SIGMA

SUMMING UP TALENTS

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Editorial

Technology being the backbone of the development has been an integral part of our lives today. No doubt, the degree of coupling, technology shares with our life varies a great deal from individual to individual. Being in an era of Block-Chains and Machine learning, technology seems quite compelling for a computer science engineer.

Another look at the trending aspects of tech and we can see the negative side of it. Be it the weaponization of AI or the use of data for selective crime, the containment of tech for the betterment of humanity seems a difficult task. But then, trends like Nano-robotic treatments and a countless other benefits are always there.

Looking back, its seems quite legitimate to ask have we been developing tech? Or is it that we have been consumed by it. The information, learning resources and tools that we have today, it was never available so easily to our previous generations. But with the advent of easy learning and abundance of tools, has talent and skill taken a hit? Although, the productivity has gone up considerably, the skill to create has somewhat been overshadowed with the urge to use what's already been created.

Being the to be engineers of today, and the facets of the development tomorrow, it's us who needs to decide on which side we are to stand. The prospects of self-learning and the urge for innovation is something that justifies the stature of a ''to be engineer''. The literal meaning of engineer itself is someone who can build. Writing code actually helps as it saves time. The more we use the pre-written code, the more it saves time in further development. It gives much more control to the developer in adding new functionalities to the software. With the knowledge about the various development tools and technologies that can be used, the skills of engineers are honed properly. Here, the only thing that hold back an engineer is the lack of will to learn and create.

That's where SIGMA steps in, getting you all the newest technologies, interesting and trending stuffs into your reach. Through interactive sections such as crosswords and Hunting in C&C++ it makes the readers to work out their brain while learning along the process. The magazine includes details about open source tools, tips and tweaks and tech articles that encloses all the latest information, the trends in the industry along with the possible inventions of tomorrow. Hope you all enjoy reading it and make good use of it.

-Divyanshu Anand

INTELLIGENT DIGITAL MESH

Want to get updated on the latest technological trends? Here is the most prominent topics buzzing around the internet. "Intelligent digital mesh" is a collective term entwining three words:

1) Intelligent-AI Foundation, Intelligent apps and analytics, Intelligent Things

2) Digital-Digital Twins, cloud to the edge, Conversational Platform, immersive experience

3) Mesh- Block chain, event Driven, Continuous adaptive risk and trust

Even if you haven't heard about it, here's all you need to know in simple terms. There's plenty of fuss going on about AI since decades. Every day a large portion of population is at the mercy of a rising technology yet few actually understand what it is. But thanks to books and movies each generation has formed its own fantasy like robotic takeover, flying cars etc. Basically, artificial intelligence is the capability of machines to think and learn and work and react like humans. AI improves business analysis and enhances the task of data scientist i.e. extract meaning and interpret data using statics and machine learning. Reasoning, interacting, understanding are the core features how AI amplifies human ingenuity into applications. Embedding AI into software application by deep learning and machine learning forms intelligent apps. E.g. Siri, Google Now which is Siri's counterpart, Alexa etc. It helps to boost customer's satisfaction by offering personalized deals. Similarly, intelligent analytics assist to make appropriate and correct decision based on the analysis of a huge volume of data. Superfast technological maturity has resulted in intelligent things. Various products incorporate computing capability with autonomous technology. Also, referred as internet of things. All the smart gadgets are the result of this implementation .E.g. health monitor, smart watch, smart security system etc. Swarm of collaborative intelligent things such as drones, robots, autonomous vehicles working together. This collaborative notion can drive powerful AI in future.

Real world merging with virtual world to give rise to digital experience. Digital representation of real world things is digital twin. In elaboration, the virtual representation of elements and dynamics of the working internet of things (IoT).If used correctly it can improve the gadgets by altering its design, build and operation and recalibration to bring out highest quality products.

Health sector, automobile, smart cities, industrial IoT and aircraft are some of the sectors which have benefitted. Edge computing things coordinated together with coordinated information

lot needs to be processed and responded to. Today's billions of connected devices are producing data at an alarming rate stressing the capacity of data centers. So, as a solution is that the data is sent to the datacenter which is closer to the user instead of a centralized one, hence speeds processing and analysis. It does imply that the cloud is coming to you as edge computing.

Cloud will deliver capabilities to nearest server and out into the real world as smartphones, pc etc. Conversational platform (one part of future user experience) is the method of communication between human customers and interactive agent, or Artificial Conversational Entity via auditory or textual methods. This can reduce the staffing costs of human customer service agents also strengthen customer engagement efforts with seemingly advanced functions such as reminding them to pay tax, check balance and so on.

Ten years ago, with the explosion of Facebook and twitter. But now consumer interest has hugely shifted into messaging apps. In fact in 2018 the top four messaging apps (WeChat, WhatsApp, Messenger, Viber) surpassed the top four social media sites(Facebook, Twitter ,Instagram, LinkedIn).So a way for businesses to create a two way communication 24/7 with user is through a chatbot. With artificial intelligence it can learn and get better by collecting significant data. Possibilities are endless with this unique technology such as personalized user service. The use of VR (Virtual Reality) and AR (Augmented Reality) are ramping as consequence, how we perceive the digital world.

Mesh is all about dynamic connection of people, processes, application technology and devices which will bring billions of things into a continuous digital experience. Agility and flexibility drive its design it is expected that more than 26 billion IoT

sensors and endpoints will be deployed by 2020. 25 or more Conversational AI systems by 2018.

Another incredibly topic nowadays is block chain, like the name indicates it's a chain of block containing information. It was introduced to the world in 1991 but became popular after "Satoshi Nakamoto" used it for bitcoins in 2009. Literally, its usage in digital crypto currency brought it towards the limelight. Block chain is completely open to everyone and once a data has been recorded it's extremely difficult to alter it. Elaboration, it is a simple database of which everyone can get a copy of,

Everyone can add new records to the copy but can't change the data stored in it. In the real world it gives a transparency, isn't tied to individual enterprise or application and has many potential applications in government, healthcare, content distribution, supply chain and more.
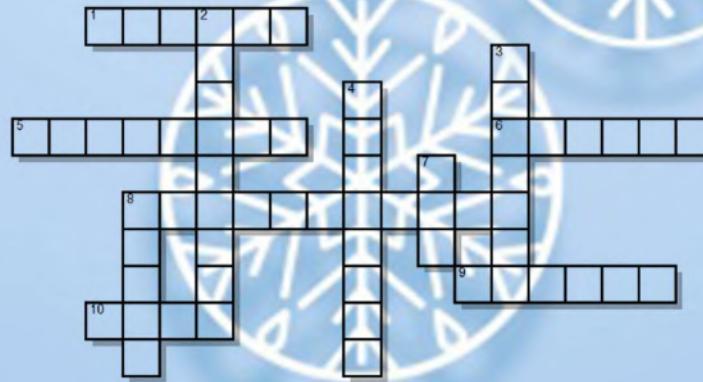
Distributed system which communicate with each other in a systemic manner imply event driven architecture such that business events can be detected more quickly and analyzed in greater detail.

When change is the norm we have to change the modeling of digital systems, security is a continuous adaptive process for IT risk management. . In this era, hackers remain a huge threat deception technology i.e., age-old notion of honeypot setup fake server, app to track bad guys. DeVSecOps (Development Security Operation) is a principle to wrap security in every step of technical expansion. To make it all work, you'll need an integration platform of all the technical aspects which is what mesh does. Intelligent capabilities are essential in forming backbone of system digital business and digital ecosystem, maximizing and connecting people and processes together. So, Intelligent Digital Mesh is your future. All in all, the world around us is being more dynamic and adaptive which requires all of us millennials to be updated and in pace with technological advancement.

-Aditya and Pranjal

-Sahana & Mrunalini

CROSSWORD

ACROSS
1. Cryptographic algorithm used in Litecoin to encrypt a key.
5. Google app that displays
6. A general-purpose logic programming
8. Use of technologies to make copies.
9 A program that is often used to maliciously Internet connections.
10. Power saving feature in android 6.0

DOWN
2. 2^{80} bytes
3. Malware which takes over electronic devices hyper local news and make them bots
4. A graphical network monitor for UNIX language associated with Computational linguistics used to control traffic
7. Android version with app slicing feature of natural things
8. The first robot with AI to fly in space

DIGITAL UNIVERSE

-Keshav & Shruti

David, one of the most renowned and sophisticated programmers of the New York City was furiously going through a series of commands to find out the errors but was continuously failing. Sleep deprived David, was not able to concentrate, as his three years old project was just one error away from execution. He decides to take a short break from this and lies on his couch for a while. But it is difficult to relax when your mind is stuck somewhere. David started thinking about how he got the concept of Digital Universe at the first place. It happened two years and eleven months back. He was watching a movie which involved around the concept of parallel universe and he just wondered what if each of us gets our own Universe. How magnificent it would be if each person owned millions of galaxies and could tour around them whenever they wished to. The project was scary but big. He couldn't wait to reach home and start his research on possibilities and outcomes. The idea was to create a simulation of the universe in order to create a digital universe. Modifications would accordingly be done after the successful execution of the simulation. Ever since the idea popped into his mind, David has always been either thinking of new sets of code or modifying the older ones. Today when he is just one step away from his dream project, all the feelings are at its peak. David gets up, pours in some coffee and goes back to his system to find the error. "How can one be as stupid as me?" was what David told to himself. You make the silliest of mistakes when you go through multiple things at a time. That's what David did. He had not given a termination statement for a loop because of which the code was not getting compiled. He did the correction and by taking God's name, he executed the code. To his surprise, there were no errors and compilation was complete. In the output terminal, he got all the details of planets, stars, galaxies, weather forecasts of places all over the world that he has mentioned in his code. To his surprise, the weather forecast in the output was same as mentioned in the weather forecast of the New York City on that day. David was excited as all his hard work paid him off. He was finally able to create a universe which belonged to him - just him! He controlled his excitement and thought of making some changes in order to make it more efficient. He did the most basic thing. He just changed the weather condition from Sunny Day to Heavy Rain and executed it. He got the desired output.Meanwhile, when he looked out of the window, he saw it started raining out of nowhere. He closed the window and resumed his work. He made some more changes. He gave input as Earthquake and checked the output and for once he felt a vibration in his body and the surroundings. He decided to do one last change and then go to sleep. He thought of giving Destruction as input but immediately changed his mind and went for barren Earth. As he got the output, a chill ran down his spine. He saw that the rain had stopped and it was all dry. He went out of his home only to find himself surrounded by nothing but barren land with familiar faces on it.He was confused and didn't want to think anymore.He could relate now that what has happened and what was happening from past 15 minutes.All of his changes to the Digital Universe were also getting implemented in the real universe. The rain started out of nowhere, the vibration and this barren land. He could relate it all. But he didn't want

that. He went inside and did some more changes and found that all of them were getting executed on the real universe as well. David freaked out. He was not at all aware of what had happened and how did it happen at the first place. To relax, he thought of profits of being able to control the Universe but all that came to his mind were the side effects of it. "Oh, I was going to give input as Destruction" was the first thought that came to his mind. This bunch of code was indeed destruction. David sat for a while and tried to calm down. He started to think of the solution. He made several changes in the logic in order to discard the execution onto the world but nothing worked. He thought and stressed a little more but none of his ideas worked. All of a sudden a weird yet possible idea flashed his mind. He could create another simulation of the universe to counter the effect of the Digital Universe. He thought this could work. It took David a long time to create another simulation. He was ready to execute the program but he was scared to death as he would not be able to afford another wrong impact. But he had no other choice. He had to find the solution anyhow. So he executed the code. No error. He executed the Digital Universe simulation to check if the results got balanced or not. He gave the input as medium rainfall in the Digital Universe and in the other program; he gave no rain as input. But the result on the real universe was totally unexpected. It was a thunderstorm. He gave several other inputs but was getting results which were out of the scope of his mind. David was about to faint now. He thought of removing the second simulation but that did not work. It was as if nothing can be done with this code. In anxiety, David gave multiple inputs in both the systems and this was the mistake he was going to regret until he is alive. "This is the end of the universe and I am the reason of it," he shouted. The output that popped was "Apocalypse". Soon, rain, thunderstorm everything started. It was in real and David had never felt this much helpless until now. He saw everything moving. It reminded him of the movie from which he was inspired for this project. Trees were falling. The wind was blowing. Nothing was normal. He saw the fan falling from the ceiling and when it was about to hit him, David woke up. He was soaked in sweat. It took him a while to realize that he was sleeping and it was all a dream. He fell asleep as soon as he lay down on the couch. He never thought of the origin of the Digital Universe. He never got up and went to make coffee. He never debugged the error. After all, he was sure he wasn't that stupid to miss the loop termination statement. All those things never really happened. David took a sigh of relief. As soon as he gained full consciousness, he thought what if all those things really happen when I debug the error. What if I become the reason for destruction? But then he thought and came onto the realization that the dream was certainly not possible. So he went on to debug the error but stopped. Deep down, he was still scared. He was not at all able to concentrate. After one hour of thinking, he came to the conclusion that he will not execute this project. He can't put on stake the whole Universe. He decides to delete the code and burn every thesis he made. As David felt a bit satisfied, a thought tensed him. "What if that idea has already been executed? What if our real Universe is the outcome of someone else's output? What if the entire phenomenon that happens around the globe and the planets are someone's inputs. What if Apocalypse is actually approaching us? And the most important question, who is going to debug this error?"

HUNTING IN C/C++
-Pranav

1.
```c
#define f(g,g2) g##g2
int main()
{
int var120 = 15;
printf("%d", f(var,120));
return 0;
}
```

2.
```c
int fnc()
{
    int a=250;
}
main()
{
    int  i;
    i = fnc();
    printf("%d", i);
    return 0;
}
```

3.
```c
int main()
{
struct str
    {
    int i: 1;
    int j: 2;
    int k: 3;
    }s;
    s.i = 1;
    s.j = 2;
s.k = 5;
printf(" %d %d %d",
s.i, s.j, s.k);
    return 0;
}
```

4.
```c
int main()
{
int x=011,i;
    for(i=0;i<x;i+=3)
    {
        printf("Sigma ");
        continue;

    printf("Browse");
    }
    return 0;
}
```

Answer: 15

Answer : 1

Answer: -1 -2 -3

Answer: Sigma Sigma Sigma

Digital Data Listeners
-Sadiq

"Alexa. Book an Ola Cab to Electronic City immediately" and bingo, you have a cab arriving in 5 minutes. Easy right? Wrong. Have you ever given a thought as to how a smart speaker is actually made smart? Did you ever ponder, what if your intelligent personal voice assistant service is always listening to you and thus might be collecting serious personalized information about you? Sure, there are laws about all of this and you are protected, right? Wrong again. Companies like VIZIO, Amazon, and Google and like have been collecting second by second data about you through their "intelligent a.k.a smart devices". The same goes for any activity you perform online. The moment you enter the online space, you are leaving footprints that won't ever be erased unless the Earth turns red. You enter a website or you send a text message via some chat room, you make use of Google Assistant or you render Siri, everything is being recorded and monitored. You are being profiled relentlessly and mined on.

Imagine yourself immersed in a mesh of digital conversations happening around you every second of the day, day in and day out, on times you are around and on times you aren't, about you and worst of all, you being totally unaware of it. Now imagine, this data falling into "good hands" like advertising companies who can use this data about you and literally trick you into buying their products, without even soliciting consent from you! Sounds spooky right? What more worst would be this data falling into hands of those whose hands aren't neat! The possibilities are endless and freaky. A recent study from Princeton University found that cross-site trackers embedded in 482 of the top 50,000 sites on the web were recording virtually all of their users' browser activity for "analysis".

You might come up say, "Hey. So, what if they collect information about me. Isn't it the part of the technology contract?

We give up some privacy in return for smart favors?" Sorry to say but you wouldn't actually get the issue unless Imagine you have a set of secrets like you brush your teeth really late on days you aren't going out or you drop your stools late in night, against the early morning convention or let's say you take some pictures on your phones that are meant to be totally for yourself or you have a great idea you pinned down in an online facility like Google Documents. Now imagine someone out there has an eye on this data and not just that, they also are cashing in on this data! It's already bad that these are your secrets and now you'll be put on bet based on the same! Isn't it so awfully astounding? You are a part of an online "research-experiment" and you don't know that!

Setting up smart environments isn't just about having internet connected devices. They come with a number of other complexities associated with them. Like you might run out of sockets to plug them in, or you might have to train it consistently. To render their services, you would have to remember specific words and so on. You also would get addicted to these services, become socially distant or you might develop serious anxiety issues due to overindulgence in these data-hungry spheres. The risks are huge and pretty unnecessary.

Well. All said and done, we are a tech-savvy crowd so we might still continue using these services despite all the warnings and why not, they make our lives greatly easy. True that. I shall go back home now and still use Google Assistant to get many things done but then, all that I'm saying is be conscious and informed. Be aware of what you are giving out to these companies. You might own the product but in reality, these companies own data about you. You become the product without your consent and what more, you pay for being a product! Some of us really care about our privacy and we wouldn't want to be used as "social-experiments" without our explicit consent.

THE TOR PROJECT -Karan

TOR, or The Onion Routing is a routing protocol to enable anonymous communication over the Internet. This project was basically started by non-profit seeking people who support basic human rights and liberty. Before going into the technical details regarding the working of TOR, let's first try to understand the philosophy and idea which led to its creation in the first place.

Why TOR?

The right to speech is one of the most basic rights in a democracy. Not one human should be excepted from the basic human rights that we, as a world agree should exist. That is exactly what the basic idea behind this project is. Its main focus is to put enabling technology in the hands of every individual irrespective of caste, nationality, creed, race or sexual orientation. It's up to the individual how they wish to utilize it.

Let's take an example: You are alone and are trying to learn something new. The feeling of liberty lets you try out new things without someone judging you. You can make mistakes, do it all over again and understand the way you feel comfortable with it. Liberty brings about innovation and creation. Now, suppose some stranger comes out of nowhere – you stop ABRUPTLY. You can't feel the same degree of security and liberty that you did when you were alone. This is exactly what the idea of online anonymity is. The freedom of speech is achieved when no one judges your views based on your caste, race, nationality or sexual orientation and you are treated equal to others. This is what is brought about by anonymity.

This idea extends to the problem of surveillance. Most of us are aware of the mass surveillance programs that started up in the post 9/11 US. These programs almost covered the whole world and, innocent or not, everyone was monitored all the time. Various activists have come up to fight for human rights and liberty and the community has been ever increasing. One of these people is Edward Snowden, a former NSA senior member, who actually leaked this program to the public.In his words regarding his work in NSA- "We are building the biggest weapon of oppression in the history of mankind".

This digital war is meant to benefit the common citizens, and will not be successful till all of us become aware of the fact that we are never actually alone.

Now, you may think that you can pay a good VPN service provider for anonymity or some other privacy based service provider and leave the headache of this routing protocol. For this question, consider this – you produce a lot of data, it may be personal pictures, credit card numbers, your residential address and other details related to your personal and professional life. What we do is hand over this data to someone who promises not to share this with anyone. We rely on a third party to keep our personal data secure. This is called privacy by policy which is followed by almost all the sites and software we use. Many of you may not consider this as true privacy as the third party is a stranger and it is basic human nature not to trust a stranger.

Another type of privacy is privacy by design. It means the system is designed such that you don't need to share your data with anyone to secure it, rather you decide whom to share your data with. TOR is basically based on absolute privacy by design.

How it works?

As the name suggests, TOR secures your connection with three layers of encryption. It is the reason for the 'onion' in the name as an onion too is covered in layers. This encrypted information is further passed through at least three voluntarily operated servers throughout the world known as relays. The Middle relays add to the speed and robustness of the TOR network without making the owner of the relay look like the source of the traffic. The last relay through which the traffic passes before it reaches the destination is known as the exit relay. Because TOR traffic exits through these relays, the IP address of the exit relay is interpreted as the source of the traffic. Moreover, this relay network is regularly changed after a fixed amount of time thus enhancing the security. It also makes all the users look same which confuses the observer and aids us in anonymous communication over the internet.

"Don't trade your liberty, which is a basic human right, for absolute privacy, which is a myth"-Anonymous.

TIPS AND TWEAKS

-Shweta,Suchitra,Avinash

- **Hidden Game Bar**

Using the Windows key-G command, you can pull up the new-and-improved Game Bar. This lets you switch your Windows PC into gaming mode (which pools system resources to the game and turns off notifications and lets you record and broadcast your gaming), along with added panels for controlling your audio.

- **Stop Typing, Start Dictating**

Speech recognition has always been a strong suit for Microsoft, but in the latest Windows 10 release it's almost second nature. In Settings, go to Time & Language > Speech > Related settings and click "Speech, inking and typing privacy settings" to enable speech services and typing suggestions.
Once you do that, you can use the Windows Key-H hotkey combination in any text field to pop up a Cortana box that records your voice through your Windows machine's microphone and dictates the speech in your text field.

- **Hidden Games in Cortana**

They're not games in the "fun" sense as much as they're cool little time-killers that Cortana can help you with. You can type (or say) "Rock Paper Scissors," "Roll the Die," or "Flip the Coin" in Cortana for a fun graphic gaming experience.

- **Wanna find the Wifi password?**

Try this in CMD, run as admin though
"netsh wlan show profile"
Then of the required wifi network type
"netsh wlan show profile WiFi-name key=clear"
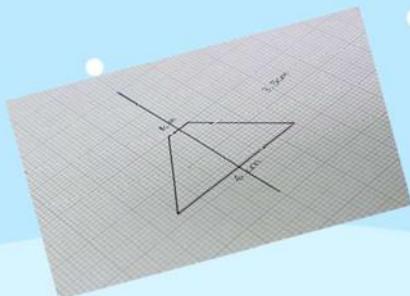Under the security settings in the key content, check the password.

DO IT YOURSELF

-Vivek & Kasthuri

CREATE A 3D HOLOGRAM USING YOUR SMARTPHONE

Materials Required:

- Graph Paper
- CD case
- Tape or super glue
- Pen
- Scissors
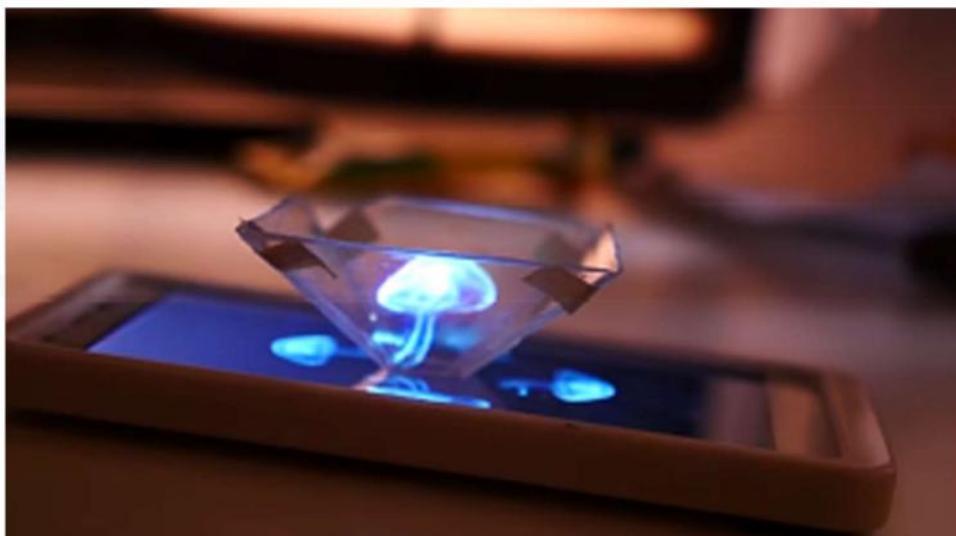- Smartphone
- Knife or glass cutter

Procedure:

- Take a graph sheet and draw a trapezium of dimensions 1cmX3.5cmX6cm as shown in the picture and cut it out using scissors. This will provide you the paper template you need as a reference for the hologram.

- Now, take the CD case and remove the edges of the case as it blocks us from cutting through. Place the paper template on the CD case and using the paper template as a reference draw the trapezium on the CD case and cut the CD case in the shape of the trapezium. Repeat the same procedure and make 4 trapeziums out of the CD case.

- Arrange the 4 trapeziums adjacent to each other in the shape of a pyramid as shown in the picture and stick them together using glue or a tape. By doing this, you have created your own hologram.

- Now place your hologram on the centre of your smartphone. Play a video and switch off the lights/use diffused ambient light source. This will give you an amazing view of the holograph subject (image/object) as they will appear 3-Dimensional.

- You can now enjoy your own version of a hologram and amaze your friends by exhibiting them some visual depth cues such as parallax and some really cool 3-D effects.

AUTONOMIC COMPUTING

-Pranav

Programs crash, people make mistakes, networks grow and change. That's life, and computer scientists are finally building systems that can deal with it. Today, IT organizations are faced with the burgeoning challenges of supporting the needs of the corporate enterprises with a reduced budgets and growing computing demands. For many enterprises, the challenge is compounded by complex architectures. Even if people could somehow come up with enough skilled minds, the complexity is growing beyond human ability to manage it. These complexity situations have caused system management costs to escalate while budgets of corporate enterprises are shrinking. Solving this problem requires a new computing model, one that allows for efficiencies in IT infrastructure and resources. That's when a new self-managing computing model came called Autonomic Computing, a term first used by IBM in 2001.

Autonomic computing is inspired by human autonomic nervous system. It creates systems that can manage themselves when given high-level objectives from administrators. Systems manage themselves according to an administrator's needs. New elements integrate as effortlessly as a new cell establishes itself in the human body.

IBM has defined four basic properties for autonomic systems. These properties are Self-CHOP (self- configuration, self-healing self-optimization and self-protection). Self-configuration uses adaptive algorithms to determine the optimum configurations like installation of new software releases, automatically and seamlessly. Self-optimization is the key to allocating e-utility-type resources, determining when an increase in processing cycles is needed, how much in needed, where they are needed, and for how long. Autonomous computing systems have the ability to discover and repair potential problems to ensure that the systems run smoothly and this property of these system is called Self-healing property. To implement Self-protection, an autonomic system protects itself from malicious attacks but also from end users who inadvertently make software changes, it uses sensors that are continuously feeding data to protection center which is processed and if any threats are found then some appropriate actions are taken upon that.

Just like two sides of coins, autonomic computing also has its pros and cons, the main benefits of autonomic computing are reduced Total Cost of Ownership and maximized system availability. Breakdowns will be less usual, thereby drastically reducing maintenance costs. Fewer crew will be required to manage the systems. Autonomic systems can also reduce the time for deploying new systems.

Along with these benefits, autonomous systems also have some issues. Increasing system complexity is reaching a level beyond human ability to manage and secure. It also has some problems related to design and development which is further related to Hard and Soft Computing. Testing autonomic elements and checking that they behave correctly will be particularly challenging in large-scale.

Autonomic computing is an emerging holistic approach to computer system development which aims to bring a new level of automation to IT systems. Computing research has evolved in many isolated research fields as (security, high performance, AI, network, agent systems etc.). Each discipline has managed to deliver computing systems that meet their target domains (e.g., High Performance Computing). Nonetheless, if the computing systems and application would require combining these capabilities; i.e., delivering computing systems that provide high performance, security, fault-tolerance, intelligent computing systems and applications are not practically feasible and available. Autonomic computing is the emerging computing field that addresses all these issues in an integral way and can be viewed as the computing field that will converge all these disciplines in one field – Autonomic Computing.

THE TEAM

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-Karan & Eeshan

BLEACHBIT

BleachBit is a free and open-source disk space cleaner, privacy manager, and computer system optimizer. It is written in Python.It is supported on Operating systems like Microsoft Windows,Mac OS X and Linux.It can identify and remove Web cache, HTTP cookies, URL history, temporary files log files and Flash cookies for Firefox, Opera, Safari, APT, Google Chrome.It can wipe unallocated disk space to improve data compression ratio for disk image backups.It is the best open source alternative to Ccleaner.

FRINKIA

This Java-based tool offers "a complete music workstation" for creating any kind of music. To hear samples of music created and edited with Frinika, you can listen to the SoundCloud demos. It replaces FL Studio producer edition. Operating System: OS Independent

VTIGER

With more than 4.5 million downloads, vTiger says that it is the "#1 open source CRM software." It also offers cloud-based paid software in Sales, Help Desk or All-in-One editions. Operating System: Windows, Linux, iOS, Android

CAFFEE

Caffee or Convolutional Architecture for Fast Feature Embedding, is a deep learning open source framework.It is written in C++ with a Python interface.It is supported on Operating systems like Microsoft Windows,Mac OS and Linux.Caffe supports many different types of deep learning architectures geared towards image classification and image segmentation. It supports CNN, RCNN, LSTM and fully connected neural network designs.It is an open source replacement for other paid AI and machine learning softwares.

PDF CREATOR

With PDFCreator, you can create PDFs from almost any application that can print, plus you can encrypt files, modify security settings, and merge multiple documents and more. The standard version is ad-supported, or you can choose to pay for the ad-free professional version. It replaces Adobe Acrobat Pro DC. Operating System: Windows.

CINERELLA

Cinelerra, a video editing software, was designed to be "useful and fast" with a minimalist but powerful interface. It is descended from software under development since 1998. It replaces Adobe Premiere Pro ($19.99 per user per month). Operating System: Linux

INKSPACE

Also suitable for use by professionals, Inkscape is a high-quality vector graphics drawing program. It supports most common vector file formats, and there are plenty of tools on the website to help you learn how to use it. It replaces Illustrator and CorelDraw. Operating System: Windows, Linux, macOS.
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KRITA

Krita is a free-software and an open-source raster graphics editor,used for digital painting and animation purposes.It is written in languages like C++ and Qt.It is supported on Operating Systems such as Windows,Mac Os and Unix-like OS.It is designed primarily for concept artists, illustrators, matte and texture artists, and the VFX industry.This software is still growing and it can be a replacement for paid softwares like Adobe Photoshop.

KUBERNETES

Kubernetes is an open source system which aims to provide a platform for automating deployment, scaling, and operations of application containers across clusters of hosts.It was originally designed by Google and is now maintained by the Cloud Native Computing Foundation.It is written in the programming language Go.It was mainly used in linux but we can install it on other Operating Systems. Kubernetes is loosely coupled and extensible to meet different workloads. This extensibility is provided in large part by the Kubernetes API, which is used by internal components as well as extensions and containers that run on Kubernetes.

AMAYA

The official Web editor of the World Wide Web Consortium (W3C), Amaya has been around since 1996. It includes an integrated browser and supports XML and related languages, as well as HTML and CSS. It is a replacement for Adobe Dreamweaver($20 per user per month). Operating System: Windows, Linux, macOS

OPENEMR

OpenEMR is free and open-source medical practice management software.It also supports Electronic Medical Records(EMR).The server side is written in PHP and is supported on any operating system with PHP support.Some important features are Patient De-