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SCREENLESS DISPLAY WITH RAVEBOT

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***Abstract*— This paper discusses advent of the Screenless display and Ravebot which is an emerging new technology in AI and has become a good prospect in the near future for a wide range of applications. As the name implies it deals with the display of several things without the use of screens using projector. It involves the following 3 different working principles. The Visual image, Virtual retinal display, Synaptic interface. Ravebot is a artificial intelligence used to understand the user commands and project it as a picture or videos. This paper mainly illustrates and demonstrates how the screen less displays works and how the Ravebot is used in the field of science.**

Keywords— Hologram, Hand, LCD, Synaptic Interface, voice, Knowledge base, AIML, corpus, machine learning, transmitter and receiver.

I.INTRODUCTION

Screenless display is the present evolving technology in the field of the computer-enhanced technologies. It is going to be the one of the greatest technological development in the coming future years [1]. Several patents are still working on this new emerging technology which can change the whole spectacular view of the screenless displays. Screen less display technology has the main aim of displaying (or) transmitting the information without any help of the screen (or) the projector. It can be transmitted using the visual image (i.e.) Hologram which can be projected in the air. Were the images or videos are transmitted using the Ravebot. Ravebot gets the command from user and transmits the data's as a pictures . A Ravebot is a computer program designed to simulate an intelligent conversation with one or more human users via auditory or textual methods. A bot is "a software program that imitates the behavior of a human.

II.VISUAL IMAGE

Visual image otherwise known as hologram, is display an image that is reflected by a substance than proceed by human eye. The display works on the principle that; light gets reflected by the intermediate object before it could reach to the retina[4]. The intermediate object can be holograms, windows or even LCDs. Example of this type of display is Displayers, air screen technology-The Displayers air screen projects images onto sheets of water droplets suspended in air, giving the illusion of a hologram. In cold fog projecting technologies, the images thrown by Displayer can be also respond rapidly to multi-touch manipulation, as well as it can also allow taste and aroma to incorporated.IO2 technology also develop a similar display called the helium display which uses a micro-size airbase media to create images in free space[8].

Another example is google glass, which is virtual reality goggles. This technology is type of augmented reality visual image display that displays image right in front of our eye. Beside we have expanded in developing the displays for wearable contact lenses[5].

Fig1.Hologram

A. Hologram

This form of photography provides a three dimensional image, and some technologies now creates images using lenses, helium neon and holographic film. A 3D image will be projected and appears in the air whenever the laser and object beams overlaps with each other. Hologram provide high quality images and videos and the image can be viewed by human eye that is does not need any special observation device[10].

Fig.2.Controlling of Hologram

B. WORKING OF HOLOGRAM

Holographs can work by using a laser beam that can interfere with an object beam. When these two beams get in the way of one another, they can create what looks like a three dimensional image. This image can then be recorded for processing by recording the diffraction of the light and the way in which the beams interfere with one another.

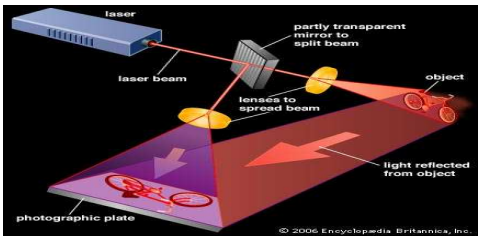

Fig.3. Working of hologram

III.RETINAL DISPLAY

Virtual retinal display systems are a class of screen less displays in which images are projected directly onto the retina as shown in figure 3. They are distinguished from visual image systems because light is not reflected from some intermediate object onto the retina; it is instead projected directly onto the retina. Retinal Direct systems, once marketed, hold out the promise of extreme privacy when computing work is done in public places because most inquiring relies on viewing the same light as the person who is legitimately viewing the screen, and retinal direct systems send light only into the pupils of their intended viewer[6].

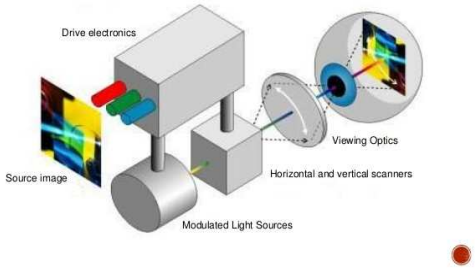

Fig.4.Retinal Display

A. VIRTUAL RETINAL DISPLAY STRUCTURE AND IMPLEMENTATION

A virtual retinal display (VRD), also known as a retinal scan display (RSD), is a new display technology that draws a raster display (like a television) directly onto the retina of the eye. The user sees what appears to be a conventional display floating in space in front of them. Similar systems have been made by projecting a defocused image directly in front of the user's eye on a small "screen", normally in the form of large sunglasses. The user focuses their eyes on the background, where the screen appeared to be floating. The disadvantage of these systems was the limited area covered by the "screen", the high weight of the small televisions used to project the display, and the fact that the image would appear focused only if the user was focusing at a particular "depth".

B. Limited brightness made them useful only in indoor settings as well. Only recently, a number of developments have made a true VRD system in practice. In particular, the development of high-brightness LEDs have made the displays bright enough to be used during the day and adaptive optics have allowed systems to dynamically correct for irregularities in the eye (although this is not at all needed in all situations). The most recent innovations in mobile computing have been based around touch screen technology[6]. The future of mobile devices is both touch less and screen less. By 2020 the mobile phone as we know it today will disappear and something very different will take its place. Instead of touching a screen, we will interact with technology directly through our senses, through technology embedded in what he is calling “Internet Glasses”. Voice was always organized in sessions with a beginning and an end.

Fig.5.Virtual Retinal Display

Fig.6.Working of Retinal Display

Ravebot

A chatbot is a conversational agent that interacts with users using natural language. Multi chatbots are available to serve in different domains. However, the knowledge base of chatbots is hand coded in its brain. This paper presents an overview of Ravebot, its AIML format, and our experiments to generate different prototypes of Ravebot automatically based on a corpus approach. A description of developed software which converts readable text (corpus) into AIML format is presented alongside with describing the different corpora we used. Ravebot stores knowledge about English conversation patterns in AIML files. AIML, or Artificial Intelligence Mark-up Language, is a derivative of Extensible Mark-up Language (XML).It was developed by the Alicebot free software community during 1995-2000 to enable people

to input dialogue pattern knowledge into chatbots based on the ALICE free software technology. AIML consists of data objects called AIML objects, which are made up of units called topics and catagories. The Ravebot understand the user commands and performs the actions according to it. The AMIL file is linked to the knowledge base and to the cloud.

Working of Ravebot

The AIML interpreter tries to match word by word to obtain the longest pattern match, as this is normally the best one. This behavior can be described in terms of the Graphmaster which is a set of files and directories, which has a set of nodes called nodemappers and branches representing the first words of all patterns and wildcard symbols. Assume the user input starts with word X and the root of this tree structure is a folder of the file system that contains all patterns and templates; the pattern matching algorithm uses depth first search techniques:

- If the folder has a subfolder starting with underscore then turn to, "_/", scan through it to match all words suffixed X; if no match then
- Go back to folder, try to find a subfolder starts with word X, if so turn to "X/", scan for matching the tail of X; if no match then
- Go back to the folder, try to find a subfolder start with star notation, if so, turn to "*/", try all remaining suffixes of input following "X" to see if one match. If no match was found, change directory back to the parent of this folder, and put "X" back on the head of the input. When a match is found, the process stops, and the template that belongs to that category is processed by the interpreter to construct the output.
- When a match is found, the process stops, and the template that belongs to that category is processed by the interpreter to construct the output. A sample of chatting with Ravebot is shown in Figure 7

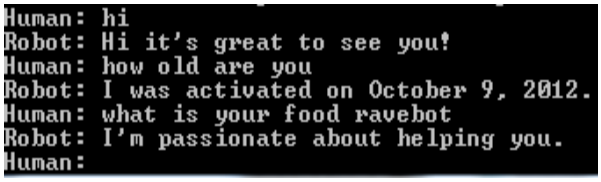

Fig.7 A sample of chatting with Ravebot

As if now it is implemented with CMD. For later it uses the voice recognition system. The user has the transmitter and the Ravebot uses the receiver to communicate with the user. The Ravebot could automatically generates the images or videos according to what the user asks. It transmits the data to the hologram which projects the image in the air medium. We all know about the "Jarvis" character that has appeared heavily in media adaptations of iron man and avengers stories.

It is commonly reimagined as "Just A Rather Very Intelligent System" (J.A.R.V.I.S.). Likewise here to it is implemented for user interactive purpose.

If you something(for eg. "hello"). The Ravebot records the voice and match with available commands and if it is available the proper response is provided otherwise it updates its knowledge base by getting permission form the user.

Features of the Ravebot

It answers the complex questions given by the user gives the correct solution. It solves mathematical equations and derivations. Reading the social messages which has been came for the user and allows the user to reply for the message. It also contains some quick reply messages. Conversing with Ravebot is simple and easy to understand. Energy efficient.

Fig.8 Implementing the Ravebot

Advantages and Disadvantages of this system

A. Advantage:

Low power requirements- Only six diodes are required and a few of a watts to deliver their images to the user's eyes [3].

Higher resolution images- The pixels in the images projected by the diodes can be made smaller than is possible with any CRT or flat panel display, so higher resolution can be achieved. With retinal projectors, the only limitation in the resolution of visual images will be the resolving power of the users' eyes.

Greater portability- The combination of diodes, lenses, and processing components in a retinal projector system will weigh only a few ounces.

Wider angle of view- Retinal projectors will be able to provide a wider field of view than is possible with display screens.

More accurate color- By modulating light sources to vary the intensity of red, green, and blue light, retinal projectors can provide a wider range of colors – and more fully saturated colors – than any other display technology.

Greater brightness and better contrast- Retinal projectors can provide higher levels of contrast and brightness than any other display system.

Ability to present 3D images- With their capability of presenting high definition image-pairs, retinal projectors

can deliver the most highly realistic stereoscopic movies and still pictorial images to their users.

Ability to present far-point images- The human visual system is a far-point system. With today's desktop and laptop computers users must employ their near-point vision. The excessive use of our near-point vision in using computers, reading, sewing, playing video games, etc., is making myopia a very common impediment. The use of the far-point images that can be provided by retinal projector systems could reduce the incidence of myopia and, hence, the growing need for and use of eyeglasses see figure 10.

Lower costs- The present cost of retinal projector systems is high. Nevertheless, there are no hard-to-overcome manufacturing problems in mass-producing and low-cost components, so inexpensive systems will soon become available. Environmental and disposal costs of these tiny delivery devices will also be minimal because toxic elements such as lead, phosphorus, arsenic, cadmium, and mercury are not used in their manufacture [4].

Prevent snooping – Ravebot protects the user datas from hacking. It controls the virus attacks and it prevents all personal information more securely.

Helpful for Disabled – Ravebot is more helpful for the disabled person like handicapped, deaf and dumb.

B. Disadvantage:

- The principle disadvantage is that Virtual retinal display (VRD) is not yet available in the significant number.
- Prototypes and special experimental models are now being Built, but their cost per unit is high.
- As the pictures are communicating with air medium it can be performed only indoor.

REFERENCES

[1] Screen-less Head Mounted Projector with Retrotranmissive Optics Ryugo KIJIMA, Jyunya WATANABE

[2] SPE Annual Technical Conference and Exhibition, 30September-3 October 2001, New Orleans, Louisiana.

[3] Jaschinski W, Heuer H, Kylian H. A procedure to determine the individually comfortable position of visual displays relative to the eyes. Ergonomics 1999;42(4):535–49. 4.

[4] Telecoms.cytalk.com/.../why-the-future-of-mobile-isscreenless-touch.

[5] K. Ranganath, M.Sravanthy, P.Krupali/ International Journal of Engineering Research and Applications (IJERA) ISSN: 2248-9622, Vol. 1, Issue 3, pp.942- 947

[6] Chatbot (2015). [online]: https://www.chatbots.org/.

[7] Okano, F., Arai, J., "Resolution characteristics of afocal array optics".