menu. In the case where multiple tracks have been created for the same category, this will show/hide all the tracks belonging to that category.

## Create Multiple Tracks of the same category

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Right click on the left header component of the track (where the track category is shown, eg 'Position') and select 'Create new <X> Track', where <X> is the category of the track. A blank track of the same category will then appear under this track. Once multiple tracks have been created, actions can be dragged between tracks of the same category.

## Erasing a Track

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Right click on the left header of the track, and choose 'Erase Track'. Note that unlike hiding a track, this will erase all actions on the track.

## Creating a New Action

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Right click in a track and choose Add Action->(Action Type). The action will be created at the clicked point, and attached to the nearest key on the timeline. Only actions that belong to the tracks category will be shown in the menu.

## Adjusting an Action's Time Offset

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Left click on the action and drag it left or right to adjust its time offset in the scene. This offset is relative to the key that an action is attached to, so actions can never be dragged to before their key's time. The left and right arrow keys can also be used to nudge actions (holding ctrl will do an even smaller nudge).

## Creating an Output Key for an Action

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Right click on the action and choose 'Create Output Key'. The new key will appear as a vertical line attached to the action.

## Deleting an Action's Output Key

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Right click on the action and choose 'Delete Output Key'. Any actions that were attached to this key will be automatically reattached to the root key after the key has been deleted.

## Attaching an Action to a Key

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Left click on the action to select it... its handle will become highlighted. Left click on the handle and drag it left and right in the track. As the handle gets close to keys, it will lock onto them. Release the mouse button when the handle is locked onto the required key.

# TUTORIALS

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## Sequencing Animations

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When multiple animation actions have to play in sequential order, with one animation blending to the next, multiple keys must be used to setup the sequencing correctly. If all the animation actions are simply attached to the root key and their offsets adjusted so that they play sequentially, then there will always be glitches in the playback, as it is never guaranteed that there won't be small amounts of overlap in the individual animation sequences. They should be setup as follows:

- Right click on the first animation action in the sequence, and choose 'Create Output Key'. A vertical line representing the key will appear in the track view.
- Left click on the second animation action in the sequence to select it. Click and drag its handle until it is attached to the key that was created on the first animation.
- Drag the box part of the second animation action so that it is flush against the first animation's output key.
- Create an output key for the second animation action, and attach the third animation action to it, etc
- Rinse and repeat.

## Spacing Overlapping Actions

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In the case where there are multiple actions on the one track that all overlap, these actions can be spaced out on multiple tracks to make things easier to work with.

- Right click on the header component of the track, and choose 'Create New blah Track'
- Click on one of the actions in the original track, and drag it onto the new track (or use the up/down arrow keys)

As many new tracks as required can be created.