# **REVIEW ON FOG SCREEN**

Telugu Maddileti<sup>1</sup> R.Sai Sahana<sup>2</sup>

<sup>1</sup>Assistant Professor, ECM department, Sreenidhi Institute of Science and Technology, Ghatkesar, Telangana, INDIA-501301, E-mail: madhu14283@gmail.com <sup>2</sup>Junior Research Scholar, ECM department, Sreenidhi Institute of Science and Technology, Ghatkesar, Telangana, INDIA-501301, E-mail: sahanarebelli123@gmail.com

# ABSTRACT

Inspired by fantasy films, computer game researchers created the Fog Screen to replicate a number of the real-life impacts from these films. Fog Screen is a nursing-associated visualization technology that allows images and videos to be projected onto a "dry" fog screen, this gives the illusion that the pictures are suspended in the air. It is an immaterial walk-through interface where a person can surf the screen. Its characteristics, particularly the walk-through functionality, set the panel to exclude substitute displays. It is a groundbreaking in nursing display process which makes projections on a thin film. Imagine the standard drop down screen that is used in most seminar halls nowadays rather than pulling the panel down from the ceiling, several small fans force the fog down and power it, providing a flat viewing screen.

Keywords- Humidifier, flimsy, fog screen, chemical water, vapour, intensity

# **1. INTRODUCTION**

It is one kind of specialized device that absorbs water and electricity to produce fog in the region where pictures are projected. The fog that used is not wet, so it will not make the user moist for a prolonged period while he/she is under the fog screen unit. The fog is made of normal water without chemical substances. The Fog Screen can be a display technology which uses fog for the display surface rather than using a material(ancient) screen. The machine begins with water present in containers or flowing from a standard pipe. The water is drawn through a tiny low motor through a plastic tube. People can regulate the density and speed of the fog, and consequently the frequency of airflow(streams) which is present on either side of the screen. Having projectors on either side of the screen it has the ability to project entirely different images. The Fog Screen might be a modern technology that makes objects appear and move in flimsy air! This is the panel where people can walk through it. The Fog panel(screen) is created using a fog

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producing system that is suspended; there is no framing round the display. The implementation is simple i.e. simply replace Fog Screen with the traditional panel. There is a tendency of not altering something-it deals for video projectors in common. The dry fog has the potential to penetrate the area unit and when you're under the Fog Panel, it doesn't make you wet for a long time. The fog is created from natural, chemical-free water.



Figure1. Fog Screen depiction

# 2. Literature Survey

Recognizing the peculiarity of Fog Screen technology is critical. This is not the first immaterial screen in the world, but instead the first immaterial walk-through screen. This simple fact is what makes Fog Screen different from any other show. Rakkolainen continues to clarify the technology's uniqueness by discussing how other displays can produce the floating image effect, but none can be penetrated. There are water screens that create huge displays for large audience but they do provide poor quality of picture. These wide waterbased shows are also wet, so indoor, and walk-through contact is impractical. Earlier developments have also been closely related to Fog Screen that allow use of water rather than vapor. They are usually wet, however, and turbulence affecting these screens significantly diminishes picture fidelity. To reiterate what has been described above, Fog Screen produces dry fog, cool to the touch, non-turbulent airflow. In an article about the performing arts, Erdem et.al discusses how this consistency ensures that performers or anyone communicating with the screen will not be limited by this fog screen. One can move freely through the layer and the imagery will not be dispersed or distorted. Not only is the Fog Screen technology special as a stand-alone display. One can pass through the layer freely, and the images will not be scattered or distorted. The qualities, particularly the immaterial nature and walk-

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through capabilities, allow very advanced interface design. Olwal et.al. (2006) wrote that Fog Screens as Dual-sided design provides new opportunities for face-to-face multi-user communication and pseudo-3D visualization." Objects can be projected to both sides of the screen producing a 3D visual effect as seen in Figure 1.

# **3.Generation of Fog Screen**

For image display, air flow is provided in either sides to maintain constant fog flow. A disturbance will be produced when external air enters.



Figure 2: Generation of Fog using Fog Machine

As the fog that is using here is very dry, it does not cause any sort of distractions. The fog is made from water and the technologies like ultrasonic devices within the system. Hence, it is very interesting that it will allow clear and undisturbed projection of pictures. The key is how to preserve the layer of fog

# 4.Working of Fog Screen Machine

It is a high-tech version of the technology in a cold air humidifier. Standard water is poured into the fog tank, where it is treated with ultrasonic waves, transforming it quickly into a dense fog consisting of 2-3 microns diameter tiny water particles .The tank's interior design and three set of fans work simultaneously to achieve a very skinny film of fog which is almost half inch in diameter. One pair of them brings the fog down and the remaining set spreads the fog between the air flows and it is a clear panel for display. In view of its projection abilities, Fog Screen operates just like other displays, and includes a 2-kilo watt

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power supply. The screen consumes almost fifty liters of standard water for an hour. The system placed above the fog screen allows water to be filtered through a silver-ion channel and the minerals within the tank are cleaned by regular maintenance according to Jordan Woods, 2007. There are many factors on which opacity of the panel depends. Some of them are density of the fog intensity of the image, background and also the projector. The creators of fog screen were fascinated with the possibility of making a picture which has the ability of floating in air. Through various media like fog, dust, water and a mist of tiny water droplets, they set out to make the image float in the air.



Figure 3. Fog screen formation

# 4.1. Formation of Fog Screen

It is generated using normal tap water and digital technologies such as ultrasonic devices to produce a skinny layer of fog which is situated in between two air flows(curtain). Using water and ultrasonic waves fog is produced inside the unit. The fog generating machine produces a "dry" fog making sure that the water droplets are electrostatically charged and 2-3-micron diameter in size. The fog that generated is dry so that one can even sit under the screen without getting wet. If the size of the droplets is more than 2-3 micron then there is a chance of getting wet. Images can be displayed on the either sides of the screen. The screen that is made can be either transparent or completely opaque.

#### 4.2 Importance of Fog Screen

Recognizing the peculiarity of this type of technology is critical. This is not the world's first immaterial display but instead the first immaterial walk-through panel. This simple fact differentiates fog Screen from any other series. Fog Screen has been used for attracting more

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and more people in live malls, product launches, museums etc... It is used in experiments with a 3D picture in case of projection. It can be used to make it more engaging in seminars (users can walk through the screen). It can be used to make it attractive instead of air curtain in clubs. The creators of Fog Screen state that the special design of it would make it a fun experience for customers. It is environment friendly because it uses only water as a prerequisite and generates chemical-free Fog. Increase in company consistency. Child health, fun and play time for children. Increase the transition of skills in manufacturing-technology. - Reducing competition -growing product quality -Entering new business.

# 5. Limitations

- Fog screen works only in dark background (with less light). So, it's not available in daylight.
- It's really costly at the moment, but the Fog Screen is working to produce it at a fair price.
- It requires lot of power and water.

# 6. Conclusion:

In this article, an innovative technique for generating a semi-volumetric 3D walk-through screen has been established. The developed technique allows one to view and experience 3D objects in mid-air from any perspective. Using them as an immaterial, the double-sided display has resulted in an improved visualization experience. This creates a powerful visual effect of floating 3D objects, even when the image is not stereotype. Fog screen technology is a unique one where images, videos are displayed on an immaterial screen called fog. Fog screen can be replaced with the normal traditional screens in schools, offices etc. and can create interest in the students. It helps in marketing, entertainment, retail etc. This technology can attract many customers and can help in marketing the products.

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