



SCMS

School of Engineering & Technology

Department Of Computer Science

WIRED

2.3

Volume 3
Issue 8



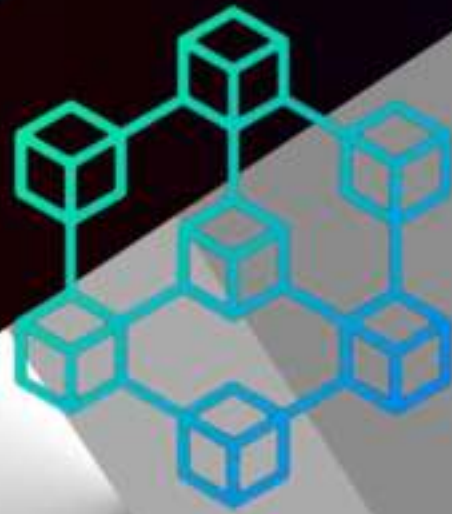
April -19

From the Editors' desk

We , the editors of this newsletter would like to sincerely thank the CS department for helping us in making this newsletter. We express our sincere gratitude to our class coordinators Ms Bini Omman , Ms Rosebell Paul and our dear friends for helping us with this task

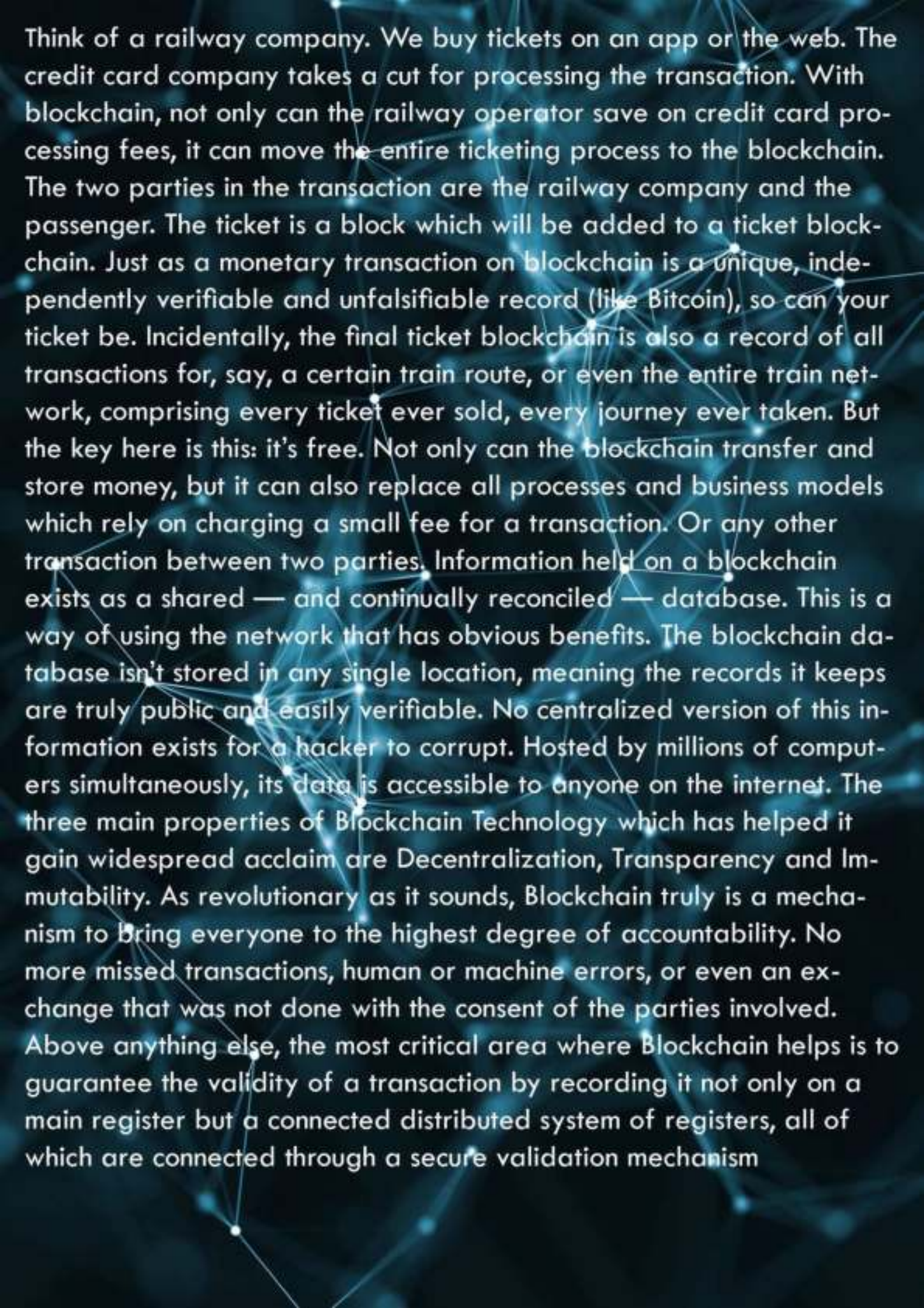
OUR TEAM

Shravan Manoj
Vikhnesk Krishna
Vishnu T.P



BLOCKCHAIN

The blockchain is an undeniably ingenious invention – the brainchild of a person or group of people known by the pseudonym, Satoshi Nakamoto. But since then, it has evolved into something greater, and the main question every single person is asking is: What is Blockchain? By allowing digital information to be distributed but not copied, blockchain technology created the backbone of a new type of internet. Originally devised for the digital currency, Bitcoin, the tech community has now found other potential uses for the technology. A blockchain is, in the simplest of terms, a time-stamped series of immutable record of data that is managed by cluster of computers not owned by any single entity. Each of these blocks of data (i.e. block) are secured and bound to each other using cryptographic principles (i.e. chain) So, what is so special about it and why are we saying that it has industry disrupting capabilities? The blockchain network has no central authority — it is the very definition of a democratized system. Since it is a shared and immutable ledger, the information in it is open for anyone and everyone to see. Hence, anything that is built on the blockchain is by its very nature transparent and everyone involved is accountable for their actions. A blockchain carries no transaction cost. (An infrastructure cost yes, but no transaction cost.) The blockchain is a simple yet ingenious way of passing information from A to B in a fully automated and safe manner. One party to a transaction initiates the process by creating a block. This block is verified by thousands, perhaps millions of computers distributed around the net. The verified block is added to a chain, which is stored across the net, creating not just a unique record, but a unique record with a unique history. Falsifying a single record would mean falsifying the entire chain in millions of instances. That is virtually impossible. Bitcoin uses this model for monetary transactions, but it can be deployed in many others ways



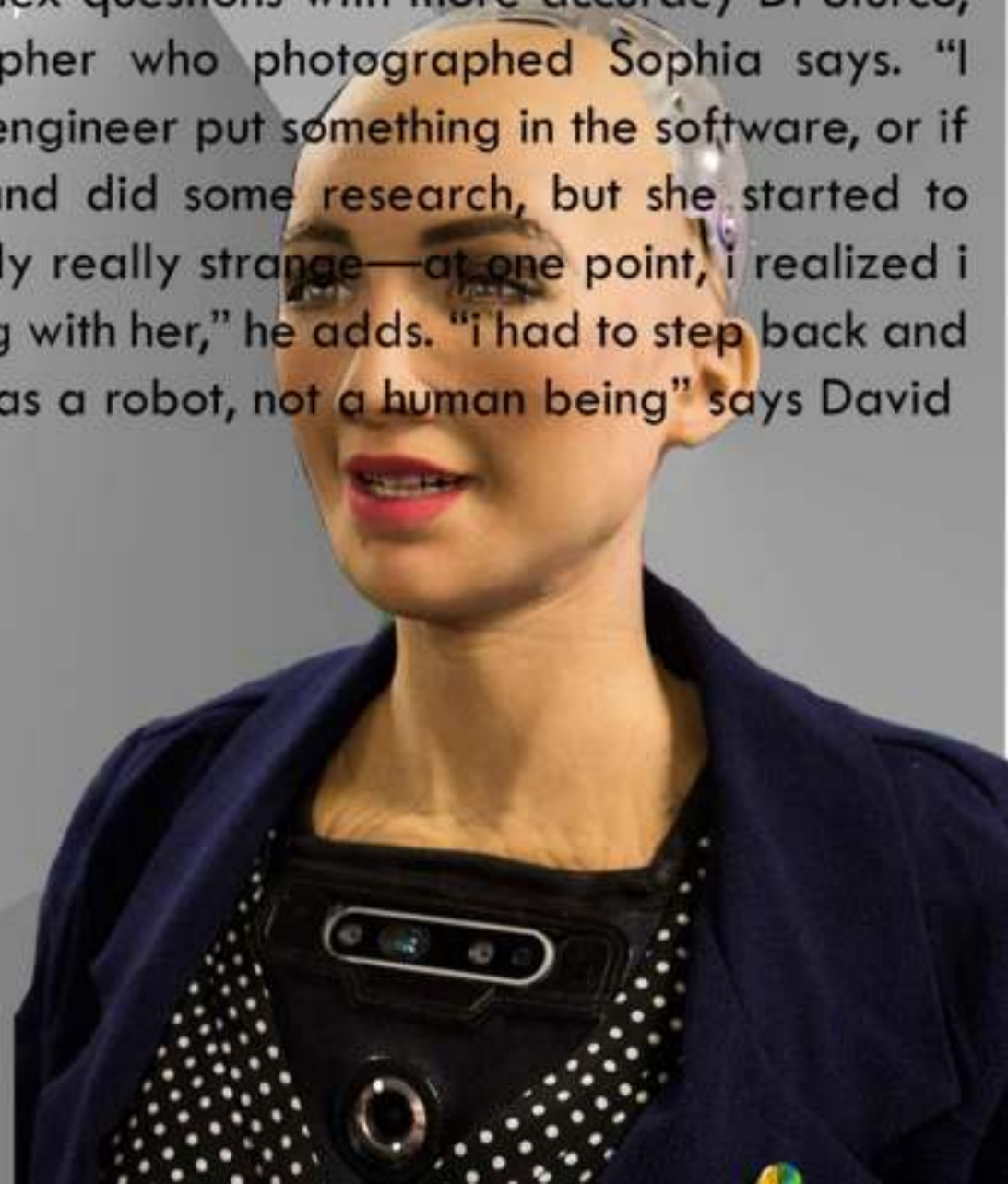
Think of a railway company. We buy tickets on an app or the web. The credit card company takes a cut for processing the transaction. With blockchain, not only can the railway operator save on credit card processing fees, it can move the entire ticketing process to the blockchain. The two parties in the transaction are the railway company and the passenger. The ticket is a block which will be added to a ticket blockchain. Just as a monetary transaction on blockchain is a unique, independently verifiable and unfalsifiable record (like Bitcoin), so can your ticket be. Incidentally, the final ticket blockchain is also a record of all transactions for, say, a certain train route, or even the entire train network, comprising every ticket ever sold, every journey ever taken. But the key here is this: it's free. Not only can the blockchain transfer and store money, but it can also replace all processes and business models which rely on charging a small fee for a transaction. Or any other transaction between two parties. Information held on a blockchain exists as a shared — and continually reconciled — database. This is a way of using the network that has obvious benefits. The blockchain database isn't stored in any single location, meaning the records it keeps are truly public and easily verifiable. No centralized version of this information exists for a hacker to corrupt. Hosted by millions of computers simultaneously, its data is accessible to anyone on the internet. The three main properties of Blockchain Technology which has helped it gain widespread acclaim are Decentralization, Transparency and Immutability. As revolutionary as it sounds, Blockchain truly is a mechanism to bring everyone to the highest degree of accountability. No more missed transactions, human or machine errors, or even an exchange that was not done with the consent of the parties involved. Above anything else, the most critical area where Blockchain helps is to guarantee the validity of a transaction by recording it not only on a main register but a connected distributed system of registers, all of which are connected through a secure validation mechanism

Back To the future



Rubberized faces stretch into familiar shapes driven by tiny motors and a distant version of artificial intelligence—is this the future? Sophia, a social robot created by former Disney Imagineer David Hanson, modeled in part after Audrey Hepburn and Hanson's wife, the robot was built to mimic social behaviors and inspire feelings of love and compassion in humans. Ever since her unveiling in 2016, Sophia has rocketed to stardom. The robot has sat for TV interviews, appeared on the cover of Elle magazine, been parodied on HBO, and was appointed the first non-human "innovation champion." In a ceremony promoting a tech conference, the Kingdom of Saudi Arabia even conferred citizenship on Sophia—an ironic move, given the limited rights afforded to Saudi women and migrant workers. Cameras within Sophia's eyes combined with computer algorithms allow it to see. It can follow faces, sustain eye contact, and recognize individuals. It is able to process speech and have conversations using a natural language subsystem. Around January 2018, Sophia was upgraded with functional legs and the ability to walk. Sophia is conceptually similar to the computer program Eliza, which was one of the first attempts at simulating a human conversation.

The software has been programmed to give pre written responses to specific questions or phrases like a chatbot. These responses are used to create the illusion that the robot is able to understand conversation, including stock answers to questions like “is the door open or shut?”. The information is shared in a cloud network which allows input and responses to be analysed with blockchain technology. David Hanson has said that sophia would ultimately be a good fit to serve in healthcare, customer service, therapy and education. Sophia runs on artificially intelligent software that is constantly being trained in the lab so its conversations are likely to get faster sophia’s expressions are likely to have fewer errors, and it should answer increasingly complex questions with more accuracy Di Sturco, famous photographer who photographed Sophia says. “I don’t know if the engineer put something in the software, or if she went online and did some research, but she started to pose, it was actually really strange—at one point, i realized i was even speaking with her,” he adds. “i had to step back and realize that she was a robot, not a human being” says David

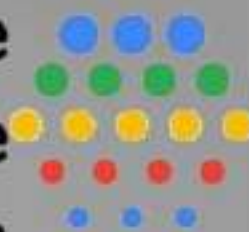




Hi, how can I help?

Google Duplex is a new project from Google that is currently live in the majority of the U.S. It allows certain users to make a restaurant reservation by phone, but instead of the user speaking directly to the restaurant employee, Google Duplex, with the help of Google Assistant, speaks for the user with an AI-based, but human sounding, voice. Google Duplex was first announced at the Google I/O developers conference in May 2018 by company CEO Sundar Pichai

Google AI



He showed how the service worked with an AI-driven voice, which was designed to help people make appointments to businesses over the phone, but without any interaction from the user. Pichai's demo showed the AI voice could not only understand the voice of the human on the other end of the call, but it could respond back with correct answers to that real person's inquiries and questions as well. Google Duplex's voice even put in words like "um" and pause breaks to make it sound even more like a real human. At the moment, the only thing that Pixel phone owners can do with Duplex is to make a reservation at a restaurant. In the future, the AI-based voice service could do a lot more such as make reservations for your doctor's appointment or set up time and day to get your hair cut.



Google Duplex

The past couple of years of Smartphone design have been dominated by debate over how best to increase the screen-to-body ratio, and where to put critical components on devices that are dominated by their screens. The Holy Grail is, of course, the ability to integrate them directly into the display, as we've already seen with fingerprint sensors — and selfie cameras are next. The display uses a custom transparent material that works with a redesigned pixel structure so that light can get through to the camera. The sensor itself is said to be larger than other selfie cameras with a wider aperture lens in front. The area of the screen reserved for the camera still works with touch control, and display quality won't be compromised



Under-Display Camera

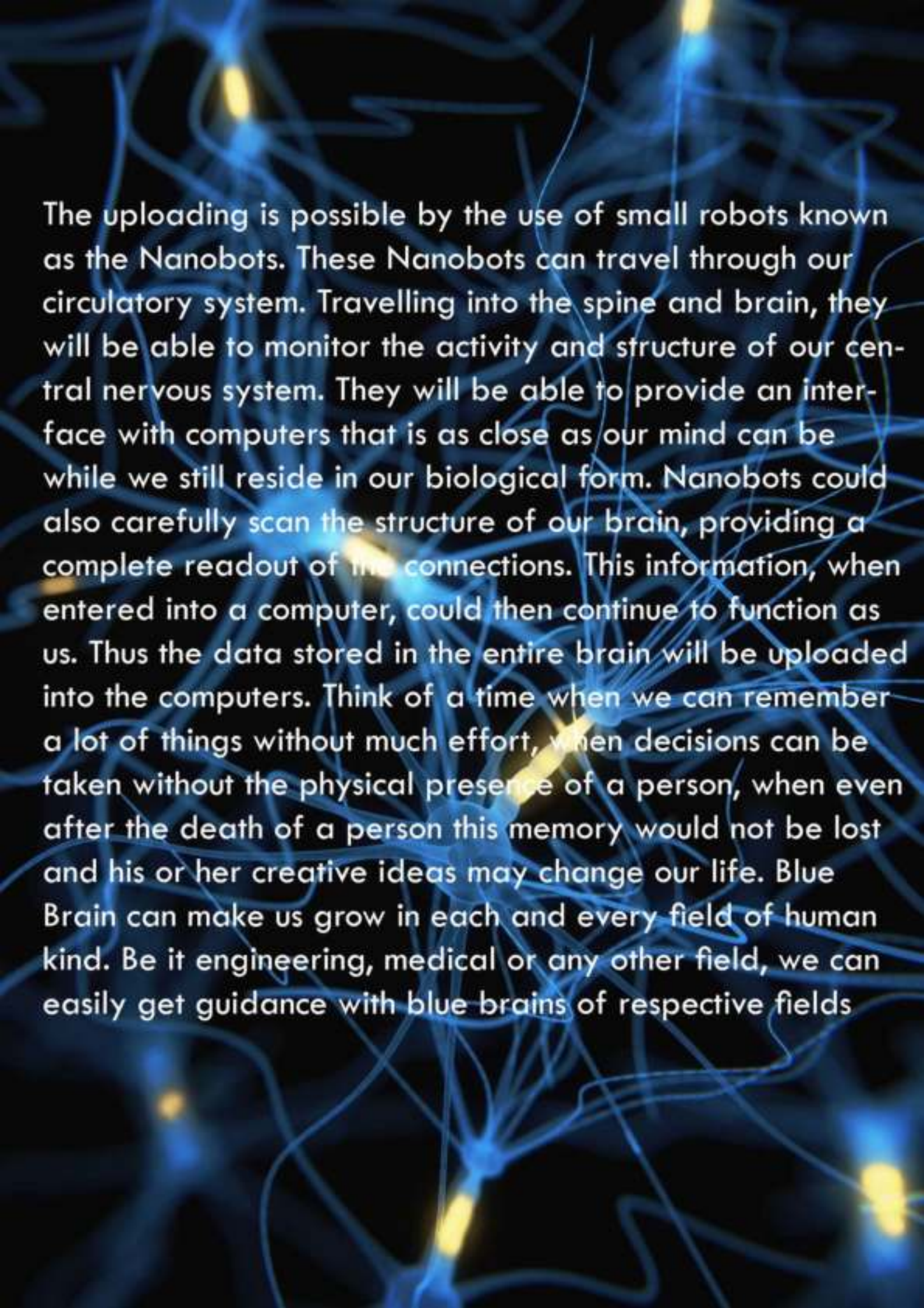
Putting a screen in front of a camera will inherently reduce photo image quality, with significant problems like haze, glare, and colour cast needing to be overcome. The under displayed cameras are developed with algorithms that are tuned to the hardware in order to address these issues, and claims the quality is “on par with mainstream devices,” but we’ll have to see for ourselves what that means once the tech ships on a commercial phone





BlueBrain

What is it that differentiates man and puts him on the throne of the entire animal kingdom? Yes, it's the human brain, and not the human, which is the most valuable creation of God. But the brain, all its knowledge and power are destroyed after the death of man. Is it possible to model a brain and upload the contents of the real natural brain into it thereby propagating life even after death? Yes, indeed. "Blue Brain" a machine which can function as human brain is the world's first virtual brain. The main aim is to create an artificial brain that can think, respond, take decision, and keep anything in memory. So that man can think, take decision without any effort. After the death of the body, the virtual brain will act as the man. So, even after the death of a person we will not lose the knowledge, intelligence, personalities, feelings and memories of that man that can be used for the development of the human society



The uploading is possible by the use of small robots known as the Nanobots. These Nanobots can travel through our circulatory system. Travelling into the spine and brain, they will be able to monitor the activity and structure of our central nervous system. They will be able to provide an interface with computers that is as close as our mind can be while we still reside in our biological form. Nanobots could also carefully scan the structure of our brain, providing a complete readout of the connections. This information, when entered into a computer, could then continue to function as us. Thus the data stored in the entire brain will be uploaded into the computers. Think of a time when we can remember a lot of things without much effort, when decisions can be taken without the physical presence of a person, when even after the death of a person this memory would not be lost and his or her creative ideas may change our life. Blue Brain can make us grow in each and every field of human kind. Be it engineering, medical or any other field, we can easily get guidance with blue brains of respective fields



Artworks by Shilpa Shekhar



SCMS

School of Engineering & Technology