

# WarpSpeed.js

<https://fdossena.com/?p=warp speed/i.frag>

## Initialization

First, include warp speed.min.js in your page's head section:

```
<script type="text/javascript" src="warp speed.min.js"></script>
```

A canvas element in the page is required, to be used as the target. Give this canvas an id.

To initialize with the default settings, simply use:

```
new WarpSpeed("canvasId");
```

or you can use your own settings:

```
new WarpSpeed("canvasId",{param1:value1, param2:value2, ...});
```

We'll see the config parameters later.

An instance of WarpSpeed will be returned, which can be manipulated to change speed and other parameters at run time.

When not visible, WarpSpeed will not render to the screen but will still use some resources.

See the example html files for some code ready to copy-paste.

## Configuration parameters

These parameters can be used when initializing WarpSpeed by passing them as an object like this: {paramName:paramValue, paramName2:paramValue2, ...}

All parameters are optional, if not specified, the default value is used.

Most parameters can be changed at run time by setting the appropriate variable on a WarpSpeed instance, like this: obj.param=value;

Parameter	Variable name	Description
speed	SPEED (read only)	The speed at which we're moving through the starfield.  Default value: 0.7
targetSpeed	TARGET_SPEED	The speed we want to reach (omit for constant speed). Change this to set a new speed.  Default value: speed
speedAdjFactor	SPEED_ADJ_FACTOR	How fast the speed changes from the current speed to target speed.  0=no change 1=instant change

		Default value: 0.03
density	DENSITY (read only)	Star density. Number of stars=density*drawDistance  Default value: 0.7
shape ("circle"/"square")	USE_CIRCLES (true/false)	Drawing squares instead of circles is faster, but looks less pretty.  Default value: "circle"
warpEffect	WARP_EFFECT	Draws lines instad of just the stars. Slower.  Default value: true
warpEffectLength	WARP_EFFECT_LENGTH	How long the warp strikes are in depth units.  Default: 5
depthFade	DEPTH_ALPHA	Stars that are further from the camera are less opaque. Slower.  Default value: true
starSize	STAR_SCALE	Size of stars.  Default value: 3
backgroundColor	BACKGROUND_COLOR	Background color. Alpha not recommended.  Default value: "hsl(263,45%,7%)" (very dark desaturated indigo)
starColor	STAR_COLOR	Star color. Alpha not recommended.  Default value: "#FFFFFF"
	LAST_RENDER_T (read only)	This variable contains the time it took to render the last frame in ms.

Use the editor to play around with these settings and find the config you prefer.

## Methods

These methods can be called on an instance of WarpSpeed:

- pause()
- resume()
- destroy()

Additionally, the WarpSpeed class itself has a destroy("canvasId") method to destroy a specific instance if you don't have a reference to the instance

associated to that canvas.

## Compatibility

WarpSpeed.js requires a browser that supports the Canvas element. This means it works on IE9+.

A more modern browser with support for requestAnimationFrame and window.performance will provide a much better experience.

## License

GNU LGPL, version 3 or newer.

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