



Fog Screen

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ABSTRACT

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Fog Screen is breakthrough technology that allows projection of high quality images in the air. It is currently the only walk-through projection screen. You can literally use the air as your user interface by touching only the air with your bare hands. The screen is created by using a suspended fog generating device with no frame around, and works with video projectors. The fog they use is dry, so it doesn't make you wet even if you stay under the Fog Screen device for a long time. The fog is made of ordinary water with no chemicals what soever. With two projectors, you can project different images on both sides of the screen. It is a display device which is the application of computer graphics.

INTRODUCTION

Inspired by science fiction movies such as Star Wars, two Finnish virtual reality researchers created the Fog Screen to recreate some of the effects from these movies in real life.

1. Fog Screen is an exciting new projection technology that allows to project images and video onto a screen of “dry” fog, creating the illusion that the images are floating in midair.

2. Fog Screen is the world's first immaterial walk-through projection screen. Its Qualities, in particular the walk-through capability, set Fog Screen apart from other displays and thus created a seemingly successful market for its products.
3. The Fog Screen is an innovative display technology that allows for projections on a thin layer of dry fog. Imagine the traditional pull down screen that is found in many classrooms today. Instead of a screen being pulled down from the ceiling, fog is pushed down and held in place by several small fans, allowing for a consistent surface for display.

BRIEF HISTORY

It was invented by two Finnish virtual reality researchers Fog Screen, which was initially known as WAVE (Walkthrough Virtual Environment), was announced in December 2001. The first public demonstration of Fog Screen was in Finland in October 2002. Till then it is in use in different areas and improvements are being done to increase its effectiveness. Inspired by science fiction movies such as Star Wars, two Finnish virtual reality researchers created the Fog Screen to recreate some of the effects from these movies in real life. Fog screen is one such immaterial screen and uses the method of fog on which to project imagery (DiVerdi et al. 2006).

Fog Screen is a patented technology, which Rakkolainen, one of the senior researchers and founders behind this technology, describes as "...an immaterial projection screen that consists of air and a little humidity, and enables high-quality projected images in thin-air, as well as many new applications." Palovuori (2006) writes that the Fog Screen creates a large non-turbulent airflow to protect a dry fog flow inside it from turbulence. The Fog Screen debuted at the 2002 Turku Science Fair. The Fog Screen Company was founded in 2003 and volume production began in 2004. An interactivity add-on, which lets you write "in the air" and even control a computer, debuted in 2005. The Fog Screen One launched in 2006

FOG SCREEN

It is one type of advanced projecting device which consumes water and electricity to form fogs on which images are projected



WORKING

Fog Screen is a patented technology, which Rakkolainen, one of the senior researchers and founders behind this technology, describes as,“...an immaterial projection screen that consists of air and a little humidity, and enables high-quality projected images in thin-air, as well as many new applications.”.

Fog Screen is an exciting new projection technology that allows you to project images and video onto a screen of “dry” fog, creating the illusion that the images are floating in midair. Fog Screen is a just that, a 2D projection screen, but not a common opaque screen like hundreds of others in the market, rather an immaterial screen. The word immaterial in relation to display systems refers to those that create that sense of imagery floating in mid-air, usually created using water, smoke or fog. Fog screen is one such immaterial screen and uses the method of fog on which to project imagery.

The Fog Screen is an innovative display technology that allows for projections on a thin layer of dry fog. Imagine the traditional pull down screen that is found in many classrooms today. Instead of a screen being pulled down from the ceiling, fog is pushed down and held in place by several small fans, allowing for a consistent surface for display. A user may simply stand back and view the material but can also reach or walk through the fog. A user may also interact with objects displayed in the fog with the use of an input device like a data glove, a tracked wand, or simply using hands (see Technical Analysis).

Currently, there are only nine Fog Screens available in the world. Fog Screen is an exciting new projection technology that allows you to project images and video onto a screen of “dry” fog, creating the illusion that the images are floating in midair. You can literally use the air as your user interface by touching only the air with your bare hands. The screen is created by using a suspended fog generating device with no frame around, and works with video projectors.

The fog they use is dry, so it doesn't make you wet even if you stay under the Fog Screen device for a long time. The fog is made of ordinary water with no chemicals whatsoever. The Fog Screen is a display technology that instead of using a traditional screen uses a thin layer of dry fog as the display surface. The system starts with water that is held in a large plastic container or comes from a regular water pipe. This water is drawn through a plastic tube via a small engine. Users have the ability to control the density and flow of the fog and the strength of the sandwiching airstreams.

With two projectors, we can project different images on both sides of the screen. The Fog Screen is a new invention which makes objects seem to appear and move in thin air! It is a screen you can walk through! The Fog Screen is created by using a suspended fog generating device; there is no frame around the screen. The installation is easy: just replace the conventional screen with Fog Screen. We don't need to change anything else – it works with standard video projectors. The fog we are using is dry, so it doesn't make you wet even if you stay under the Fog Screen device for a long time.

The fog is made of ordinary water with no chemicals whatsoever. With two projectors, you can project different images on both sides of the screen crisp, and protected from turbulence. . All the important principles of Fog Screen technology have patent pending. The basic components of the screen are a laminar, on-turbulent airflow, and a thin fog screen created this way, the fog screen is an internal part of the laminar airflow, and remains thin and turbulence

FORMATION OF FOG SCREEN

1. It is formed by using ordinary tap water and digital technology like ultrasonic device to create a thin layer of dry fog which is sandwiched between two air-curtains.
2. The fog is created by suspended fog generating device.
3. The fog is made up of ordinary tap water with no chemicals
4. Fog Screen creates a “dry” fog by ensuring that the water droplets are in the range of 2-3 microns in size and are electro statically charged so that they move around and away from other objects. The fog is made within the device using water and ultrasonic waves. If you hold your hands in the fog flow, the fog feels dry and cool, and your hands do not get wet.

After the screen is formed, images can be projected onto it. The screen can be translucent or fully opaque. The fog we are using is dry, so it doesn't make you wet even if you stay under the Fog Screen device for a long time. The fog is made of ordinary water with no chemicals whatsoever. With two projectors, you can project different images on both sides of the screen. The founders of the Fog Screen were intrigued with the prospect of creating an image that could float in the air and that people could walk through (that is the Princess Leia effect).

They set out to make a projected image float in the air by using different media such as dust, water, fog. And then a mist of tiny water droplets. They then had to iterate their design repeatedly to ensure that people would not get wet and that the Fog Screen could operate within a broad range of environmental conditions. The ultrasonic transducer is used to divide the water into small and tiny water droplets as the fog which we are using here is completely dry and it is light. If we will take larger water droplets then it will create wet fog which can't be used in the formation of screen.

The fog we are using is dry, so it doesn't make you wet even if you stay under the Fog Screen device for a long time. With two projectors, you can project different images on both sides of the screen

A walk through screen.....



APPLICATIONS

1. Fog Screen has been used in live malls, product launches, museums, to attract more and more peoples.

2. It is used in case of projection a 3D image esp. in studies.
3. It can be used in seminars to make it more interactive (we can walk through the screen).

It can be used in place of air curtain in clubs to make it attractive. Museums, events, trade shows, night clubs, casinos, TV shows, and amusement parks are a number of areas where Fog Screen has been put into effective use. One industry where it excels is in advertising. Lugmayr (2007) describes how Fog Screen can be used in conjunction with laser scanner drivers, interactivity and rendering modules, and a flash application. This creates an effective advertisement that entices a user to walkthrough. A user could for example, select a brick wall, or a waterfall via touch, walk through and by doing so see screen afterwards. Viewers tend to remain captivated by such an interactive display as opposed to others.

Fog Screens use in trade shows has been well received. Nokia, one of many using the Fog Screen products, installed a number of screens to trade show entrances that showed an animation of a character walking and using the Nokia products. Nightclubs are another area, where the screen literally becomes the entrance into the club provoking the public to walkthrough. The Box nightclub in Belfast has installed a number of them, providing amazing visuals inside. Fog Screen can almost be used in any situation. The Fog Screen team also set up each screen to the requirements in order that the effect is as expected wherever it may be used. Its ability to be used throughout so many industries is evidence of Fog Screens significance to

- * Multimedia and one that looks like it shall continue (Rakkolainen, 2007). Entertain your guests with Fog Screen Whether you are planning a rock concert, a prize ceremony, an anniversary, any commercial or private event, we use the magical Fog Screen. Guests can enter through the screen to an event!
- * Create a luxurious interior with Fog Screen
- * Immersive projection technology could use CAVE-like virtual rooms with fog walls, making them effectively “virtual virtual rooms”.

CONCLUSION

Fog Screen has been successfully used in this international events:

1. Entertainment (live shows, live concerts, night clubs, stage productions, private parties i.e. Disney Enchanted Tour, Eurovision, Harrah's, Cirque de Soleil, MGM Grand, 20th Century Fox)
2. Brand promotions (P&G, Diesel, Victoria's Secret. Bud light/Maxim Tour, Xbox)
3. Trade shows and exhibition events (Nokia, Motorola, Sony, Siemens)
4. Theme parks (Key US theme parks)
5. Museums and Science Centres (Palais de la Découverte, Taiwan National Museum)

BIBLIOGRAPHY

1. <http://www.fogscreen.com>
2. <http://www.google.com>
3. <http://wikipedia.com>
4. <http://www.engadget.com/tag/interface>