Phone World

AR/VR Technology: A New Era in Gaming Evolution

The year 2022 in Tech World:

The downfall of crypto and FTX bankruptcy

UNLEASHING TOMORROW'S TECHNOLOGY – TODAY

The world's largest and most influential connectivity event.

Register for your pass
mwcbarcelona.com

MWC™
GSMA

BARCELONA
27 FEBRUARY–2 MARCH 2023

TABLE OF
CONTENT

ADNAN KHAN
Managing Editor

Phone World

Dear readers,

In 2021, things finally began moving forward after years of waiting. However, despite the promising beginning, when about $173 million was raised in Q1, investment activity plummeted and hit a 10-quarter low in 2022. The yearly total was still far above $351 million, but the decline was noticeable. Pakistan's IT environment boasts a deep and talented pool, which bodes well for the country's future. That being said, here's hoping that things pick up for ICT industry in 2023.

2022 was a mixed bag for many digital companies, from the collapse of a trillion-dollar crypto market to the emergence of a metaverse. For your convenience, we have compiled a list of the year's top stories. For additional information, check out our article "Tech in 2022." We have also predicted which new technologies will gain traction and which trends will emerge in 2023.

Women think differently than men, and this can stimulate innovation. A diverse team results in smarter ideas. It tends to have better problem-solving and decision-making intelligence by bringing different perspectives to the table, which can boost performance at the individual and business levels. In one of our articles, "Women Entrepreneurship: A Must for National Development" we have tried to shed light on the role women can play in the economic growth of society. Insightful articles on Deepfake technology, augmented reality (AR) and virtual reality (VR) technology are also part of our current issue.

One of the most successful brands in Pakistan this year has been vivo, which has had a robust line-up of activities. Because of the growing interest in vivo Pakistan's activities and interesting campaigns, we felt the year-end was an opportune time to speak with Mr. Eric Kong, CEO of vivo Pakistan to discuss vivo's accomplishments during 2022 and its goals for the coming year.

Our regular sections, including phone reviews, Smart moves, TVC reviews, top applications, and best smartphones list are also part of our current issue. We always try to bring something new and exciting for our readers and hope you guys will appreciate our efforts and give us your feedback so that we can improve further.

At the end, On behalf of the entire Phoneworld team, I would like to wish you all a very Happy New Year.

Sincerely,
Adnan Khan.

Feedback

info@phoneworld.com.pk
www.phoneworld.com.pk

Subscribe Now!!

& get per copy for just Rs.500

Payment:
☐ 1. Cheque
I enclosed a Cross Cheque of RS _____ payable to Phoneworld.

☐ 2. Bank Draft
I enclosed a Bank Draft of RS _____ drawn on the branch of any bank of Pakistan.
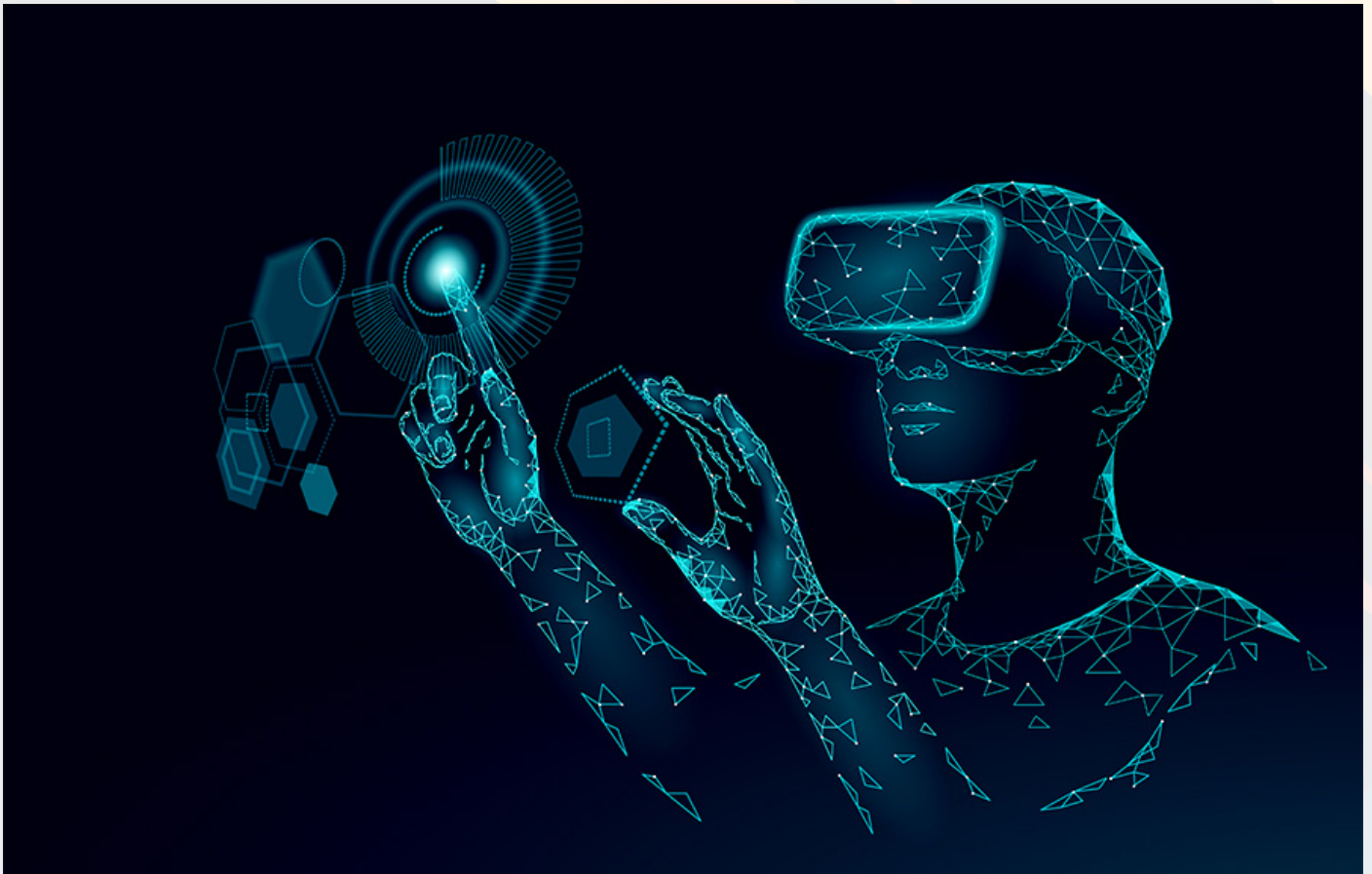
Contact information of the Recipent

Name: _____

Address: _____

Phone: _____

Cheque & bank drafts should be in the name of "Phone World Magazine".
Courier charges are included.

AR/VR Technology: A New Era in Gaming Evolution

Usama Anjum

Augmented reality (AR) and virtual reality (VR) technology have had a significant impact on the gaming industry by providing a more immersive and interactive experience for players. With AR and VR technology, players are able to feel like they are inside the game, giving them a sense of presence and allowing them to engage with the virtual world in a more realistic way. This has opened up new possibilities for game design and allowed for the creation of new types of games that were not possible before.

What is Augmented Reality (AR) technology?

Augmented reality (AR) is a technology that allows users to superimpose digital content on the real world. This can be done through a variety of devices, including smartphones, tablets, and specialized AR headsets. AR technology works by using a device's camera and sensors to track the user's surroundings and position in real-time. The device then displays digital content on top of the real-world environment, creating the illusion that the digital content is part of the physical world.

With AR and VR technology, players are able to feel like they are inside the game

There are many potential applications for AR technology, including gaming, education, marketing, and industrial training. In the gaming industry, AR technology can be used to create immersive, interactive experiences that blend the real world with the virtual world. For example, a player might use an AR headset to see virtual monsters or objects superimposed onto the real world, or they might use a smartphone to play a game in which virtual objects are placed on top of a surface.

What is Virtual Reality (VR) technology?

Virtual reality (VR) is a technology that allows users to fully immerse themselves in a digital environment. This is typically achieved through the use of VR headsets, which are worn on the head and display digital content in front of the user's eyes.

VR technology works by using a headset's sensors and display to track the user's head movements and position in real-time. As the user moves their head, the headset adjusts the displayed image accordingly, creating the illusion of being inside a virtual world. Some VR headsets also include hand controllers, which allow the user to interact with the virtual environment by moving their hands.

There are many potential applications for VR technology, including gaming, education, training, and therapy. In the gaming industry, VR technology can be used to create immersive, interactive experiences that transport the player to a virtual world. For example, a player might use a VR headset to explore a virtual world, interact with virtual objects, or play games that require physical movement.

Overall, VR technology has the potential to significantly change the way we interact with digital content and the world around us.

How is AR/VR revolutionizing the gaming industry?

The game industry, in particular, has benefited greatly from the advent of AR and VR. These advancements allow for the creation of a more lifelike visual, together with realistic sound and other sensations, providing a fictitious atmosphere that makes the player feel like they are actually there. Here are some of the examples of the changes AR and VR have brought in gaming.

Immersive gaming experience

AR and VR headsets provide a more immersive gaming experience by allowing players to feel like they are inside the game. This can make the game more engaging and exciting for players.

New gaming possibilities

With AR and VR technology, game designers are able to create new types of games that were not possible before. This has opened up new possibilities for game design and led to the creation of unique and innovative games.

Increased realism

AR and VR headsets allow for a more realistic gaming experience by providing players with high-quality visuals and audio. This can make the game feel more real and enhance the overall gaming experience.

Improved social interactions

AR and VR technology have also made it possible for players to interact with each other in new and exciting ways. For example, players can use VR headsets to play games together in a virtual world, allowing for a more social and interactive gaming experience.

Improved physical feedback

AR and VR technologies can provide physical feedback to players through haptic technology, allowing them to feel physical sensations such as vibrations or temperature changes in response to their actions in the game.

Enhanced accessibility

AR and VR technologies can make gaming more accessible for players with disabilities, allowing them to play games that may be difficult or impossible to play using traditional controllers.

Improved training and education

AR and VR technologies can be used to create immersive and interactive training and educational experiences, allowing for more effective learning in fields such as medicine, aviation, and military training.

New gaming experiences

AR and VR technologies make it possible to create entirely new types of gaming experiences that were previously unimaginable, such as virtual reality escape rooms or augmented reality treasure hunts.

Greater potential for growth and innovation

The use of AR and VR technologies in gaming opens up a world of possibilities for future growth and innovation in the industry.

New Gameplay Mechanics

AR/VR technology allows for the creation of new gameplay mechanics that were not possible before. For example, players could physically move around in a virtual space to solve puzzles or interact with objects in the environment.

Biggest Companies in AR VR gaming

There are several companies that are known for making augmented reality (AR) and virtual reality (VR) games. Niantic is one of the pioneers of AR gaming with its first AR game, "Pokemon Go." The game became a global phenomenon when it was released in 2016. Niantic has also developed other AR games such as "Ingress" and "Harry Potter: Wizards Unite." In addition to that, another company, Supermassive Games, is known for its VR horror game "Until Dawn: Rush of Blood," as well as other VR titles such as "The Inpatient" and "Bravo Team." You've probably heard of the French video game publisher Ubisoft.It has a number of VR games in its portfolio, including "Eagle Flight," "Star Trek: Bridge Crew," and "Space Junkies." Insomniac Games is another famous gaming studio that has developed a number of VR games, including "The Unspoken," "Feral Rites," and "Stormland."

What is Meta doing in AR and VR?

In recent times, the Silicon Valley giant Meta has developed a number of augmented reality (AR) and virtual reality (VR) products, including headsets and software. In the AR/VR gaming industry, Meta's products can be used to create immersive gaming experiences that blend the physical world with digital content. By using a headset and hand-tracking technology, players can interact with virtual objects and environments in a natural and intuitive way, which can enhance the overall gaming experience.

> ## "Pokemon Go" became a global phenomenon when it was released in 2016

Meta's products are also notable for their use of "see-through" technology, which allows users to see the real world around them while also interacting with virtual objects. This is especially useful in augmented reality (AR) games because it lets players interact with the real world while also using virtual content.

In addition to headsets, Meta also offers software tools and APIs that allow developers to create and optimize AR and VR content for its products. This can help to ensure that AR/VR gaming experiences on Meta's platform are of high quality and are optimized for the company's hardware. Overall, Meta's products and software tools play an important role in the AR/VR gaming industry by providing high-quality, immersive experiences that blend the physical and digital worlds.

Augmented reality (AR) and virtual reality (VR) technologies have the potential to revolutionize the gaming industry and change the way people play games. They allow users to fully immerse themselves in a virtual world or superimpose digital content onto the real world, providing a more realistic and engaging gaming experience. AR and VR technology also have the potential to increase social interaction and create new gameplay mechanics that were not possible before. They can make gaming easier for people with disabilities or mobility issues, and they could also be used for education, training, and therapy, among other things.

Overall, AR and VR technology are exciting developments that have the potential to significantly change the way we interact with digital content and the world around us. It will be interesting to see how they continue to evolve and shape the future of the gaming industry.

The future

Truth being said, personal VR headsets are still a lot less popular than PCs and gaming consoles. Is that about to change? It's difficult to say. However, sales are increasing year after year, and we can nearly guarantee that this trend will continue.

According to IDC, more than 20 million VR headsets will be shipped in 2023, rising to 30 million two years later. More than 10 million XR headsets were sold in 2021, more than twice as many as in 2020! As a result, these projections for the coming years appear to be very plausible.

AR and VR technology has the potential to increase social interaction and create new gameplay mechanics

This surge in sales is due to the growing popularity of XR, as well as headsets becoming cheaper. Aside from that, new technologies, solutions, and peripherals are being introduced to the market. And the ones that already have a place there are getting more accessible.

PC and console games will continue to play an important part in the industry in the coming years. However, VR game production is becoming increasingly popular, and this trend is unlikely to alter very soon. People are eager for virtual reality entertainment, with more headsets delivered than ever before, continually advancing technology, and growing curiosity.

Not to mention that the digital world is slowly but steadily finding its way into the metaverse. This should accelerate the growth of virtual reality. After all, it's a key technology in this digital shift. AR gaming is an exciting new technology that is always evolving with new features and mobile gaming experiences. It might soon displace traditional gaming, where virtual reality games have failed.

AR mobile gaming requires no additional costs, specialist technology, or specific rooms. It's a mobile immersive experience that everyone, no matter where they are, may enjoy. AR gaming might be the future of gaming, as well as a viable tool to utilize in schools to engage younger generations that demand more from their learning and gaming experiences.

Women Entrepreneurship: A Must for National Development

Laiba Mohsin

We all know that technology is one of the fastest-growing industries in the world. However, the fact is that the growing skill gap can be filled only with the equal participation of both men and women in tech roles. There is no doubt that women can bring diversity to the table. Women's participation in the workforce can add immense value to the economic world and the IT sector. According to the latest studies, gender-diverse teams have the power to boost your business performance by 31%. The reality is that half of the purchasing power lies in the hands of women, so we need to come up with ideas and products that solve the technical issues of both genders, making it directly proportional to business growth.

According to the latest studies, gender-diverse teams have the power to boost your business performance by 31 percent

Women think differently than men, and this can stimulate innovation. A diverse team results in smarter ideas. It tends to have better problem-solving and decision-making intelligence by bringing different perspectives to the table, which can boost performance at the individual and business levels.

So, it is very important for the economic growth of society to give equal importance to women in each sector.

Let us now discuss Pakistan and where it stands in women's entrepreneurship. Pakistan has produced great professionals and entrepreneurs in the field of technology, specifically in information technology, since the last decade. But in the race for success in entrepreneurship, men led the way. Around 99.3–99.7% of the ideas in technology are backed by men. The low rate is just because there are so few female entrepreneurs in Pakistan. However, things are changing and now there is proper education for entrepreneurship in Pakistan, which can surely improve women's participation in technology.

Pakistan has a population of almost 200 million, which is far greater than Germany, Sweden, Israel, and the UK, and only 0.75% as compared to the United States of America. However, the fact that could put Pakistan in the race with such advanced countries is "women entrepreneurship." Silicon Valley has a great number of success stories of women who made it through. In the same way, Israel has Silicon Wadi, which is desperately trying to compete with the growing entrepreneurial cities of the United States of America.

On the other hand, Germany is also preparing Berlin, while Sweden is willing for Gothenburg to join the race. What's so common in this race is that they're all endorsing women's entrepreneurship in technology.

Tech has done wonders in modern society,especially for female empowerment,wether by providing job opporunities or simply helping with groceries, ride hailing, or paying bills

Over the past few years, there has been an expeditious development in the field of women entrepreneurship in Pakistan due to changes in the social and economic environment. These changes have come due to unemployment, technological advancements, inflation, media exposure, and globalization.Pakistani women have certainly walked out of the typical framework of life and excelled in many fields like journalism, philanthropy, IT, engineering, politics, etc.

They have ultimately proved themselves to be both great mothers and well-reputed and significant businesswomen. JehanAra, the mastermind behind PASHA (Pakistan Software Houses Associations), RabiaGarib, the Chief Executive of Toffee TV, Sabeen Mahmud, the President of TIE (The Indus Entrepreneurs), Kalsoom Lakhani, the CEO of i2i (invest2innovate), and Maria Umar, the founder of "The Women's Digital League," are just to name a few.

Women have enormous potential to help improve the global economy. According to the 2017 Pakistan census, women make up 48.76% of the population. The inclusion of even a lower percentage of women in Pakistan's workforce could have dramatic effects, just like the rise of China has driven the global economy and helped lift hundreds of millions of people out of poverty. It is therefore in the interest of the global economy for foreign aid initiatives to prioritize and help women around the world, particularly when it comes to education.

As more women are now becoming financially independent due to technology, this is indirectly playing an important role in the economic growth of our country as well. Women are more likely to invest a large portion of their household income in their children's education as compared to men, and as those children grow up, their improved status presumably benefits society and the economy as well.

The increase in knowledge and understanding of women's investing power and market impact lets countries, companies, and individuals take practical steps in order to develop inclusive economic growth.

> **The inclusion of even a lower percentage of women in Pakistan's workforce could have dramatic effects, just like the rise of China has driven the global economy and helped lift hundreds of millions of people out of poverty**

Entrepreneurship does not mean the business has to be built on a large scale. It could also be a small-scale affair involving some entrepreneurial skills. In a developing country like Pakistan, most women join small businesses like embroidery, clothing, cooking, and baking. It does not matter whether women run large or small businesses, the thing that matters is their participation in each sector of the country in order to boost economic growth.While technology has become more prevalent in our daily lives, it has resulted in new opportunities for both men and women. Well-paid tech jobs have enabled more and more women to support themselves and be less dependent on men. The most amazing thing is that tech jobs give so many opportunities to work in fields that women are most interested in, whether it is social media marketing, graphic design, content writing, or web design. The possibilities are truly endless. Tech has done wonders in modern society, especially for female empowerment, whether by providing job opportunities or simply helping with groceries, ride-hailing, or paying bills. The future is looking bright indeed!

Pakistani women have proven that they have the ability to execute their entrepreneurial venture while facing different challenges such as cultural, social, and economic constraints. Moreover, they can play the best role in the welfare and uplift of society. Female entrepreneurial activities herald the optimization of their social and economic well-being, moreover, it also helps in wealth creation and poverty reduction.

Neil Gunther;
A Computer Scientist

Teacher, and an Author

Neil Gunther is a computer information systems researcher best known internationally for developing the open-source performance modeling software Pretty Damn Quick and developing the Guerrilla approach to computer capacity planning and performance analysis. He has also been cited for his contributions to the theory of large transients in computer systems and packet networks, and his universal law of computational scalability.

Neil Gunther was born in Melbourne,Australia. He holds undergraduate degrees in Chemistry and Physics, a Master's Degree in Applied Mathematics (1976) from La Trobe University, Australia, and a doctorate in Theoretical Physics (1980) from the University of Southampton, England.

In 1982, Dr. Gunther joined the famous Xerox Palo Alto Research where he spent eight years as a researcher. At PARC, he developed the PARCbench multiprocessor benchmark and he also developed the path-integral method for analyzing large transients in computer systems and packet networks.

This latter research formed the basis of PART III of his book The Practical Performance Analyst. Other work at Xerox PARC included VLSI design and testing for the Dragon multiprocessor workstation. The Xerox Dragon was later reincarnated as the SPARCcenter 2000 multiprocessor based on the XDbus from Sun Microsystems. The XD in XDbus stands for Xerox Dragon.

In 1990 Dr. Gunther joined Pyramid Technology (now Fujitsu Siemens Computers) where he held positions as Senior Scientist and Manager of the Performance Analysis Group. In that capacity, he helped Pyramid attain industry-high TPC benchmarks on their Unix multiprocessor products. He also carried out performance simulations for the design of the RM1000 massively parallel database server.

Dr. Gunther is a member of the Association for Computing Machinery (ACM), American Mathematical Society (AMS), American Physical Society (APS), SIGMETRICS, and the Computer Measurement Group (CMG), where he was awarded Best Technical Paper in 1996, and the A.A. Michelson Award in 2008; the industry's highest honor for computer performance analysis and capacity planning. He was also recently elected Senior Member of the Institute of Electrical and Electronics Engineers (IEEE).

REDMI A1+
AN AFFORDABLE ALL-ROUNDER

What is Good?

- Exquisite design with a textured back and durable plastic body.
- 5000 mAh which can provide a long-lasting backup with a one-time charge.
- A budget segment device.

What is Bad?

- The back camera of this phone has only 8 MP while the front camera is 5MP
- The processor used in this phone is MediaTek'sHelio A22 which is a 4-year-old chipset.
- Due to the low-end processor, Android GO edition, and less RAM.

Final Verdict

The Redmi A1+ is a new budget option in the smartphone market and I will be honest that I do like the accessible price point of this device because it makes it a feasible choice for a larger number of consumers. It is clear that the features offered here are basic but they are still capable of consistent performance. The display is smooth along with a decent 8MP camera and a power-efficient MediatekHelio A22 processor. This chipset is known for its ability to make the battery last longer. Overall a good deal at this price point.

Overall Rating

9.0/10

Display 8.9/10

Camera 9.0/10

Storage 9.2/10

Battery 9.3/10

Camera
8MP, f/2.0
QVGA lens

Charging
10w Fast Charge

Battery
5000mAh

Internal
32GB

Processor
MediaTek Helio
A22

Display
6.52" HD+

RAM
2GB RAM

OS
Android 12

Price

Rs.21,999/-

The year 2022 in Tech World

Onsa Mustafa

2022 has ended, and one thing we can surely say is that it was far more challenging than the previous years. From collapsing of a trillion-dollar crypto market to an emerging metaverse, this year was a mix of success and failure for many tech giants. We have jotted down the most significant events that remained in the headlines throughout the year.

The downfall of crypto and FTX bankruptcy

This year was not good for crypto, as it is no longer a trillion-dollar market. Other famous cryptocurrencies have also suffered a decline. Bitcoin lost about 80% of its value since December 2021. The original cryptocurrency's price has dropped to $18,000. Ethereum prices have also fallen around 64% after reaching the $1,300 threshold.

This year, cryptocurrency faced a major downfall, and one of the main reasons behind it was the FTX bankruptcy. A few months ago, FTX's total market value was $32 billion. It also had an investing firm, Alameda Research. The purpose of Alameda Research was to act as a liquidity provider for FTX. FTX tried hard to avoid the liquidity crisis that plagued crypto earlier in 2022, after a wave of contamination rocked the market in the wake of the $60 billion collapse of stablecoinTerraUSD.

FTX supported its crypto token, FTT, which was one of the main reasons behind the bankruptcy. Having its own token is not a big issue, but the problem was how the token was used to support FTX, leaving SBF's empire incredibly overexposed to volatility in FTT. Alameda Research's balance sheet was stuffed with FTT, and it was also suggested that Alameda Research and FTX are two separate businesses which is the big downside to native tokens.

A distressing year for Facebook as Meta

To describe his vision for working and playing in a virtual world, Mark Zuckerberg changed the name of Facebook to Meta in 2021. But the decision seems not to be in favor of the company. Meta revenue fell 4% in the third quarter of 2022, from $29 billion to $27.7 billion. The company said the losses reflected uncertainty in the broader economy as companies pulled back on digital advertising and struggle with inflation.

Meta is now investing more and more money in the virtual reality metaverse project, Horizon Worlds, which is unfortunately not doing well.

Initially, Zuckerberg was slammed for choosing an avatar with 1990s video game-like graphics. Later this year, he revealed new avatars that are more expressive and detailed and will soon be rolled out across phones and virtual reality headsets. The new avatars will also have legs, which is the most difficult part to build in virtual reality. The company also announced a new $1,499 Quest Pro virtual reality headset. To participate in Horizon World, you must first set up your avatar and VR headset to connect with others, both of which are very expensive and not affordable for everyone.

Other than the pricing issue, users are not showing much interest in being part of this world. According to market experts, barely anyone is spending time in Horizon Worlds at all, with most user-created worlds going completely unvisited.

Currently, people are not aware of this new concept which is why Facebook is losing young users and, as a result, investors. Let's see in the coming year whether Zuckerberg will be able to bring back its users' interest and the investors' too.

Downsizing in the tech industry

This year was especially bad for white-collar tech workers. Amazon, Meta, Twitter, Microsoft, Intel, Snapchat, and many other tech organizations laid off their employees. Amazon fired about 10,000 corporate employees. Meta laid off 11,000 people, and Stripe and Microsoft removed about 1,000 employees each. Snap has removed 20% of its employees. Twitter also cut about half of its 7,500-strong workforce. Some companies have also stopped hiring new employees, including Apple.

Around 87,000 employees across the world have lost their jobs. Most of the companies blame the COVID-19-induced acceleration in tech companies, which did not play out as expected, and also the need to balance investments without compromising revenue.

Twitter-Musk Saga

On April 14th, Elon Musk announced an offer to buy Twitter for $54.20 a share. On April 25th, Twitter accepted the deal. Later on, Musk made its first official threat to back out of the acquisition, claiming that Twitter failed to provide information on the service's spam bot problem. As a result, Twitter filed a lawsuit, claiming that it was against the law.

Musk's side wanted more time for the trial to start in February 2023. Twitter wanted it to start as soon as possible. Musk tried hard to let go of the deal, but it didn't work. Musk suddenly ended his fight and announced buying the platform after all. Although Musk has not revealed the reason behind ending the fight. Right after becoming Twitter CEO, Musk started to fire Twitter employees including the CEO, Parag Agarwal.

NFT boom and then collapse

NFTs, or non-fungible tokens, are digital assets based on blockchain technology. It was a crypto investment asset with a 49 billion dollar market in 2021, but consumer confidence in the NFT market began to wane in February 2022, since then, the number of NFT market participants is also steadily declining. According to Gizmodo, NFT faced a massive drop of 97% in the first nine months of 2022.

The Dawn of the Metaverse

The new engaging concept in the IT world we came across in 2022 is the metaverse. It provides real-time interaction among people by combining virtual reality and mixed reality. Meta (Facebook) is the pioneer of this concept. Other companies, including Amazon, Google, and Microsoft, are already backing the metaverse. A number of companies have also entered the metaverse through partnerships with other companies, i.e. Fortnite and Balenciaga, Hyundai, and Roblox.

A lot of events have already happened in the metaverse this year, including Augmented World Expo USA, Metaverse Global Congress, Meta Connect 2022, and the IEEE conference on VR, etc. The purpose of these events was to raise more awareness among the public about the metaverse.

Despite Meta's failure, we may see the metaverse as a popular virtual reality world. This world has yet to be discovered, and with the fall of NFT and digital assets, there are many challenges ahead to make this concept a big success.

Increase in Cyber security issues

The rate of cybercrime is rising in tandem with the advancement of ICT.Every year, individuals or organizations are facing different cybercrimes, including data breaches. Since 2001, the victim count has increased from 6 victims per hour to 97, a 1517% increase over 20 years.

Some major companies have faced data breaches this year. At the start of 2022, hackers stole approximately $18 million worth of Bitcoin and $15 million worth of Ethereum, plus other cryptocurrencies, making it one of the biggest cyberattacks of the year. Similarly, Microsoft also confirmed that a misconfigured system had exposed the data of thousands of customers. The breach might have affected over 65,000 entities across 111 countries. Twitter suffered a data breach affecting 5.4 million accounts after threat actors built a database of phone numbers and email addresses. The data from accounts, including those of celebrities, companies, and random users, is now being sold on a hacker forum for $30,000.

In addition to that, big companies like Google, Meta, Apple, and several others companies were heavily criticized for collecting user data and were sued in a number of countries for privacy violations of users.

In 2022 in Pakistan, the Cyber Crime Wing (CCW) of the Federal Investigation Agency (FIA) has received 21,259 complaints of financial fraud during the current year. The FIA also arrested 415 fraudsters for their involvement in these frauds. The rate of cybercrime is increasing at a rapid pace, which needs to be slowed down.

The Rise of Electric Vehicles

Electric vehicles (EVs) have been gaining popularity recently, thanks to their environmental benefits and falling prices. In 2023, we expect this trend to continue as more and more manufacturers release new EV models.

Additionally, the rollout of 5G networks is likely to boost the adoption of EVs, as it will enable cars to be connected to the internet at all times. This will make it possible to add things like remote diagnostics, real-time traffic updates, and software updates that can be sent over the air.

Some of the most anticipated EVs scheduled for release in 2023 include the Tesla Model 3, the Volkswagen ID.3, the Audi e-tron, and the BMW i4. Each of these cars promise to offer significant improvements over their predecessors, with longer ranges, faster charging times, and more advanced features.

As EVs become more common, we expect that charging infrastructure will also improve. More public charging stations are likely to be built, and home chargers are also becoming more affordable.

AI Everywhere

In 2022, an artist used an artificial intelligence tool to create a piece of digital artwork that won a fine arts competition at the Colorado State Fair. AI-based content creation is going to be massive. Microsoft has already announced that DALL-E 2 is being leveraged by Microsoft Designer (a Canva competitor) to help iterate on designs—that should just be the beginning.

A multidisciplinary research team from Stockholm University and Malmö University has created an odor machine that can be controlled by a gaming computer. Now, VR gaming has finally welcomed the sense of smell.Scientists have done wonders using AI and are continuing to do so. Now, scientists have created an artificial neuron that actually retains electronic memories.

Not only this, but a team of scientists from the University of Washington School of Medicine and Harvard University has developed artificial intelligence software that can create proteins that may be useful as vaccines, cancer treatments, or even tools for pulling carbon pollution out of the air.

Similarly, ViraWarn, a COVID-19 detector and warning system for personal space, is one of the most outstanding inventions of 2022 in the medical field. This tabletop device alerts you instantly and accurately if the virus and its variants are within your proximity.

The year 2022 in Pakistan

In fragile economies, a small political shake-up can disturb a country's entire development process, slowing down the pace of economic activity, creating a sense of insecurity in the financial sector, and slowing down the nation's progress. This is exactly what happened in Pakistan. The year 2022 turned out to be a difficult year for our county with political instability and inflation impacting every industry including ICT.

The change of government earlier this year, paired with the uncertain political situation and rising inflation, has impacted the progress of many ongoing projects. This explains why Pakistan's 5G auction did not take place on the scheduled date. It has now been rescheduled for June 2023.

According to a report by a Washington-based advocacy and research organization, Freedom House, Pakistan scored 26 on the scale of 0 (least free)

to 100 (most free), just one point higher than last year's score of 25/100. In Pakistan, internet freedom continued to suffer with the government's repeated attempts to exercise excessive control over the online environment, which outline internet shutdowns, blocking of social media platforms, arrests, and harsh opinions to suppress unwanted speech online in the country.

It was especially a tough year for the telecom operators that witnessed a considerable drop in profitability. This was due in part to the country's escalating energy prices, inflation, and political instability. All three operators jointly wrote letters to the government to create favorable circumstances for the operators by providing relief in taxes, licensing fees, and Quality of service regulations. According to the Global System for Mobile Communications Association (GSMA) report, the average revenue per user (ARPU) in Pakistan is less than $1, making it one of the lowest in the world; the global ARPU is $8, and inflation in Pakistan has reached its highest level in 47 years.The rumors about Telenor's exit from the Pakistani market circulated throughout the year that were finally confirmed by Telenor Group CEO Sigve Brekke in an announcement that the company is looking for merging opportunities in Pakistan.

On the other hand, PTA introduced the local manufacturing regulations in January 2021 and since then, 30 plants have been authorized for 10 years to manufacture mobile phone sets. The uptake of local manufacturing has shown a very optimistic pattern with 16.7 million phones from January to September 2022.

Ups and downs are part of every business, let's see what 2023 holds for our industry.

Biggest Tech Opportunities and Challenges for 2023

Fizza Attique
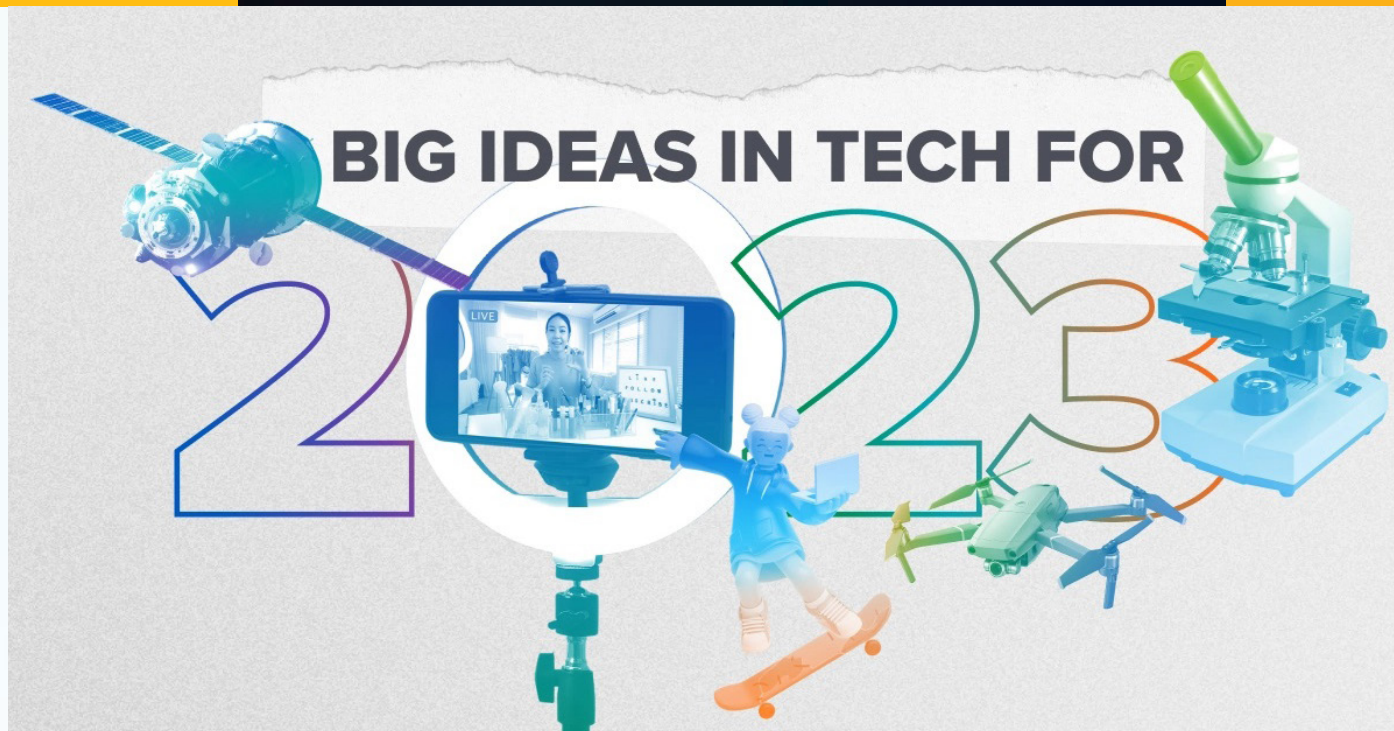
The year 2023 is just around the corner, and everyone is excited to welcome the New Year with full zeal. However, at the same time, many people are waiting for the new inventions that were rumoured in the year 2022 and are going to launch in 2023. There is also a group of people who are waiting to see what will happen to people who got Covid Vacination since a conspiracy theory told them that people getting the shot will die in 2023. Well, this is just a joke, but there are many inventions, events, and IT developments that one should be looking forward to in 2023.

In 2023, innovative upheavals are going to disrupt the world. If these developments gain momentum, we can expect more revolutionary growth next year. I have jotted down a few tech trends that will disrupt the digital world over the next 12 months.

Lets have a look in 2023.

AI Everywhere

While AI has remained in limelight for the last two years, but in 2023 AI use cases will be witnessed which means it will be seen as real in the organization. No-Code AI which is said to have an easy interface will help many businesses to create intelligent products and services to customers. While this trend is already viable in the retail market, in the commercial market it is going to gather pace.

For example, Stitch Fix uses an AI-enabled algorithm to recommend clothes to customers with respect to their sizes and choice. Other than this, in 2023, contactless shopping and delivery will be another big thing. While many would be thinking that online shopping is already practiced by at masses, now with AI, it would be easier for consumers to choose, buy, pay for and receive goods and services while sitting at home. Moreover, AI will also power autonomous delivery so more retail workers are going to get familiar with machines to successfully do their jobs.

Metaverse to become real

Metaverse, an immersive internet where we are going to enjoy working, playing, and socializing, is going to be the next big thing. Many experts are of the opinion that Metaverse is going to add $5 trillion to the global economy by 2030. Also, the same year will pave the way for Metaverse during the next decade.

Emerging Drone Technologies

Drone technology is not new but in 2023, we are going to witness its applicability in the business world. Right now supply chain is disrupted and due to unpredictability, companies have to witness delayed deliveries, and logistics are also affected. Due to this issue, client-business ties will also be affeced. Keeping in view this, businesses are thinking to shift manual deliveries to unmanned aerial drones, especially in areas that are hard to reach.

In 2023, innovative upheavals are going to disrupt the world

Other than this, research is being made on the usage of aerial drones in construction, agriculture, security, media, and military applications as well.

While many people debate the cost but it is seen that sectors that have adopted drone technologies are saving costs that were spent on labour and fuel previously. Not only the cost is saved, but the risk is also reduced along with higher revenue growth.

Digital Immune System

The Digital Immune System is a new concept. It combines multiple technologies to make critical applications more resilient to bugs. The fundamental concepts of digital immunity include Observability, AI-augmented testing, Chaos engineering, auto-remediation, Site Reliability Engineering (SRE), and Software supply chain security.

With a digital immune system, it gets easier for such applications to recover, manage services, withstand risks and maintain business continuity. According to Gartner, businesses that invest in digital immunity increase customer satisfaction by decreasing downtime by 80%.

Progress in Green Technology

Out of all the challenges faced by the world, one of the biggest ones is carbon emissions affecting climate. What happened in Pakistan, raised climatic concerns throughout the world and scientists are not looking for ways to reduce carbon emissions that will contribute to returning from climatic disasters.

For this, the year 2023 will witness progress in green hydrogen which is a new source of energy that produces almost zero greenhouse gas emissions.

Big enterprises including Shell and RWE are working on creating the world's first major green pipeline from wind plants in the North Sea. The time is near when more companies will join hands for this cause because I believe it is the most important one and everyone should be prepared for the best and worst.

Robots Will Become More Human

In 2023, robots will become even more like humans — in appearance and capability. These types of robots will be used in the real world as event greeters, bartenders, concierges, and companions for older adults. They'll also perform complex tasks in warehouses and factories as they work alongside humans in manufacturing and logistics.

One company is working hard to create a human-like robot that will work in our homes. At Tesla AI Day in September 2022, Elon Musk revealed two Optimus humanoid robot prototypes and said the company would be ready to take orders within the next 3 to 5 years. The robot can perform simple tasks like lifting items and watering plants — so perhaps soon we'll be able to have "robot butlers" that help around in the house.

Challenges

Here are the some of the greatest challenges that tech industry should be ready for in 2023.

Talent Shortage

The increased pace of technological innovation has created a need for talent that can build and maintain emerging digital technologies.

In Gartner survey, IT executives cited lack of talent as the biggest barrier to the adoption of emerging technologies, ahead of implementation, cost, and security risks.

In the face of this qualified talent shortage, companies will have to adopt new and innovative internal training programs. Educational sector will also have to come forward with the advanced degree programs and updated curriculum.

Increase in security threats

Cyber-attacks are on the rise, and as more businesses become digital, they inherently accumulate more data — which in turn becomes attractive to cyber criminals looking to steal data or hold data for ransom.

In addition to those risks, the emergence of quantum computing could render existing security systems obsolete.Quantum computing speeds up prime number factorization, thus making attacks against cryptography much more efficient.

Any organization holding sensitive digital data must invest in cybersecurity solutions that address the quantum computing threat, either through risk management plans or utilizing quantum computing to reduce the risk.

Inflation and Economic Downturn

The headlines are already filled with talk of skyrocketing inflation, and that trend will likely to continue in 2023. Many economies will stagnate or shrink, and businesses need to prepare for that reality.

The Managing Director of the International Monetary Fund (IMF), Kristalina Georgieva, reported that the organization had downgraded its forecast for 2.9 percent global growth in 2023. The IMF cited rising risks of financial instability and recession.

Companies can face inflation by establishing end-to-end, actionable visibility of spending by business process, function, cost category, and business unit, as well as reducing spending.

Supply Chain challenges

The Covid-19 pandemic continues to challenge global supply chains with bottlenecks, delays, and disruptions; manufacturers and tech companies worldwide face a constant struggle to source necessary parts and supplies.

One of the most severe challenges is the unprecedented shortage of semiconductors (chips) and the resulting production delays across a swath of industries.

Early in the pandemic, chip manufacturers responded to changes in demand and transitioned their production facilities to reflect these shifts.

As demand for automotive chips has resurged, semiconductor manufacturers have struggled to meet demand due to capacity issues as well as supply chain shortages and restrictions.

Solutions are in progress, but implementation will be slow: Texas Instruments, Samsung, Intel, and TSMC are constructing new semiconductor fabrication plants in the U.S. that will begin production in 2024/2025.

This world has become an ecosystem of tech development, every now and then we get to hear about new inventions or concept ideas. Alongside that, a number of challenges and issues also arise with them. But companies need to invest in futuristic technologies and radical changes if they want to become a true leader. Delaying the adoption of the new innovations will not only decay business but will also sink it in this fast-growing IT world. No doubt, investing in new technologies is not easy but along with monetary investment, one needs to have a business case, a granular roadmap, a change management plan, expected value realizations, and othermeasures.

XpertFlow

AI-based Health Startup

XpertFlow, An NIC Alumni Startup operated in stealth mode for two years before its launch in the mid of 2020. Found in 2018, Xpertflow aims to revolutionize the world of healthcare by innovating and bringing Artificial Intelligence techniques to provide decision support systems for healthcare professioals.

The startup has developed an AI-based based model for the prediction of sepsis disease, with high accuracy. This is a major breakthrough for the medical industry, as the fatal medical condition takes 11 million lives globally each year and more than $125 Billion are spent on its diagnosis and treatment. The AI model can easily be deployed by hospitals, as it can be integrated with existing electronic health records (EHRs) using a single API. AI-based collaborative learning, the startup has developed a unique model which can benefit healthcare providers regardless of their demographics.

XpertFlow works by obtaining healthcare datasets, refining and preprocessing them, and applying state-of-the-art ML algorithms to train models coupled with a User Interface complying with modern standards. The team has developed multiple products with DeepNostix being the core offering which is an AI-powered early warning system, giving doctors a chance to intervene early and reducing patient length of stay in hospitals.

The startup is revolutionizing healthcare by providing timely and accurate prognosesfor diseases. Havingdeveloped a model for Sepsis, the team is now working on developing algorithms and models for other diseases.

TEACH YOURSELF </CODE>

LANGUAGES:

[PYTHON]
Multi-purpose programming language that emphasises readability and is used by Google, Facebook and Youtube.

Easy

{ JAVASCRIPT }
Programming languages for making web pages and websites alongside HTML/CSS - most popular language.

Fairly easy

· RUBY ·
A high-level programming language that is used with Ruby on Rails framework to develop web applications.

Fairly easy

/ JAVA /
General-purpose and cross platform programming language - originally called Oak, named after the tree outside its inventor's window (James Gosling).

Moderate

< C/C++ >
Programming languages used for system and application software. C++ was originally an extension of C and is commonly used for gaming development.

Moderate to difficult

THERE ARE SEVERAL WEBSITES WHERE YOU CAN LEARN TO CODE FOR *FREE*!

code|cademy
Most popular, free platform for learning code

24MILLION+ users

[FREE]

treehouse
Treehouse has "tracks" to help guide you towards the right coding path for the right job.

100,000+ active users

[14 day free trial then £16 a month]

<> Code School
Uses screencasts and interactive exercises

1MILLION+ enrolled

[£19 a month]

udemy
Offers experts the chance to upload their courses for a tuition free or for free

7MILLION+ enrolled

[Fees vary]

MUST READS:

These sources are useful for learning the basics through to intermediate level with video tutorials and helpful forums.

Code-specific books can help you with a particular language once you have started, but reading has its limits. You won't find out if you enjoy programming until you start practising yourself!
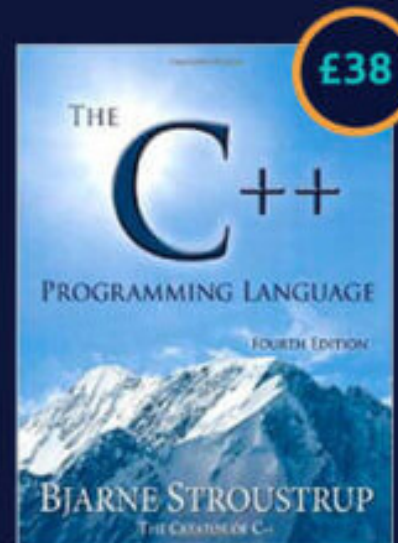
Start with an easy language like Python.

£19

£14

£38
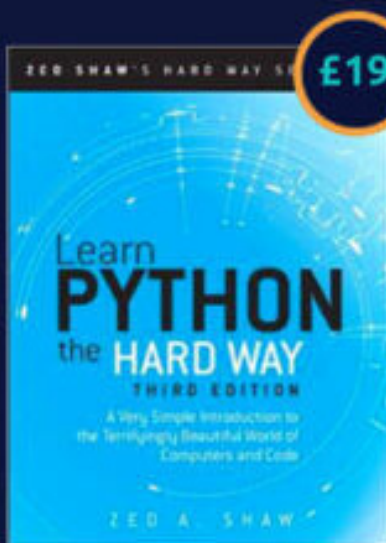
**Learn Python
the Hard Way
Zed A Shaw**

**Javascript:
The Good Parts
Douglas Crockford**

**The C++
Programming Language
Bjarne Stroustrup**

ESSENTIAL BOOKMARKS:

These websites can provide a network of support from the programming community if you have any questions to ask. You can also use GitHub as a source of inspiration by learning from other programmers' coding as well as gaining your own experience working on open source projects.

GitHub

stackoverflow

StackExchange

Quora

Deepfake, Conspiracies and Pakistan

Rizwana Omar

If you take a look at the best instances of deepfakes, you can easily see how far the technology has come in a very short amount of time. It may be very difficult to discern the difference between the real thing and a deepfake. When compared to more recent instances, previous deepfakes sometimes had an "uncanny valley" quality that gave them away as fakes, but because to technological advancements, today's deepfakes are highly convincing. However, what is a deepfake?

The AI-powered fake media

Artificial intelligence (AI) has advanced significantly in recent decades, boosting productivity and quality across a wide range of industries. On the other hand, not every AI product helps people. It's possible that some technology may be misused by criminals afterits creation. An example of such technology is Deepfake.

Deepfakes may be created in a variety of ways, but the most frequent involves the use of autoencoders and deep neural networks to swap the faces of two images. In order to create a deepfake, you must first gather together a set of video clips of the person you wish to superimpose into the target video.

The videos don't even have to be connected to one another; the target may be a scene from a Hollywood film, and the videos of the person you want to put into the film could be random clips grabbed from YouTube.

> **Artificial intelligence (AI) has advanced significantly in recent decades, boosting productivity and quality across a wide range of industries**

The autoencoder is a deep learning AI algorithm that analyses the video clips to learn what the person looks like in different lighting and contexts, and then maps the person from the training video onto the person in the target video.

Another type of machine learning is added to the mix, known as Generative Adversarial Networks (GANs), which detects and improves any flaws in the deepfake within multiple rounds, making it harder for deepfake detectors to decode them.

Using enormous quantities of data to "learn" how to create new instances that imitate the actual thing, with excruciatingly realistic results, GANs are also utilised as a popular way for creating deepfakes.

The Chinese app Zao, DeepFace Lab, FaceApp (a picture editing app with built-in AI methods), Face Swap, and the especially hazardous DeepNude (since banned) app all make it easy for amateurs to build deepfakes.

Deepfake and International world

In 2018, a video of Trump's comments on the Belgian government was made public.

Trump never made a speech in which he called for Belgium's withdrawal from the Paris Climate Agreement, as depicted in the video. Another instance, in early 2022, a video surfaced of Ukraine President Volodymyr Zelenskyy. Zelenskyy was seen pleading with the people of Ukraine to surrender to Russian soldiers in the video. After the viral video generated a stir online, Zelenskyy posted a clarification to Instagram, stating, "We are at home and safeguard Ukraine," to dispel any rumours that it was indeed his work. While the situation extinguished, but what it ignited was a tool which had fooled many too eyes and left many in disbelief, and which would further cause unrest.

How can it harm Pakistan?

Pakistan was slow to catch up to the problem of doctored videos, and as a result, its citizens were unprepared for the widespread destruction that may result from it. While most foreign people are well versed on many digital upcoming issues and would not easily be fooled by such stunts, however, in a country like Pakistan, where people are gullible and not brought up enough on new digital discoveries, this opened up a whole new set of problems.

Deep Fake Video was initially used to replace women's faces. A number of cases were filed in FIA cybercrime wing where women were blackmailed through doctored images; some women even committed suicide. But now more advanced deepfake technology appears to have taken deeper roots in Pakistan's political arena.Contentious recordings and videos of Imran Khan were allegedly produced with the use of deepfake, according to Pakistan Tehreek-e-Insaf (PTI). Furthermore, Senator Azam Swati disclosed that a private film of the couple was sent to his wife. Some hours later, however, the Federal Investigation Agency (FIA) asserted that the film was "fake" on the basis of a forensic study.

Respect and decency are at an all-time low, and it's reasonable to wonder if what you see or hear is genuine or simply an elaborate hoax. This madness will only end when the political discourse shifts from personal attributes of political leaders to their projects and political acumen.

Public conversation nowadays is rife with bitterness, wrath, and hostility on all digital platforms. Whether it's a late-night talk show, a family get-together, or just a social gathering, you can count on a few of political fanatics to monopolies the conversation with irrelevant, passionate, and incomprehensible rants, all while convinced that they are right. Toxicity has become widespread in Pakistan due to the current political drama and how deepfake has been brought in to the situation.

Toxicity has become widespread in Pakistan due to the current political drama and how deepfake has been brought in to the situation

Such profound deceits are a ticking time bomb, waiting to go off and destroy the victim's reputation, relationships, and sanity. As digital tools improve, it becomes harder to tell the difference between fact and fiction.

Many terrorist groups operating from India and Afghanistan often conduct propaganda in Pakistan, especially in the volatile region of Baluchistan. F or instance, Twitter users were shocked by the images of Baluch bodies discovered in the desert. One faction exploited the deaths to advance their political agenda by blaming Pakistan's military. Human trafficking was ultimately determined to be the cause of the problems, though.

Combatting deepfakes with technology

Although deepfakes will continue to become more convincing as methods advance, we are not completely helpless against them. The public's education, the creation of anti-disinformation legislation, and the development of detection tools to identify false data for accountability are all potential methods of combating the spread of deepfakes. A number of companies are developing methods for spotting deepfakes, several of them being startups.

For instance, Sensity has created a detection software that functions like an antivirus for deepfakes by sending out emails to customers whenever they come across content that has telltale fingerprints of AI-generated synthetic media.

As digital tools improve, it becomes harder to tell the difference between fact and fiction

To identify deepfakes, Operation Minerva uses a more direct method. In order to detect any deepfakes, this company's system evaluates clips against a database of previously "digitally fingerprinted" clips. By detecting that the deepfake video is only a changed version of a film previously catalogued by Operation Minerva, the system is able to detect instances of revenge porn, for instance.

The government of Pakistan should also improve administration at all tiers of the government to speed up implementation. Unallocated spectrum holds a negative economic value by depriving the public of efficient broadband services. So, Spectrum allocation needs to be liberalized to facilitate service providers and enhance their rollout plans to improve coverage and quality of services.

The Deepfake Detection Challenge was an open, collaborative project organized by Facebook last year with the goal of inspiring the development of new tools to identify deepfakes and other forms of manipulated media. The competition featured prizes ranging up to $500,000.

TECH TWIST

Aeromobil has introduced the world's first commercial flying car

01

Flying cars exist! The Slovakian company aims to debut the world's first roadable aircraft in the market this 2023, which will shake the transportation industry.

### Facebook was originally a directory of freshmen with their names and pictures

02

It's a book of faces! Mark Zuckerberg and his Harvard colleagues created a digital book of new students with their faces on it. Since then, Facebook has become the leading social networking website in the world.
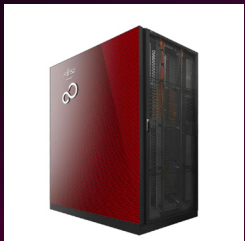
The Fugaku supercomputer is the world's fastest computer

03

The Fugaku supercomputer, housed at the RIKEN Centre for Computational Science in Kobe, Japan, is the world's fastest computer. The $1-billion supercomputer has 7,630,848 cores, requires 29,899 kilowatts of electricity, and can execute 442,010 teraFLOPs.
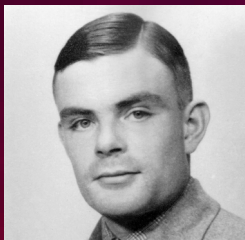
Alan Turing and the beginning of AI

04

Alan Turing, an English computer scientist, employed his cryptologic and mathematical talents to take a critical role in decrypting the Nazi code machine ENIGMA during World War II.

Markus Persson, the Creator of Minecraft

05

In 2009, Markus Persson, a Swedish software programmer, created and released the computer game Minecraft, which was later purchased by Microsoft for $2.5 billion.

vivo

Y35
BEST FEATURES AT BEST PRICE

What is Good?

Overall Rating
9.2/10

Display
9.2/10

Camera
8.7/10

Storage
9.5/10

Battery
9.8/10

- The Vivo Y35 has a large 5,000mAh battery.
- The phone has a polycarbonate body with a metallic finish.
- The Vivo Y35 offers good specs for its price.

What is Bad?

- The HD+ display on the Vivo Y35 has a relatively low resolution.
- The Vivo Y35 lacks fast charging support.

Final Verdict

vivo recently launched the Y35 — offering the maximum value on price. The Y35 embodies style and elegance that stays true to vivo's Y Series. The Y Series is well recognized for providing consumers with flagship-level experiences at a reasonable cost, and its most recent smartphone is no exception. The Y35 is undoubtedly a preferred model among youth and young adults. The best features are offered by the smartphone at the best price.

Camera
50 MP, f/1.8
2 MP, f/2.4 (telephoto)
12 MP, f/2.4 (ultrawide)

Charging
80w Fast Charge

Battery
5000mAh

Internal
128GB

Processor
Snapdragon 680

Display
6.58-inch (FHD+)

RAM
8GB RAM

OS
Android 12

Price
Rs.62,999/-

"Vivo's V1+ chip has revolutionized smartphone imaging, screen, and game graphics"

Eric Kong, CEO of vivo Pakistan

The year 2022 has been an eventful one, especially in the technology sector. We have witnessed constant development, innovation, and game-changing products across various categories. One of the most successful brands in Pakistan this year has been vivo, which has had a robust line-up of activities.

The company says it's committed to improving the lives of its customers with high-end smartphones in all price segments. Moreover, it's showing a long-term commitment to Pakistan and says it's here to stay and contribute to Pakistan's socioeconomic uplift.

Because of the growing interest in vivo Pakistan's activities and interesting campaigns, we felt the year-end was an opportune time to speak with Mr. Eric Kong, CEO of vivo Pakistan to discuss vivo's accomplishments during 2022 and its goals for the coming year.

PW: Taking a look back on 2022, how would you describe vivo's journey in Pakistan?

EK: The year 2022 has certainly been an exciting and eventful one for vivo in Pakistan. As a brand committed to providing its customers with the best products and experiences, we have witnessed some innovative product launches and consumer campaigns over the past year. vivo smartphones are well received in Pakistan and Google's Year in Search report 2022 is another evidence of this as vivo V23 ranked first among the most searched smartphones in Pakistan.

vivo V23 ranked first among the most searched smartphones in Pakistan

PW: vivo also gave donated in Prime Minister's Flood Relief Fund earlier. What do you want to say about the generous act?

EK: To help citizens recover from the damages caused by the uncontrollable landslides and massive floods across the region, we donated 10 million rupees to the Prime Minister's Flood Relief Fund 2022. Our contribution to the community was also appreciated by Arif Alvi, the President of Pakistan. The President indicated that vivo's contribution would positively impact and assist the individuals affected by the crisis.

PW: In the course of discussing the activities of the past year, what are the technological advancements that have been achieved by vivo in 2022?

EK: Our brand has made some great technological advances, both on a global and local level. With the launch of the flagship X80 device this year, vivo demonstrated its collaboration with ZEISS, a world leader in optical and imaging solutions. As part of our commitment to providing consumers with the best possible imaging experience, the two leading brands have collaborated in research and development. The vivo X80 contains several components manufactured by ZEISS Optics. For example, all the lenses meet the ZEISS T* Coating standards, which reduce light reflection and in turn reduce stray light ensuring professional-level photography.

With the launch of the flagship X80 device this year, vivo demonstrated its collaboration with ZEISS, a world leader in optical and imaging solutions

To further enhance the user experience, vivo also developed the V1+ chip, which has revolutionized smartphone imaging, screen, and game graphics. It was developed by the vivo R&D team and imaging lab professionals in over 30 months.The chip includes an AI system for professional-level visual enhancement, including AI Video Enhancement.

With our flagship V23 5G, we also introduced the one-of-a-kind revolutionary Colour Changing Glass technology to the region for the first time. When exposed to ultraviolet light from the sun, the Colour Changing Technology gradually transforms the colour of the rear panel of the phone. In the absence of sunlight, the colour returns to its original hue. Our goal in vivo is to bring international leading technologies to the Pakistani market for the benefit of our customers.

PW: A core tenet of the brand is its customer-centric approach. How does vivo ensure that customer needs are met on a local level, bearing this in mind?

EK: As part of its effort to better integrate into Pakistan's consumer market, vivo utilizes a "More Local, More Global" approach to bring global technologies such as 5G, Artificial Intelligence, and Advanced Imaging Systems to the local market.

Further, a key objective of the vivo brand is to promote and appreciate the local culture, talent, and consumer preferences. The brand has come to recognize and appreciate the deep-rooted notions of culture and tradition that make Pakistan a unique country.

It collaborates closely with local talents and celebrities such as Babar Azam, Fahad Mustafa, Hania Aamir, and many others who serve as youth icons in the region through various initiatives.

> **As part of its effort to better integrate into Pakistan's consumer market, vivo utilizes a "More Local, More Global" approach to bring global technologies**

Consumer-centricity has been a vital component of vivo's product development, aimed at fulfilling the needs and wants of customers. We have established an extensive network of offline and online customer service centres to ensure greater accessibility for our customers. Providing superior after-sales service is one of our top priorities with 9200+ retail stores and 18 exclusive service centres. Aside from delivering top-notch technology, at vivo we constantly strive to ensure that every customer has a positive shopping and after-sales experience.

PW: vivo is known as a camera-centric brand, tell us about vivo's camera technology?

EK: Consumers of all ages, particularly Pakistani youth, use images and vlogs to present their personalities. There is no doubt that image-based self-expression has become a significant aspect of modern thinking. However, content creators, photographers, and creative minds confront severe difficulty when shooting outside in low light, which results in poor, blurry photographs.

However, as a camera-centric brand, we recognised this problem and built a one-stop solution in vivo's premium series with futuristic camera smartphones equipped with improvements such as Gimbal Stabilization, OIS, EIS, Night Selfie, and much more. These technologies not only stabilize and sharpen images but also eliminate background noise, resulting in sharper faces and improved focus. Technically speaking, vivo's innovative software-hardware mechanisms create synergy to capture clearer selfies and high-quality pictures and videos at any point of time.

PW: The response of the Pakistani public to the new flagship products launched this year along with their campaigns has been very positive. Could you please elaborate further on this?

EK: There is no doubt that we are overjoyed with the response of the people to our products. Our devices, especially the V23 Series and X80, have experienced great success since their launch. According to Google's Year in Search report for Pakistan for 2022 the V23 5G, V23e, and Y21 are among the most popular smartphones in the region, with the V23 5G topping the list. As evidenced in the report, vivo is very popular in the region due to its high-quality smartphones, which has contributed to the company's top ranking in the search engine's results. Similarly, our Visual Creator Contest received an overwhelming response from a variety of short films from across the region, all of which were of varying genres. Among the global entries, our films have been widely loved and been awarded both international and regional awards.

PW: In anticipation of the year ahead, we would like to know what vivo's hopes and visions for 2023 are?

EK: We are extremely grateful to our loyal and cherished Pakistani consumers for their support and love throughout our various initiatives this year, whether they are product launches or campaigns. We hope to continue providing consumers with products and services that are of a high standard and exceed their expectations. In the future, we wish to keep innovating and experimenting to develop products that will help users with their day-to-day lives and provide them with the best possible experience.

> **In the future, we wish to keep innovating and experimenting to develop products that will help users with their day-to-day lives and provide them with the best possible experience**

Telecom Industry Starts Issuing SIMs through Multi Finger Biometric Verification System

Telecom industry has started issuing SIMs through an enhanced version of Biometric Verification System (BVS) called Multi Finger Biometric Verification System (MBVS). This was stated in a ceremony held at PTA Headquarters for signing of the contract between NADRA and Cellular Mobile Operators (CMOs) after smooth transition to the new BVS.

The BVS devices available at sale channels have been upgraded to meet the requirements of the new system through NADRA and CMOs. The new system requires impressions of multiple fingers for authentication and applicant antecedents while issuing new or duplicate SIM. Moreover, the control for choice of fingers for verification purposes has been shifted from the seller representative to the system which asks for two different fingers' impressions randomly. The implementation of new system will make the illegal use of fake fingerprints impossible.

The signing ceremony was attended by Chairman PTA, Maj. General Amir Azeem Bajwa (R), Chairman NADRA, Mr. Muhammad Tariq Malik; Member (Compliance & Enforcement) PTA Dr. Khawar Siddique Khokhar; Additional Director General FIA and representatives from CMOs.

Chairman PTA, while lauding the untiring efforts of CMOs and NADRA in the upgradation of MBVS, said that the new system will be a catalyst in controlling the sales of SIMs issued illegally.

Speaking at the occasion, Chairman NADRA stated that MBVS has the immense potential to keep fraudsters and scammers away. He said MBVS is a smart solution which uses an indigenous smart algorithm where choice of finger is proposed by the system rather than prefixed finger positions.

MBVS has been made possible due to strenuous and continued efforts of the teams from PTA, NADRA and CMOs. It is pertinent to mention that BVS was implemented in 2014 in order to offer secure online biometric verification for each SIM related transaction as well as assigning Unique Sale ID and logging of each transaction so that the person responsible for misuse is identifiable. However, to further enhance the system and counter problems regarding SIMs issued using illegal means, MBVS has been introduced.

The new verification system will be helpful towards eliminating the use of SIMs attained through illegal ways in fraudulent financial transactions and other criminal activities.
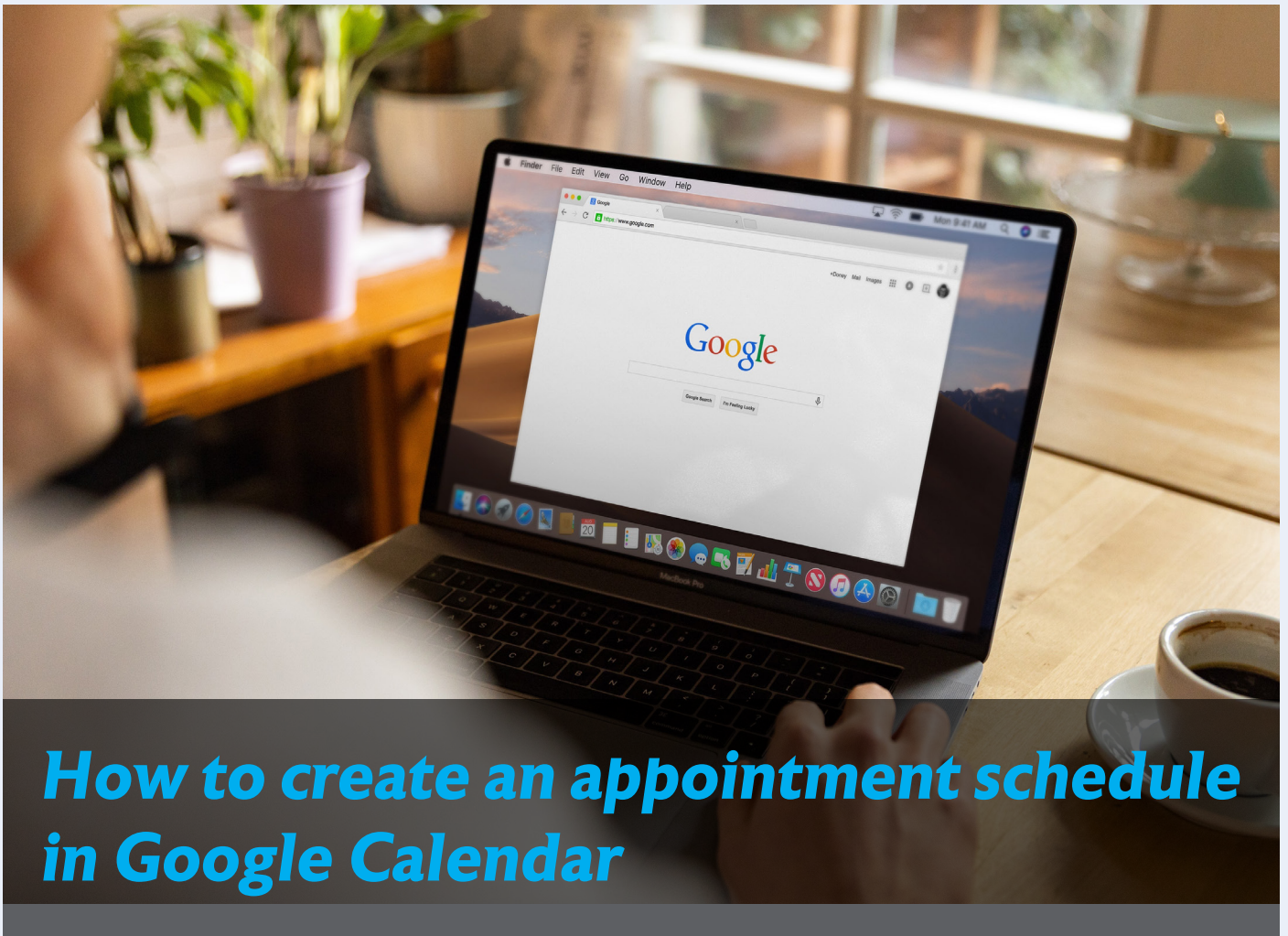
How to create an appointment schedule in Google Calendar

Google Calendar offers a useful feature that makes sure that you never miss out on your important appointment. You can set up a block of appointments on your calendar that other people can reserve.

So, if you also want to perfectly balance your time then you can create appointment schedules with the help of Google Calendar.

STEPS TO BE TAKEN

STEP 1 On a computer, open Google Calendar.

STEP 2 At the top left, click Create Add

STEP 3 Click Appointment schedule.

STEP 4 Enter a title
The title is visible to anyone who has the link to your booking page.

STEP 5 Set your appointment duration.

STEP 6 Set the date and time of your appointments.You can set up a one-time appointment or a recurring schedule.

STEP 7 To set how far in advance appointments can be booked, next to the "Scheduling window," click the down arrow.

STEP 8 Click Next.

After you edit your appointment schedule, click Save.

MOVES FOR SMARTER NATION

Nadra launches App enabling citizens to access data faster

In yet another step towards making operations in Pakistan digital, the National Database and Registration Authority (Nadra) has launched a mobile application 'Rahbar' which would not only enable citizens across the country to find the nearest Nadra Service Centre but offer much more through a simple click.

The application would display offices in a list as well as on a map. The map would also show the location of the nearby Mobile Registration Van along with the registration office, making it convenient for users to navigate towards any Nadracentre with ease.

Chief Minister launches 'Go Punjab' App

Go Punjab (Government of Punjab) Application aggregates all citizen-centric apps into one umbrella mobile application. It allows citizens to register with their CNIC & a verifiable mobile number. Citizens only have 'One Username & Password to Remember. Go Punjab App integrates the existing users of other govt. apps & citizens will not have to register themselves again. Go Punjab App eventually would be a single platform to integrate new citizen-centric services as the digitization drive moves forward.

Govt to launch Safar Saheli App for female passengers

The Safar Saheli App is the initiative of Pakistan Railways for the safety of bona fide passengers (especially women) of Pakistan Railways who face any panic or emergency situation during their journey.

The initiative has been undertaken to provide safe and secure travel to women traveling through PR trains across Pakistan.This app will help women passengers to get immediate help/relief from Pakistan Railways deputed relief/response team.

TELECOM CAMPAIGNS

GenZmatlabGenZong - Let's Get Digital with Zong 4G TVC

In its most recent TV commercial, Zong rebranded its customer base as GenZ. (GenZong). Ali and Daniyal Zafar may be seen in the commercial. I have to admit that the music is quite upbeat and exciting, and it really makes the commercial stand out. The commercial features a variety of common everyday activities that are simplified by utilizingZong's lightning-fast 4G service.

ZONG 4G
A NEW DREAM

Verdict: *An energetic and enjoyable TVC, Good Job*

Vivo Y35 TVC

Y35
- 8GB + 8GB Extended RAM
- 44W FlashCharge
- 50MP Triple Rear Camera

Y SO COOL

The Y35 is Vivo's brand new smartphone, released just in time for the Pakistani market. The 50MP camera is only one of the many qualities highlighted in the TV commercial. Aesthetic color selections and the phone's clean, modern design are also highlighted. In addition to its 50MP Triple Rear Camera and 44W FlashCharge, the phone also has 8GB + 8GB Extended RAM. It's a good TV commercial overall.

Verdict: *: Simple and Ordinary*

Jazz Bano Super Digital

The current TV commercial from Jazz is upbeat and sends a positive message about the benefits of digitizing the country. SarwatGillani stars in the commercial. A single mother of two copes with the loss of her employment by going into freelance work. She is able to complete her freelance work because to the high speed 4G internet provided by Jazz. A positive future is promised after a negative one, or so the advertisement would have you believe. In sum, the commercial was well done.

BANO SUPER DIGITAL
AUR KARO FREELANCE FREEDOM SE
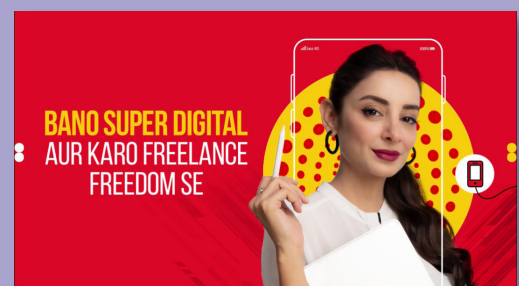
Verdict: *A Good TVC with a Good Message*

TecnoCamon 19 Neo TVC

Tecno'sCamon Neo 19 is one of the new smartphones the company has offered to the Pakistani market. The phone's photography functions are shown prominently in the commercial. The light goes out during the bride's wedding, and her guests make use of the phone's low light camera to capture memorable moments. It sports a 32MP selfie camera and a 48MP main shooter. I would recommend this phone to anyone who enjoys taking pictures.

Verdict: *An outstanding phone in an average TVC*

Ufone 4G Sab Sy Bari Plus Offer

Ufone introduces a new weekly offer with a lots of incentives. The TVC features Iqra Aziz and Ushna Shah in two different TVCs. However, both TVCs contain same information about the packages. This weekly offer provides 40GB data and 200 off net minutes in Rs. 350.

Verdict: *An Average TVC*

Infinix ZERO 20 - Capture Your Own Story

The world's first 60MP optical image stabilized front camera can now be found in the ZERO 20, a new high-end phone released by Infinix Pakistan. The TVC shows off the phone's MediaTek G99 chipset, 60MP front-facing camera, 108MP rear-facing camera, and stylish design.In general, it's a solid commercial.

Verdict: *A good advert with a beautiful and Inspiring Feel*

GAMES
& APPLICATIONS

Snapseed is a complete and professional photo editor developed by Google. Save your personal looks and apply them to new photos later. All styles can be tweaked with fine, precise control.

Separated by an unknown god, stripped of your powers, and cast into a deep slumber, you now awake to a world very different from when you first arrived. Thus begins your journey across Teyvat to seek answers from The Seven — the gods of each element. Along the way, prepare to explore every inch of this wondrous world, join forces with a diverse range of characters, and unravel the countless mysteries that Teyvat holds...

Substack exists because what you read matters, and great writing is valuable.

Use the Substack app to collect your newsletters in a dedicated Inbox, be instantly notified when a writer you've subscribed to publishes a new post, read posts in simple and elegant view and discover new writers.

Sketchbook is an award-winning sketching, painting, and drawing app for anyone who loves to draw. Artists and illustrators love Sketchbook for its professional-grade feature set and highly customizable tools. Everyone loves Sketchbook for its elegant interface and natural drawing experience, free of distractions so you can focus on capturing and expressing your ideas.

Track your spending, and grow a city! Fortune City gamifies bookkeeping with a fun city simulation game. Record your expenses, and watch as your city flourishes into a beautiful metropolis.
Pick up good budgeting habits as you track income and expenses, so you can grow your personal fortune into a prosperous city!
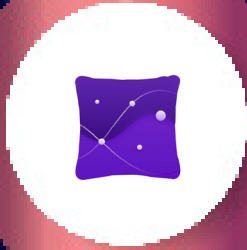
Sleep trouble? Sleep better with Pillow, your smart sleep assistant. Pillow can analyze your sleep cycles automatically using your Apple Watch, or you can use Pillow without an Apple Watch by placing your iPhone or iPad on the mattress near your pillow.

Go beyond the headlines and hot takes, and dive deeper into the stories that matter to you with the award-winning Flipboard app. Flipboard is made for and by enthusiasts, with content curated on thousands of topics from world-renowned publishers, local outlets, and the community.
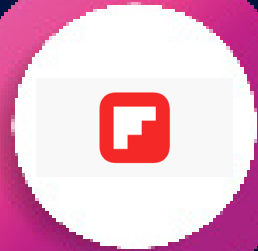
Acorns is how you save and invest for your future. Over 20 million downloads! Get started in minutes, and give your money a chance to grow in the background of life.

Experience the games you love like never before! Watch live streams and chat with devoted gamers around the world.
Catch the action as it happens! With millions of unique streamers every day playing everything under the sun, if it's worth watching, it's live on Twitch right now.
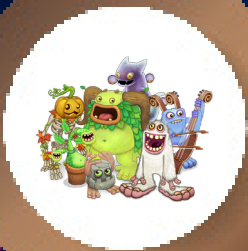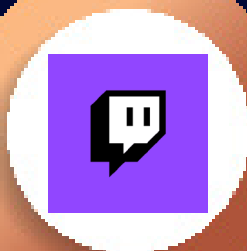
Collect and breed up to 250 monsters on your island, and hear your song change and grow over time. Add decorations to customize your island, and you can play with friends around the world and partake in worldwide events all year long.

SMARTWATCHES
UNDER
PKR 5000

i9 PRO MAX
PKR/-4,399

FlasOcean

HW7 MAX
PKR/-4,999

Tucker

HAYLOU LS05
PKR/-4,999