Quick Simulation Setup

This page provides information on the simulations that can be setup through the Phoenix Toolbar.

Overview

The Quick Simulation Setup buttons on the Phoenix Toolbar allow for quick setup of many commonly used fluid simulations. Pressing any of the buttons will convert the currently selected objects into emitters for the simulation and will additionally create other helper objects and set up V-Ray materials depending on the type of simulation.

If no objects are selected, pressing any of the buttons will automatically create a sphere and convert it to an emitter for the simulation and will additionally create other helper objects and set up V-Ray materials depending on the type of simulation.

For a quick guide to manually setting up many common Phoenix scenes, see Phoenix in a Nutshell.

UI Path: ||Phoenix Toolbar|| > Quick Simulation buttons

Fire/Smoke Quick Setups

The Fire/Smoke Quick Setups create a Fire/Smoke Simulator based on the selected object(s), and sometimes also create additional helpers and components.

Fire

Sets up a simulation where the fire is directly emitted as temperature from the selected object(s). A PHXTurbulence helper is added to make for a more interesting fire behavior.

Burning Fuel

Sets up a simulation where the selected object(s) emit fuel which ignites and produces smoke on burning. Drag particles are emitted from the Source, and then shaded as embers using a Particle Shader component with its Mode set to Point.

Explosion

Directly releases temperature and smoke from the selected objects (s). Each object would also emit a different smoke color. Note that the discharge is animated in time.

Gasoline Explosion

Sets up a simulation where the selected object(s) emit fuel which ignites and explodes with high-energy, gradually burning out and producing smoke. Note that the discharge is animated in time.

Large Smoke

Sets up a simulation where the selected object(s) emit dense, heavy smoke.

Cold Smoke

The object(s) emit smoke with sub-zero temperature in Celsius, which floats down and creates a Dry Ice effect.

Cigarette Smoke

The selected object(s) emit temperature that drives a fine, thin smoke. Drag particles are emitted from a Source, and then shaded using a Particle Shader component with its **Mode** set to **Point**. A Discharge Modifier with its **Modify Particles by** parameter set to **Normal Z** is used so particles are only emitted upwards. Finally, a Turbulence is added to add more interesting smoke behavior.

Candle

The object(s) emit temperature and form a smooth flame shaded with a specific fire color gradient.

Timelapse Clouds

The volume of the selected object(s) is filled with separate clouds which are animated to gradually move. The preset works by imprinting smoke in the simulator from a noise texture using a **Volume Brush** mode Source. The **Brush Effect** is pretty low, so the smoke would gradually appear over time. The noise texture is animated and it also offsets with time, so the cloud shapes would evolve over time and move. There is an additional Turbulence force added to the scene to break the smoke up, and also a Plain Force blowing against the direction of movement of the clouds. In order for the smoke not to fill up the entire simulator over time, **Smoke Dissipation** is enabled under the Dynamics rollout and it's a tug of war between this option and the **Brush Effect** of the Source during the simulation.

Jet Engine

The object(s) emit temperature and form a smooth flame shaded with a specific fire color gradient.

Liquid Quick Setups

The Liquid Quick Setups create a Liquid Simulator based on the selected object(s) in addition to modifiers and shaders as needed.

Tap Water

The object(s) emit water with a specific surface tension.

Milk

The object(s) emit milk and the liquid is shaded using the Milk preset of the VRayFastSSS2.

Beer

The object(s) emit beer with foam particles with high bubble-to-bubble interaction forces. This is done through a Particle Shader component with its **Mode** set to **Bubbles**. A Discharge Modifier with its **Modify Particles by** parameter set to **Normal Z** is used so particles are only emitted downwards. Note that the discharge is animated in time towards zero.

Coffee

The object(s) emit coffee with foam particles. The foam is shaded using a Particle Shader component with its **Mode** set to **Cellular**. A Discharge Modifier with its **Modify Particles by** parameter set to **Normal Z** is used so particles are only emitted downwards.

Honey

The object(s) emit viscous honey. Note that the discharge is animated in time towards zero to show the specific coiling when the flow thins out..

Liquid Chocolate

The object(s) emit viscous chocolate that wet and stick to any obstacle objects. A Discharge Modifier with its **Modify Particles by** parameter set to **Normal Z** is used so particles are only emitted downwards. Note that the discharge is animated in time towards zero.

Blood Splatter

Emits a short burst of blood from the emitter object(s). Note that the discharge is animated in time towards zero.

Paints

Emits a slightly viscous paint with high surface tension from the selected object(s). Each object would emit a different color of paint so that colors can be mixed. The scene uses the PhoenixFDGridTex to transfer the RGB color of the simulation onto the liquid mesh's material for rendering.

Ink in Water

Each selected object emits a different color and weight of ink composed of drag particles. The particles are shaded using a Particle Shader component with its **Mode** set to **Point**. A Discharge Modifier with its **Modify Particles by** parameter set to **Normal Z** is used so particles are only emitted downwards. Note that the discharge is animated in time towards zero.

Waterfall
The object(s) emit a large amount of water with splash, foam and mist particles. Three different Particle Shaders are used with their **Mo des** set to **Bubbles**, **Splashes**, and **Fog** respectively. A Discharge Modifier with its **Modify Particles by** parameter set to **Normal Z** is used so particles are only emitted downwards.

Ocean
The object(s) are placed in a fish tank container, surrounded by an infinite animated ocean surface. Foam and splash particles are emitted and are shaded with two different Particle Shaders with their **Modes** set to **Bubbles** and **Splashes** respectively. The objects can be animated to sail onto the ocean, emerge, submerge or splash into the tank.

Stormy Sea
The object(s) are placed in a fish tank container. A Wave Force creates large waves inside the simulator. Foam, splash and mist particles are emitted and are shaded with three different Particle Shaders with their modes set to **Bubbles**, **Points** and **Fog** respective ly. The objects can be animated to sail onto the liquid surface, emerge, submerge or splash into the tank.

Ice Cubes
The object(s) are converted to Active Bodies, colliding with one another and with slight variation of the Density for each one. The simulator is prefilled with liquid using the **Initial Fill Up** option.

Speedboat
The object is converted to an Active Body and propelled forward by a Thruster force. The movement and rotation of the object are locked using an Axis Lock so that it moves forward in a straight line.