

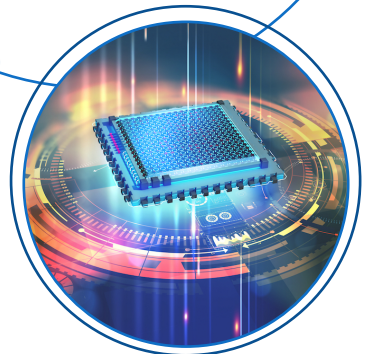
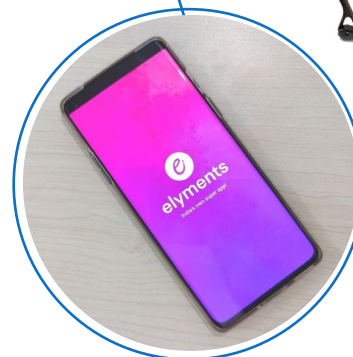
# eNEWS-2

CryptX Club

Jayshree Periwal High School



# CryptX



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Uptown Spot

India is hitting the social media market

Insta's Reels expands to India

Google + got a makeover

Secure India. Secure You.

Introduction to Quantum everything

The inventor of the future

The War of Consoles

Acer Predator Helios 300



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## Uptown Spot

Milind Sharma

Imagine a robot which can traverse through treacherous terrain while carrying a 10kg payload, making a 3D map of all the objects around and sending all the data that it collects via WiFi-6 through an onboard mini-computer with a Core i5, 16 GB RAM and a 512 GB SSD. This is what Boston Dynamics has made and it is called SPOT.

This robot is the result of more than 10 years of continuous work by many of the best engineers the world has ever seen. Boston Dynamics says, “A nimble robot that climbs stairs and traverses rough terrain with unprecedented ease yet is small enough to use indoors. Built to be a rugged and customizable platform, Spot has an industry track record in remote operation and autonomous sensing.” Artificial Intelligence, Deep learning, Neural Networks may look like fancy or complicated words, but the way Boston Dynamics has implemented all these things in this robot is just is amazing! It has 8 main cameras which it uses to “see” the world around it as to avoid any obstacles and make a 3D map of the terrain around to find the best path to go from point A to point B. SPOT has a max speed of 1.6m/s with step height of approximately 30cm. It can move up or down on a surface with a max slope of 30 degrees. It can look at distances as far as 4m with a FOV of 360 degree. The cameras also provide live monochrome video feed that can be streamed through the control tablet or over the API. For high-definition, colored images or increased range in 3D mapping, accessories such as Spot CAM or LIDAR can be added to the system. By far the coolest and the most useful accessory that SPOT supports is the SPOT Arm with which it can do simple tasks like opening a door or picking something up. All the accessories can be mounted on the rail system that Boston Dynamics provide on top of the robot. It has also got some cool dance steps.

The base model of the robotic dog starts at 75,000\$ which can go as high as 150,000\$ with accessories. Whether anyone buys it or not, this shows that we can build better robots which can help humanity, be in household tasks or interplanetary travels.



## India is hitting the social media market

Jasraj Johal

India's first social media super application, Elyments is an all-out social media app that rivals Facebook in terms of features and things you can do with it. It's also completely homegrown, developed by Bangalore-based private IT consultant, Sumeru Software Solutions with more than 1,000 IT employees working on it, on behalf of the Art of Living Foundation who came together to create the homegrown application. This app is being seen as a massive boost to Indian startups and a major push towards 'Make in India' initiative.

This app has been created with user's privacy as priority. The team members stressed that the data of users is stored in India and user's data will never be shared with a third party without the user's explicit consent.

At the time of writing this story, the Elyments app has already amassed over 500,000 downloads on the Play Store. This social media super app is also available on iOS, to my surprise, so go ahead and give it a try on any of these mobile platforms.

“It is aimed at giving a new boost, a quantum jump to the economic potential of the country by strengthening infrastructure, using modern technologies, enriching human resources, and creating robust supply chains,” said Naidu.

## Insta's Reels expands to India

Naman Baid

Facebook is testing Instagram's Reels feature in India. Reels is a video editing tool designed to let people create TikTok-style 15 second videos that can be shared on their Instagram Stories, sent via DM, or posted to a section of the Explore tab called Top Reels. The news emerged just days after the Indian government banned TikTok along with 58 other China-based apps. Reports suggest that some Instagram users in India have already started receiving Instagram's new feature in an update, and a Facebook spokesperson confirmed that the company plans to release the feature more widely.

"We're planning to start testing an updated version of Reels in more countries," a Facebook spokesperson said, "Reels is a fun, creative way for people to both express themselves and be entertained. We're excited to bring this new version to more of our global community. No further plans to share on launch date or countries for now."

Reels has had a relatively slow rollout worldwide after first launching as a test in Brazil last year on both iOS and Android. Last month, TechCrunch reported that the feature had expanded to France and Germany. Facebook has also recently announced the shutdown of its standalone TikTok-style video app Lasso, with some speculating that it came as the result of an upcoming launch for Reels.

## Weekly dose of news

Subham Jalan

- Apple's supplier Foxconn said to plan \$1 billion investment in India
- Reliance Jio launches JioMeet video-conferencing tool, allows up to 100 participants and copied Zoom UI.
- Google discontinues the Pixel 3a and Pixel 3a XL.
- China was the biggest contributor to e-waste last year, followed by the United States and India, according to a UN-led report.
- Qualcomm Announced its flagship chip Snapdragon 865 Plus.
- Google Maps is starting to show traffic lights at intersections or junctions (this feature will be available in India soon).
- Now get Paytm KYC done over video chat.
- Nvidia beats Intel for the first time to become most valuable US chipmaker.
- Sony buys \$250 million stake in Fortnite creator Epic Games

## Google+ got a makeover

XDA- Developers

In early 2019, Google Plus was shut down after a data breach was disclosed. Google has rebranded the old Google+ apps for Android and iOS under the new "Currents" name. The service is essentially the same social network as before, but it's for enterprise customers only. It's common for businesses to have internal communication platforms, and Currents can fill that need for businesses without their own platforms. The Currents app itself is very similar to the Google+ app it replaces. The UI is mostly unchanged, and many of Google Plus's features are still present. There are a few new business-y features for content moderation and administrative privileges.





## Secure India. Secure You.

Subham Jalan

Almost a week ago, the Ministry of Information and Technology banned 59 mobile apps in India claiming that they posed a threat to our security and integrity. The question is, how correct are they? "Data is the new oil.". 30% of Indians own smartphones using which they interact with the web. They use different apps for doing so, be it Facebook, WhatsApp, browsers, or even Spotify! The problem is, some of these apps are stealing your data. You might think that you don't have anything precious on your smartphone and hence you are safe, but unfortunately, that's not the case. Have you ever noticed that you might have got some ads related to a product/service that you may be discussing with someone in person or over the air but didn't google it? This is such because companies, mainly Google, try to deliver you personalized ads. These banned apps were allegedly storing our data for business purposes. They could sell your data to any company and change the track of events. Your data can be used to influence you by showing you repetitive content reflecting a different ideology than of yours and ultimately by changing the way you think or behave. It can be used to even change the outcomes of an election, which is allegedly what happened during the 2016 US elections creating lots of unwanted controversies. This is scary as you don't even realize it's happening to you when it is. When you look at this on a county-wide scale, the problem becomes even more worrying, So, it's better to get rid of such apps as soon as possible and protect yourself from being hypnotized by yourself.

## Introduction to Quantum everything

Jeev Jatin Singh

Everything was going well for physicists in the 18th century. Newtonian mechanics ruled, nature was deterministic. Everything was occurring according to classical physics. Until one day, it didn't. Imagine heating an iron rod, it first starts red, then turns white as it gets hotter. The classical explanation for this phenomenon was that the iron rod should emit more energy as the frequency increases. This would result in an infinite amount of energy at high frequencies. (Ultraviolet Catastrophe). Of course, that didn't work out. Classical Physics had failed. Then came along Max Planck who suggested that light was discrete. It came in chunks. Quantum Physics was born.

Now, imagine running headfirst into a wall and emerging out the other side unscathed. That's Quantum Tunneling in a sentence. We have been taught of nuclear fusion from the seventh grade. Two Hydrogen Nuclei somehow combine to form a helium nucleus. Ever wondered how they can fuse even though both the nuclei have a positive charge? Like charges repel. Then how do they cross that energy barrier? Quantum Physics has the answer. They tunnel through that barrier. This phenomenon is called Quantum Tunneling.

Still not convinced of the craziness? Here's a thought experiment. Suppose you flip a coin. It has an equal probability of landing on either heads or tails. Now when you flip the coin, when it is in the air, does it have heads or tails? You'd think it'll be either heads or tails. But if this is a quantum coin, it will be both heads AND tails at the same time. Now, this doesn't happen with coins but it does with subatomic particles. This is superposition

If you find yourself confused about how something like this can happen, then you are in good company, because almost everyone working in this field is as well. Quantum Physics is so counterintuitive that even Einstein got it wrong. (EPR Paradox)

Quantum Physics is unlike anything we have ever learnt. It has shown its impact on information science too, with quantum computers on the rise. Quantum Computers can solve problems that supercomputers can't. This is because of the Quantum Phenomena they utilize, namely entanglement and superposition. People say Quantum Computing is a gamble. If so, it's a billion-dollar one. Even so, it's a gamble worth taking.

*"NATURE ISN'T CLASSICAL DAMMIT, AND IF YOU WANT TO MAKE A SIMULATION OF NATURE, YOU'D BETTER MAKE IT QUANTUM MECHANICAL, AND BY GOLLY, IT'S A WONDERFUL PROBLEM BECAUSE IT DOESN'T LOOK SO EASY"*

-Richard Feynman

# The inventor of the future

Subham Jalan

Guido Van Rossum is a Dutch programmer best known for being the creator of Python. He was born on January 21 1956 in Netherlands. He was Benevolent dictator for life (BDFL) until he stepped down from the position in July 2018. Being the BDFL meant that he oversaw Python development process, and made decisions wherever necessary while having a final say in disputes.

He grew up in Netherlands where he received his Master's degree in mathematics and computer science from the University of Amsterdam in 1982. He worked for various research institutes, including Centrum Wiskunde & Informatica (CWI) in the Netherlands, the U.S. National Institute of Standards and Technology (NIST), and the Corporation for National Research Initiatives (CNRI). He then worked at Zope, Elemental Security, Google, and finally Dropbox. He retired in October 2019.

In December 1989, Rossum had been looking for a hobby programming project that would keep him occupied. It was then that he worked on an interpreter for a new scripting language which was a descendant of his earlier-made ABC Programming Language. He ended up naming it Python, because he was a fan of the show "Monty Python's Flying Circus". In 1999, he submitted a funding proposal to DAPRA (Defense Advanced Research Projects Agency) called "Computer Programming for Everybody" in which he defined his goals for Python as it being an easy, open source and flexible language. He also worked on other projects including Mondria and Grail.

Python is the most important language today, having the highest market share. It is extremely easy to get started with because of its easy syntax. Being the language of the future, it has given rise to a number of projects and libraries. It's impossible to imagine a world without Python. We should appreciate Rossum for developing such a fantastic tool which is shaping the ever-changing world.



"Now, it's my belief that Python is a lot easier than to teach to students programming and teach them C or C++ or Java at the same time because all the details of the languages are so much harder. Other scripting languages really don't work very well there either."

"I've learned a painful lesson, that for small programs dynamic typing is great. For large programs, you have to have a more disciplined approach. And it helps if the language actually gives you that discipline, rather than telling you, 'Well, you can do whatever you want.'"

## The War of Consoles

Naman Keswani

Sony has officially unveiled what PS5 game boxes are going to look like. The reveal was made using the official box art for Spider-Man: Miles Morales. Microsoft will hold its Xbox first-party games showcase on July 23 at 9 AM PT, the company revealed, confirming a previous rumor. This presentation will focus primarily on Xbox Series X games, including launch title Halo Infinite which is expected to be the most anticipated first-person shooter game of 2020. Other popular games such as The Ascent, Assassin's Creed Valhalla, and Scarlet Nexus are also to be showcased on the event. Apart from the release of new games, many console lovers are confused on which one to buy because this generation of consoles will be expensive. So a comparison about the specs of the two consoles is given.

The XBOX console looks like a mini-refrigerator and has basic standard design. On the other hand, the PlayStation 5 looks like a Wi-Fi-router with extremely lavish design and many other accessories such as PlayStation headset, controller stand and a remote. However, we all know that when it comes to good specs, Microsoft has always delivered the best. The XBOX has 8x Cores @ 3.8 GHz (3.66 GHz w/ SMT) Custom Zen 2 CPU while the PS5 has 8x Cores @ 3.5 GHz (variable frequency). XBOX has 16 GB GDDR6 w/ 320mb bus memory and PS5 has 16 GB GDDR6. The performance target for XBOX is 4K @ 60 FPS, up to 120 FPS and 8K while for the PS5 is 4K @ 60 FPS, Up to 120 FPS and 8K. Nevertheless, the real comparison can be made only when these are out.

If you are looking for a console that beautifies your surroundings and gives decent performance, the PS5 is the console you are looking for. But if you want to take gaming to the next level with insanely good graphics and high performance and don't mind the basic look, the XBOX Series X might interest you.

### CIY - Code it yourself

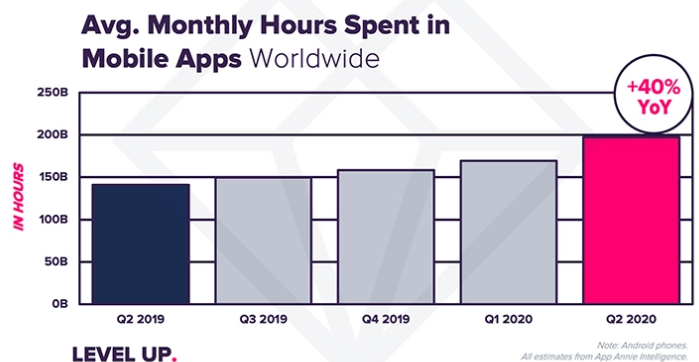
- Write a program that calculates the factorial of a given number,
- Write a program which checks if a given year is a leap year or not
- Write a program which checks if a given sentence is a palindrome.



## Phone usage spikes during the lockdown

Milind Sharma

Due to the global COVID-19 pandemic, we are using more and more gadgets and getting to know more about tech. As there is nothing to do at home for most of us, we are using mobile phones and social media as an escape. Time spent on mobile apps grew 40% year-over-year in Q2, 2020. According to the new data from App Annie, people all over the world spent an all-time monthly high of 200 billion hours during April 2020. India saw the biggest hike in mobile usage with people spending 35% more time on mobile apps in Q2, 2020 than Q4, 2019. Meanwhile, Italy, Indonesia and the US showed 30%, 25% and 15% growth, respectively.





## Crossword Puzzle

### Down

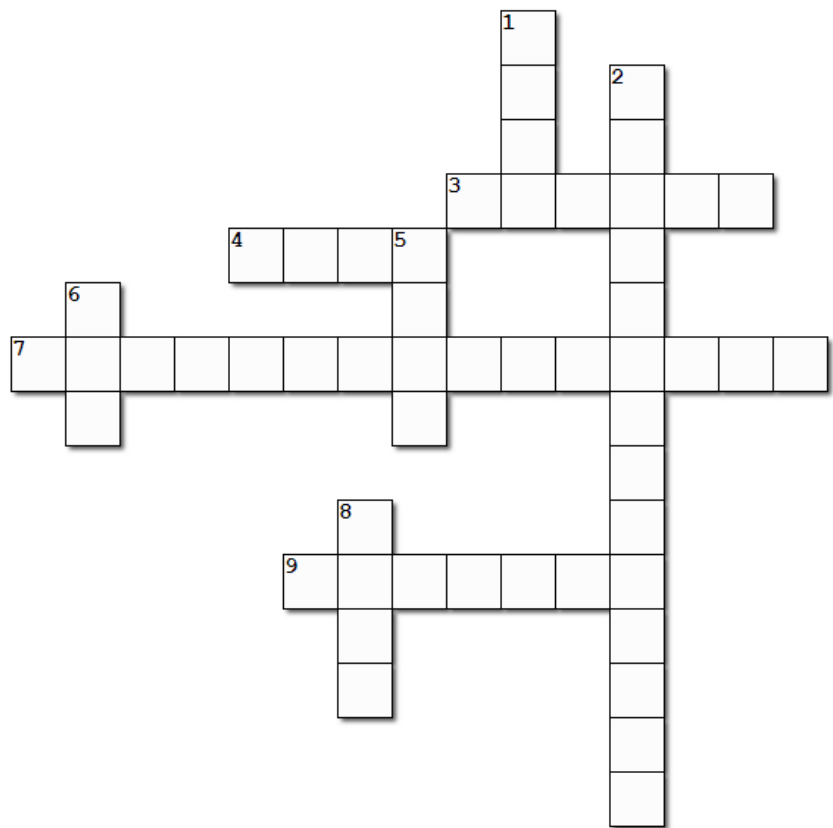
1. What technology is used to make telephone calls over the internet possible?
2. What does LG stand for in LG Electronic?
5. What is the name of the classic 1972 arcade game based on table tennis?
6. Making a compressed digital archive might produce what type of file format?
8. Which programming language is Android based on?

### Across

3. What is the name of Elon Musk's aerospace company?
4. What tool would you use to reduce the digital image size?
7. What is the name of the British computer scientist who invented the World Wide Web in 1989?
9. Which prestigious university did Microsoft founder Bill Gates drop out of?

## The more you know

- Although GPS is free to use for the world but it costs \$2 million per day to operate. The money comes from the American tax revenue.
- World's first 1 GB hard drive was announced by IBM in 1980. Its price was of \$40, 000!
- Ninety percent of the text messages received are read within the three minutes of being delivered.
- Hewlett-Packard flipped a coin to decide whose name would come first.
- Domain name registration used to be free before 1995.
- Google processes over 3.5 billion searches per day. If you break this statistic down, it means that Google processes over 40,000 search queries every second on average.



## Check this out!

<https://www.nasa.gov/content/goddard/what-did-hubble-see-on-your-birthday> shows what the Hubble telescope saw on your birthday! Interesting? Definitely.



## Acer Predator Helios 300

Naman Baid

Acer finally launched the 2020 model of the predator Helios 300, although this was just a refresh of the last year's model. The new i7-10750H has a boost clock of 5.00 GHz and when paired up with RTX 2060 with 6GB of GDDR6 graphics memory, this laptop can handle pretty anything you throw at it. It is using the new 4th gen aero-blade 3D fan technology which does a very good job of cooling the internals and to achieve this, Acer has added an air intake from the top of the keyboard. It has its own software which lets you control the fans, overclock the GPU, monitor the performance and change the keyboard lighting. The keyboard now has 4 zone RGB backlighting which can be controlled through the predator sense software. It has a predator sense button alongside the number pad with a turbo button on the top of the keyboard. It comes with a 1080p 144Hz IPS display with 3ms response time and a brightness of 300 nits. The base storage has been upgraded from 256GB to 512GB. It has 16GB of DDR4 memory which clocks at 2933 MHz and are in dual-channel memory. The 512GB SSD is a PCIe NVMe SSD. It has an extra NVMe M.2 slot. In terms of I/O it has 1 USB type - C port supporting USB 3.2 gen 2 (up to 10GBPS), 1 - USB 3.2 gen 2, 2 - USB 3.2 gen 1 ports, 1 - HDMI 2.0 port and 1 mini display port 1.4. The power connector has been shifted to the back of the device, which was a problem with the last year's model but they fixed it this year. It has a 59 Wh battery, same as last year's model, which was okay and gave around 3 to 3.5 hours of battery life. It also has a killer Wi-Fi 6 card. For \$1,199, this is one of the most compelling gaming laptops you can get right now, considering the hardware you're getting in return.

### The Team

Jasraj Johal (Chief editor)

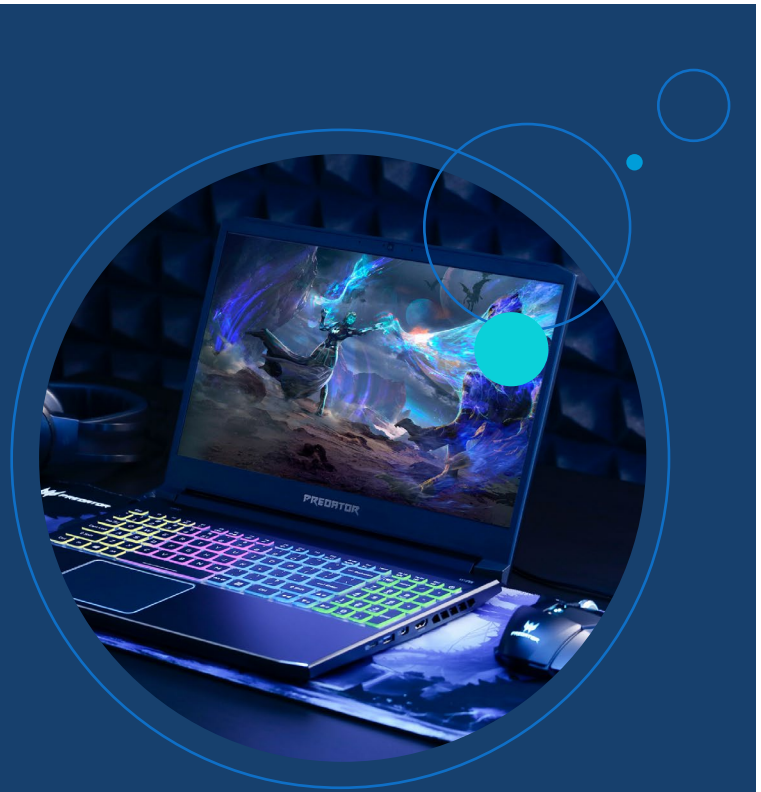
Milind Sharma (Chief editor)

Subham Jalan (Design editor)

Jeev Jatin Singh (Writer)

Naman Baid (Writer)

Naman Keswani (Writer)



# IFTTT

### App of the week

Jeev Jatin Singh

If This Then That, also known as IFTTT, is a freeware web-based service that creates chains of simple conditional statements, called applets. An applet is triggered by changes that occur within other web services such as Gmail, Facebook, Telegram, Instagram, or Pinterest. Like, if your uber arrives, your smart lights are automatically turned off and your friends are sent a notification. That's cool!