

KAKATIYA INSTITUTE OF TECHNOLOGY AND SCIENCE

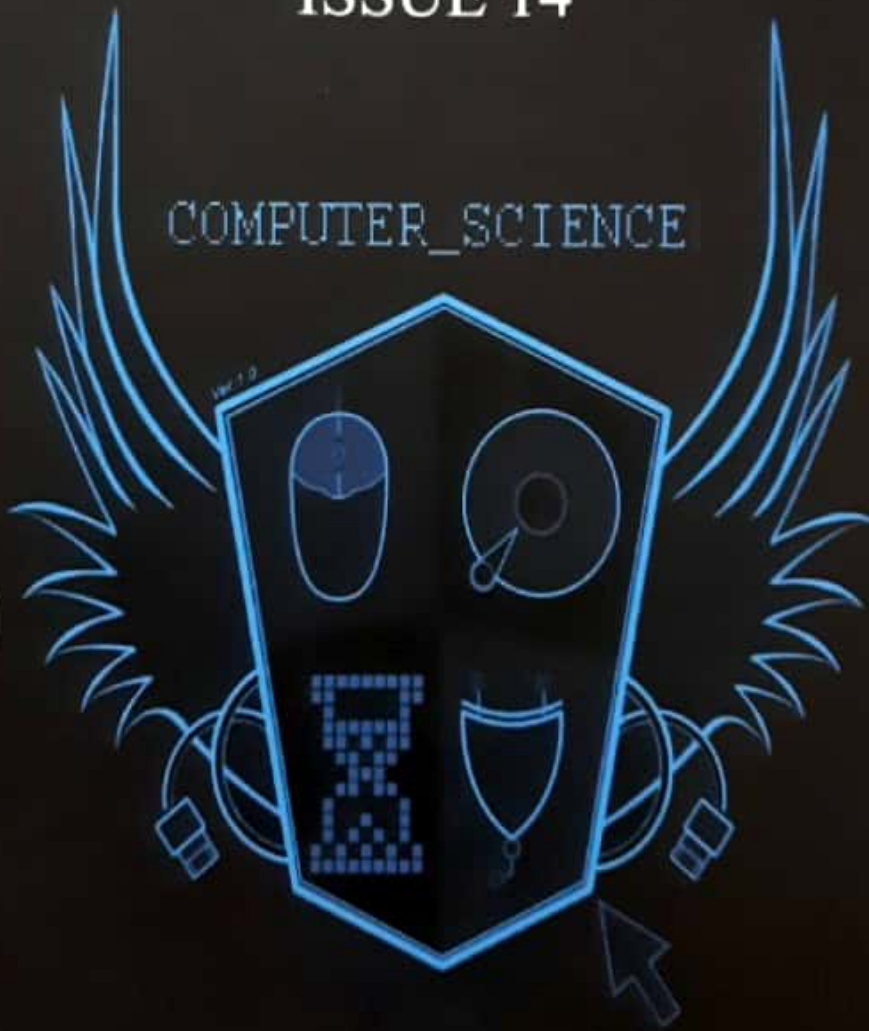
# foCuS

THE NEWSLETTER

ISSUE 14

START

COMPUTER\_SCIENCE



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

# VIEWS

It gives me great pleasure to know that the next issue of newsletter is ready. I congratulate all those who have contributed in bringing this out. I appreciate the editorial board of the newsletter for their efforts in collecting and compiling the data without which it would have not been possible to place this newsletter in your hands.

-Dr. Y. Manohar (Director)



I am very much pleased with the idea of this newsletter. This is really a very good effort to keep students abreast of the new technological trends.

-Dr. P. Venkateshwar Rao (Principal)



It gives me immense pleasure to announce the release of foCuS. The unique feature of this newsletter is that it is being planned and designed by the student fraternity alone.

-Dr. P. Niranjan Reddy (Head of the Department)



## *Chief Editor:*

Dr. P. Niranjan Reddy  
Head of the Department

## *Editor-In-Charge:*

S. Nagaraju  
Associate Professor

## *Faculty Editors:*

M. Preethi, Convenor  
S. Madhavi Sudha, Member  
N. C. Santhosh Kumar, Member

## *Student Editorial Board:*

M. Krishna Vaagdevi, B14CS059  
K. Jugal Kishore, B14CS037  
R. Rakesh, B15CS115  
M. Sai Karthik, B15CS065  
G. Mani Kanta, B15CS063

# ANIMATRONICS

Animatronics refers to the use of robotic devices to emulate a human or an animal, or bring lifelike characteristics to an otherwise inanimate object. A robot designed to be a convincing imitation of a human is more specifically labelled as an android. Modern animatronics have found widespread applications in movie special effects and theme parks and have, since their inception, been primarily used as a spectacle of amusement.

Animatronics is a multi-disciplinary field which integrates anatomy, robots, mechatronics, and puppetry resulting in lifelike animation. Animatronic figures are often powered by pneumatics, hydraulics, and/or by electrical means, and can be implemented using both computer control and human control, including teleoperation. Motion actuators are often used to imitate muscle movements and create realistic motions in limbs. Figures are covered with body shells and flexible skins made of hard and soft plastic materials and finished with details like colors, hair and feathers and other components to make the figure more lifelike.

G. Mani Kanta, B15CS063

## EXTREME PROGRAMMING

Extreme programming (XP) is a software development methodology which is intended to improve software quality and responsiveness to changing customer requirements. As a type of agile software development, it advocates frequent "releases" in short development cycles, which is intended to improve productivity and introduce checkpoints at which new customer requirements can be adopted.

Other elements of extreme programming include: programming in pairs or doing extensive code review, unit testing of all code, avoiding programming of features until they are actually needed, a flat management structure, code simplicity and clarity, expecting changes in the customer's requirements as time passes and the problem is better understood, and frequent communication with the customer and among programmers. The methodology takes its name from the idea that the beneficial elements of traditional software engineering practices are taken to "extreme" levels. As an example, code reviews are considered a beneficial practice; taken to the extreme, code can be reviewed continuously, i.e. the practice of pair programming. XP attempts to reduce the cost of changes in requirements by having multiple short development cycles, rather than a long one. In this doctrine, changes are a natural, inescapable and desirable aspect of software-development projects, and should be planned for, instead of attempting to define a stable set of requirements.

R. Rakesh, B15CS115

# CRYPTOCURRENCY

A cryptocurrency is a digital asset designed to work as a medium of exchange that uses cryptography to secure its transactions, to control the creation of additional units, and to verify the transfer of assets. Cryptocurrencies are classified as a subset of digital currencies and are also classified as a subset of alternative currencies and virtual currencies.

Bitcoin, created in 2009, was the first decentralized cryptocurrency. Since then, numerous other cryptocurrencies have been created. These are frequently called altcoins, as a blend of bitcoin alternative. Bitcoin and its derivatives use decentralized control as opposed to centralized electronic money/central banking systems. The decentralized control is related to the use of bitcoin's blockchain transaction database in the role of a distributed ledger.

~M. Sai Karthik, B15CS065

# VIRTUAL REALITY

Virtual reality (VR) is a computer technology that uses virtual reality headsets or multi-projected environments, sometimes in combination with physical environments or props, to generate realistic images, sounds and other sensations that simulate a user's physical presence in a virtual or imaginary environment. A person using virtual reality equipment is able to "look around" the artificial world, and with high quality VR move around in it and interact with virtual features or items. The effect is commonly created by VR headsets consisting of a head-mounted display with a small screen in front of the eyes, but can also be created through specially designed rooms with multiple large screens.

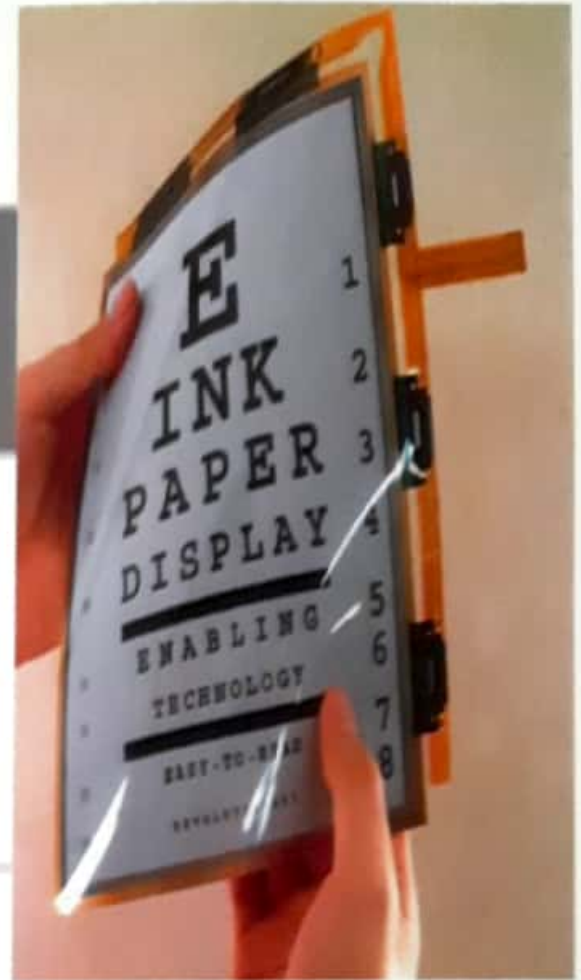
VR systems that include transmission of vibrations and other sensations to the user through a game controller or other devices are known as haptic systems. This tactile information is generally known as force feedback in medical, video gaming and military training applications. Virtual reality also refers to remote communication environments which provide a virtual presence of users with through telepresence and telexistence or the use of a virtual artifact (VA). The immersive environment can be similar to the real world in order to create a life like experience grounded in reality or sci-fi. Augmented reality systems may also be considered a form of VR that layers virtual information over a live camera feed into a headset, or through a smartphone or tablet device.

~M. Sai Karthik, B15CS065

## E-INK

E Ink (electronic ink) is a paper-like display technology, characterized by high visibility and contrast, a wide viewing angle and low power requirements. The technology has been commercialized by the E Ink Corporation, which was co-founded in 1997 by MIT undergraduates J. D. Albert & Barrett Comiskey, MIT Media Lab professor Joseph Jacobson, Jerome Rubin and Russ Wilcox.

E Ink is processed into a film for integration into electronic displays and has enabled novel applications in phones, watches, magazines, wearables and e-readers, etc. The Motorola F3 was the first mobile phone to employ E Ink technology into its display. The October 2008 limited edition North American issue of Esquire was the first magazine cover to integrate E Ink and featured flashing text. The cover was manufactured in Shanghai, China, was shipped refrigerated to the United States for binding and was powered by a nominal 90-day integrated battery supply.



Applications using E Ink have since expanded, enabling smart designs for digital signage, electronic shelf labels, wearables and architecture. Advantages of E Ink include low power usage, flexibility, durability and ruggedness and better readability under direct sunlight. Given these properties, E Ink displays can be used for a broad range of surfaces and solutions.

In July 2015, the Australian Road and Maritime Services installed road traffic signs using E Ink in Sydney, Australia. The installed e-paper traffic signs represent the first use of E Ink in traffic signage. Transport for London trialed E Ink displays at bus stops which offered timetables, route maps and real-time travel information to better update travel information. Select Whole Foods 365 stores have employed E Ink-powered electronic shelf labels, which can be adjusted and updated remotely and includes additional information such as whether a product is gluten-free. E Ink Prism was announced in January 2015 at International CES and is the internal name for E Ink's bistable ink technology in a film that can dynamically change colors, patterns and designs with architectural products.

~G. Mani Kanta, B15CS063

## DIGITAL SIGNATURE

A digital signature is a mathematical scheme for demonstrating the authenticity of digital messages or documents. A valid digital signature gives a recipient reason to believe that the message was created by a known sender (authentication), that the sender cannot deny having sent the message (non-repudiation), and that the message was not altered in transit (integrity).

Digital signatures are a standard element of most cryptographic protocol suites, and are commonly used for software distribution, financial transactions, contract management software, and in other cases where it is important to detect forgery or tampering.

As organizations move away from paper documents with ink signatures or authenticity stamps, digital signatures can provide added assurances of the evidence to provenance, identity, and status of an electronic document as well as acknowledging informed consent and approval by a signatory. The United States Government Printing Office (GPO) publishes electronic versions of the budget, public and private laws, and congressional bills with digital signatures. Universities including Penn State, University of Chicago, and Stanford are publishing electronic student transcripts with digital signatures.

~R. Rakesh, B15CS115

## VIRTUAL ASSISTANT

A virtual assistant is a software agent that can perform tasks or services for an individual. Sometimes the term "Chabot" is used to refer to virtual assistants generally or specifically those accessed by online chat (or in some cases online chatting programs that are for entertainment and not useful purposes).

As of 2017, the capabilities and usage of virtual assistants is expanding rapidly, with new products entering the market. An online poll in May 2017 found the most widely used in the US were Apple's Siri (34%), Google Assistant (19%), Amazon Alexa (6%), and Microsoft Cortana (4%). Facebook's M is expected to be available to hundreds of millions on Facebook Messenger in 2017. Apple and Google have large installed bases of users on smartphones and Microsoft has a large installed base of Windows-based personal computers (where Cortana works in addition to phones and smart speakers); meanwhile, Alexa was the first to get the ability to place online e-commerce orders, from Amazon.

Virtual assistants use natural language processing (NLP) to match user text or voice input to executable commands. To activate a virtual assistant using the voice, a wake word might be used like "Alexa" or "OK Google".

~M. Sai Karthik, B15CS065

# PLACED STUDENTS 2017-18



**Arthi Nikhila**  
(MuSigma, Apps Associates)



**N. Bhargava Patel**(TCS,  
MuSigma)



**A. Bhuvan Chandra**  
(InRhythm)



**K. Kavyasree**  
(ZenQ)



**S. Kruthi Krishna**  
(Aveva)



**V. Meghana**  
(Jade Global)



**J. Mounisha**  
(Grammener IT, MuSigma)



**M. Laxmi Nandan**  
(TCS)



**N. Navya**  
(ADP)



**G. Sai Poojitha**  
(Jade Global, MuSigma)



**P. Rohith**  
(Aveva)



**A. Sravani**  
(Grammener IT)



**G. Srija**  
(G T Kconnect)



**K. V. L. Sravya**  
(ZenQ)



**S. N. B. Sri Sruthi**  
(Jade Global)



**Ch. Vandana**  
(Jade Global)



**P. Sahithi**  
(G T Kconnect)



**G. Shiva Prasad**  
(ZenQ)



**G. Pramod Reddy**  
(CSSI)



**M. Krishna Vaagdevi**  
(Hyndai Mobis, MuSigma)

# foCuS

AVENA

  
TATA  
TATA CONSULTANCY SERVICES

ZENQ

HYUNDAI  
MOBIS

Gramener  
A DATA SCIENCE COMPANY



Mu Sigma  
DO THE MATH

GTCONNECT

 apps  
associates  
extreme expertise

jade  
GLOBAL

 DCSSI®  
Cost Segregation Services Incorporated

 Acheron  
Software Consultancy Pvt. Ltd.

ADP

**KAKATIYA INSTITUTE OF TECHNOLOGY AND SCIENCES**  
Opp: Yerragattu Hillock, Vill:Bheemaram, Mandal: Hasanparthy, Warangal-506015, Telangana