FOG SCREEN

Anjuna P Honnikoppa, Prof. Mahaling Salimath

Department of Information science SKSVMACET, Laxmeshwar**,** Karnataka, India

ABSTRACT

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

I. INTRODUCTION

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

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

II. EXISTING SYSTEM

A projection screen is an installation consisting of a surface and a support structure used for displaying a projected image for the view of an audience. Projection screens may be permanently installed as in a movie theatre, painted on the wall, semi-permanent or mobile, as in a conference room or other non dedicated viewing space such as an outdoor movie screening. Uniformly white or grey screens are used almost exclusively as to avoid any discoloration to the image, while the most desired brightness of the screen depends on number of variables, such as the ambient light level and the luminous power of the image source. Flat or curved screens may be used depending on the optics used to project the image and the desired geometrical accuracy of the image production, flat screens being the common of the two. Screens can be further designed for front or back projection , the more

common front projection systems having the image source situated on the same side of the screen as the audience. Different markets exist for screens targeted for use with digital projectors, movie projectors, overhead projectors and slide projectors, although the basic idea for each of them is very much the same: front projection screen works on diffusely reflecting the light projected onto them, whereas back projection screens work by diffusely transmitting the light through them.

III. PROPOSED SYSTEM

It is one type of advanced projecting device which consumes water and electricity to form fogs on which images are projected. 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 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 2D projection screen, but not a common opaque screen like hundreds of others in the market, rather than an immaterial screen. A user may also interact with objects displayed in fog with the use of an input device like a data clove, a tracked wand, or simply using hands. 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 air streams. Fog Screen is a new invention which makes objects seems to appear and move in thin air. The basic components of the screen are alumina, 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.

IV. WORKING OF FOG SCREEN

- Fog Screen technology is a high-tech version of the technology in a cool air humidifier.
- Tap water is pumped into the fog tank where it is blasted with ultrasound, turning it instantly into a thick fog made of tiny water particles 2-3 microns in diameter. The tank's internal design plus 3 sets of fans work together to create a very thin wall of mist about half of an inch thick. One set of fans blows the fog downwards while the other two sandwiches the fog between air curtains so that it becomes a smooth projection screen. Fog screen works much like many screens in terms of its projection properties and requires a 2kw power supply, with on screen using fifty liters of tap water per hour. The device situated above the fog screen enables the purification of the water via a silver-ion channel and minerals within the tank are cleaned out through regular maintenance. The opacity will depend on a number of factors namely fog density, the projector, image brightness and the background. It appears to be a very versatile technology and can be combined with many methods in order to achieve the imagery required, such as pseudo 3D display and mechanisms to allow further interactivity via tracking. 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. 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

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.

V. CONCLUSION

Technology of the future literally revolutionizes the limits of projection screens and blurs the boundaries among art, science and fun .Facilitates projection of high quality images. This presents an immaterial, interactive screen which is a new kind of a user interface floating in thin air. It employs ultrasonic tracking, although many other kinds of tracking methods could also be used. The interactive screen has many applications on fields such as entertainment, visualization, art etc.

VI. REFERENCES

1. Fog Screen, 2005-2007. All pages available from: http://www.fogscreen.com/en/[Accessed 2 October 2007].
2. Fog Screen, 2005-2007. Fog Screen, Inc.Reference Cases. Available from: http://www.fogscreen.com/en/sales/Reference_cases/ [Accessed 9 December 2007].
3. IO2 Technology, 2007. All pages. Available from: http://www.io2technologgy.com/technology/overview[Accessed 15 November 2007].
4. Nony Designs, 2005. Fog Screen Fascinating to Behold. Available from: http://www.nonydesigns.com/site/780912/product/FGS-001[Accessed 4 December 2007].
5. Woods, JW., 2007. Fog Screen Solutions. Available from: http://techrepublic.com.com/5208-1035--0.html?forumID=102&threadID=243196&messageID=2356837[Accessed 2 December 2007].
6. Dimacast , 2007. DIMAcast [068] Interview with Jordan Woods. Available from: http://www.dimacast.libsyn.com/index.php?post_id=258906[Accessed 4 October 2007].
7. Reuters, 2003. Making a video screen out of thin air. Available from: http://www.io2technoloy.com/images/cnn-website.jp[Accessed 3 december 2007].
8. Rakkolainen, IK., AK., 2007. Immaterial display for interactive adverstisements. Paper presented at the proceedings of the international conference on Advances in computer Lugmayr,entertainment technology, 2007, Salzburg, Austria. Available from: http://portal.acm.or/citation.cfm?id=1255066[Accessed 4 November 2007].
9. Olwal, A., DiVerdi, S., Candussi, N., Rakklainen, I., Hollerer, T., 2006, An Immaterial, Dual –sided Display system with 3D Interaction. Paper presented at the Proceedings of the IEEE Virtual Reality Conference, 2006. Available from: http://portal.acm.or/citation.cfm?id=1130450[Accessed 4 November 2007].
10. Palovuori, K., Rakkolainen, I., 2005. Laser scanning for the interactive walk-through fog screen . Paper presented at the Proceedings of the ACM symposium on Virtual reality software and technology, 2005, Monterey,CA,USA. Available from: http://portal.acm.org/citation.cfm?id=1101661[Accessed 5 November 2007].