NARSIMHA REDDY ENGINEERING COLLEGE

TechTransmit

A DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING's MAGAZINE

JAN--JUN-2021 Volume 8- issue1

INSIDE THIS

VISION, MISSION& PEO'S

RANSOM WARE

DRONE AS A SERVICE

ORGANS ON CHIP

VIRTUAL RETINAL DISPLAY

Vision of the Department

To produce technically competent professionals with quality education in cutting edge technologies with professional ethics.

Mission of the Department

M1: To impart quality technical education in design and implementation of IT applications through innovative teaching - learning practices

M2: To inculcate Professional behavior, with strong ethical values, and research capabilities.

M3: To educate students to be an effective problem solver with social sensitivity for the betterment of the society and humanity as a whole.

Programme Educational Objectives(PEOs)

1. PEO-I: Demonstrate proficiency in fundamental concepts and advanced technologies of computer science to succeed in their careers and/or obtain a higher degree.
2. PEO-II: Analyze complex computing problems in multidisciplinary area and creatively solve them.
3. PEO-III: Recognize ethical dilemmas in work environment and apply professional code of ethics.

ARTICLES

RANSOM WARE

Ransom ware is a subset of malware in which the data on a victim's computer is locked, typically by encryption, and payment is demanded before the ransomed data is decrypted and access returned to the victim. The motive for ransom ware attacks is nearly always monetary, and unlike other types of attacks, the victim is usually notified that an exploit has occurred and is given instructions for how to recover from the attack. Payment is often demanded in a virtual currency, such as bit coin, so that the cyber criminal's identity is n't known.

Ransom ware can be spread through malicious email attachments, infected software apps, infected external storage devices and compromised websites. A growing number of attacks have used Remote Desktop Protocol and other approaches that don't rely on any form of user interaction.

C.PREETHI

17X01A0558

DRONE AS A SERVICE

Drone-as-a-service (DaaS) is just one of the new business models likely to emerge from the surging popularity of the small, unmanned flying machines.

Over the past two years, drones have come seemingly from out of nowhere to become a major new tool for organizations that need to manage far-flung assets. The global revenue market for drones is expected to hit $6billionin 2017—up 34% from last year—and reach$11.2 billion by 2020.

Far from being the domain of hobbyists and voyeurs, drones are now finding practical applications in many business and government applications. State governments use them to inspect hard-to-reach infrastructure like bridges, dams, and highway over passes. Drone scan fly overt treacherous terrain to check on machinery in remote locations. They also can be used for aerial security recon naissance of events where crowds gather, making them an important tool in the battle against terrorism.

“Any time the safety of a person comes into play, there’s a place for drones,” said Mike Stone, product manager for In for EAM, in a presentation at Inforum2017.

All of which means that drones are poised to take on increasing importance in helping enterprises manage their assets. Not surprisingly, In for is there with Drone Enterprise Asset Management Solution (DEAMS), a service born of a partnership with Drone Aviation Corp. that incorporates data from flying objects into the records companies maintain on their valuable but often difficult-to-access equipment and infrastructure.

R.SINDHU

17X01A0541

ORGANS ON CHIP

From years, man has been using animals in order to test pharmaceutical products on animals. The effects of this technique was found to be temporarily satisfying but in the long run, they came to the conclusion that, some products and chemicals that are reacting harmlessly on animals without any side-effects, on the other hand caused high rate of failure when used by humans. This was the situation that made the scientist to think about an alternative that is less harmful to animals as well as humans and that provides away to make pharmaceutical testing more accurate.

Wyss Institute researchers and a multidisciplinary team of collaborators have engineered microchips that recapitulate the micro architecture and functions of living human organs, including the lung, intestine, kidney, skin, bone marrow and blood-brain barrier. These microchips, called *'organs-on-chips'*, offer a potential alternative to traditional animal testing. Each individual organ-on-chip is composed of a clear flexible polymer about the size of a computer memory stick that contains hollow micro fluidic channels lined by living human cells interfaced with a human end the cell-lined artificial vasculature, and mechanical forces can be applied to mimic the physical micro environment of living organs, including breathing motions in lung and peristalsis-liked in formations in the intestine. Because the micro devices are translucent, they provide a window into the inner workings of human organs.

B.MAHESH

17X01A0557

VIRTUAL RETINAL DISPLAY

A machine consists of many subsystems working together to perform a certain task. The information from the electronic devices are retrieved from the machine subsystems as binary code. All this information is presented in a user readable format through a display device. The display technology has seen a rapid growth in the past few decades from the old CRT (Cathode Ray Tube) displays to the presently in demand LCD (Liquid Crystal Display) and LED (Light Emitting Diode) displays. The LCD's and LED's consists of two dimensional arrays of individual display units (pixels) whose number to size of display determines the clarity of the display (resolution).These display units which we encounter on a daily basis (LCD's and LED's) are pixel based display systems where these individual pixels form an image by combining individual colors. The colors are formed by different intensities of the primary colors RGB (Red, Green and Blue) or CMYK (Cyan, Magenta, Yellow and Black) combinations. But these technologies have a poor reputation when it comes to image quality, weight and power consumption when they need to be considered for application in wearable technology.

This is where the emerging concept of Virtual Retinal Display comes into picture. It diminishes the gap between the screen and the retina to a zero by directly throwing light on the retina which is just like how we view the world around us. It was developed at the Human Interface Technology Laboratory (HIT Lab) in the University of Washington by Dr.Thomas A. Furriness III. The VRD technology can produce images by scanning low power laser light directly onto the retina which will create high contrast, high resolution and bright images. This is especially designed to offer more interactive and immersive experience in Virtual Reality and Augmented Reality technologies. It provides a wide field of view with absolutely no background disturbance.

The VRD technology uses scanned light beams projected directly on to the retina. A small spot on the retina is focused on which the whole image is castes in the form of a raster image (array of color spaces but different from pixels).

G.NITHYA

17X01A0519