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Jet Brains Releases New Version of Aqua IDE for Test

Software development toolmaker Jet Brains has released a new version of its IDE for test automation, Aqua, adding support for the open-source Playwright and Cypress web app testing frameworks.

The Prague-based company makes a number of IDEs, including the popular IntelliJ IDEA for Java developers and Py Charm for Python devs. The company is also the creator of Kotlin, a cross-platform, statically typed, general-purpose high-level programming language with type inference.

Aqua, which was designed to allow QA engineers to develop a wide range of automated UI and API tests, supports Java, Kotlin, Python, JavaScript, Type Script, and SQL, and provides intelligent coding assistance for each of those languages.

The company initially released Aqua with support for the Selenium API and Selenide. Selenium is a widely-used open-source testing framework for automating web browser interactions. Selenide is a framework for test automation powered by Selenium Web Driver. According to Oscar Rodriguez, product marketing manager in the Jet Brains Aqua group, the addition of support for Playwright and Cypress was a response to user requests. He said they were among the most requested testing frameworks

The IDE also "covers every aspect of test automation daily work," including:

- A database management feature that makes it possible for users connect to multiple databases, and to prepare and verify the application data.
- An editor-based HTTP client that runs complex HTTP requests and assertions, allows sharing with the team, and running them on the CI/CD..

Jet Brains introduced Aqua in a preview in November 2022. Test automation engineers can download the latest preview build via the Toolbox App or its website

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From the Editor-in-Chief's Desk

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The purpose of **ALU AISD SofTact,** a quarterly Magazine, is to inform, engage and inspire the diverse readership, including Academia, Students, Industry personnel and other stakeholders by publishing B.Voc. and M.Voc. Software Development students' creative content and glimpses of Departmental activities. It is intended to bring out the hidden literary talents of our students and also to inculcate authoring skills to them. I wish the students those who have an eager to participate in our university inter department cultural event ALUTES 2017 and encourage more students to participate in such events. Regarding the Internal test performance, I appeal the students to put in more effort and achieve even better results in the forthcoming tests. Through this issue of SofTact magazine (Volume 1, Issue 1) our B.Voc. and M.Voc. Software Development students proved their talents and it shows their strength of academic activities of the department.

Industry Applications

- Aircraft Engines
- Wind Turbines
- Large Structures e.g. offshore platforms, offshore vessels etc.
- HVAC control systems
- Locomotives
- Buildings.

New Spring AI Project Aims to Streamline App Development

VMware unveiled a new Spring project last week that aims to streamline the development of applications that incorporate artificial intelligence (AI) functionality. The Spring AI Project, introduced at the Spring One developer conference in Las Vegas, provides a Spring-friendly API and abstractions that serve as the foundation for developing AI applications.

"The project was founded with the belief that the next wave of Generative AI applications will not be for Python developers only," the company said in a statement, "but will be ubiquitous across many programming languages."

The project team took "inspiration" from the Python libraries Lang Chain and Llama Index, which have become popular for implementing Generative AI solutions and can be implemented in other programming languages. The Spring AI project aims to provide a similar experience for Spring developers in the AI domain.

The abstractions provided by Spring AI have multiple implementations, the company says, enabling easy component swapping with minimal code changes. Spring AI introduces the Ai Client interface, for example, with implementations for Azure OpenAI and OpenAI as AI backends.

Spring AI is described as a "Spring-friendly API and abstractions for developing AI applications," during a live chat session from the conference with Josh Long, Spring Developer Advocate at VMware, Dr. Mark Pollak, Senior Staff Engineer at VMware.

"Every programming language is going to want to interact with these AI models," Pollack said. Pollack pointed to such use cases as content generation, code generation, semantic search and summarization, which are supported by the project.

As the complexity of the use cases increases, the company says, the Spring AI project will integrate with other projects in the Spring Ecosystem, such as Spring Integration, Spring Batch, and Spring Data.

The open-source Spring Framework is one of the most popular software development frameworks primarily among enterprise Java developers. But it's also popular among Kotlin devs. VMware is the steward of the open-source project, and own the commercial aspects the Spring project..

The concepts section provides a high-level overview of AI concepts and their representation in Spring AI.
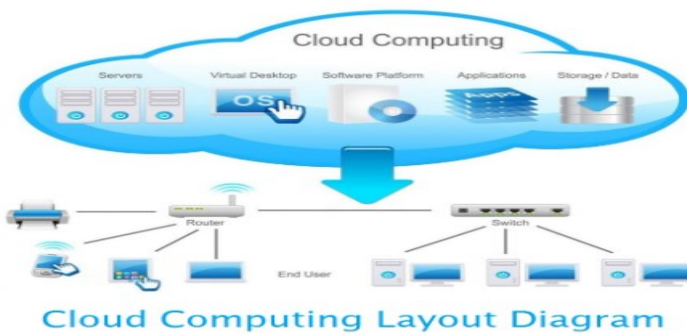
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Cloud Computing

Cloud computing is the delivery of different services through the Internet. These resources include tools and applications like data storage, servers, databases, networking, and software.
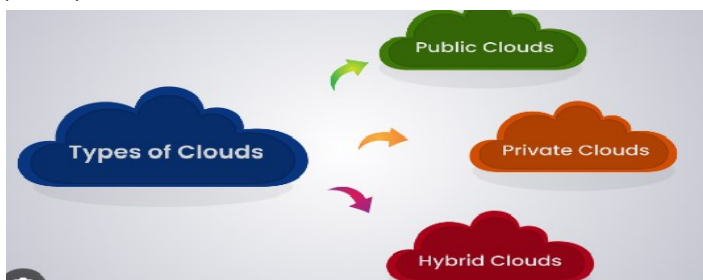
Rather than keeping files on a proprietary hard drive or local storage device, cloud-based storage makes it possible to save them to a remote database. As long as an electronic device has access to the web, it has access to the data and the software programs to run it.

Cloud computing is a popular option for people and businesses for a number of reasons including cost savings, increased productivity, speed and efficiency, performance, and security.

Cloud Computing Layout Diagram

Types of Cloud Computing

Cloud computing is not a single piece of technology like a microchip or a cellphone. Rather, it's a system primarily comprised of three services: software-as-a-service (SaaS), infrastructure-as-a-service (IaaS), and platform-as-a-service (PaaS).

Software-as-a-service (SaaS) involves the licensure of a software application to customers. Licenses are typically provided through a pay-as-you-go model or on-demand. This type of system can be found in Microsoft Office's 365.[1]

Infrastructure-as-a-service (IaaS) involves a method for delivering everything from operating systems to servers and storage through IP-based connectivity as part of an on-demand service. Clients can avoid the need to purchase software or servers, and instead procure these resources in an outsourced, on-demand service. Popular examples of the IaaS system include IBM Cloud and Microsoft Azure.[12]

Platform-as-a-service (PaaS) is considered the most complex of the three layers of cloud-based computing. PaaS shares some similarities with SaaS, the primary difference being that instead of delivering software online, it is actually a platform for creating software that is delivered via the Internet. This model includes platforms like Salesforce.com and Heroku.

The World of Business

Businesses can employ cloud computing in different ways. Some users maintain all apps and data on the cloud, while others use a hybrid model, keeping certain apps and data on private servers and others on the cloud.

When it comes to providing services, the big players in the corporate computing sphere include:

- Google Cloud
- Amazon Web Services (AWS)
- Microsoft Azure
- IBM Cloud

M.Maniprasanth

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Top 10 Software Development Trends in 2021

- Integration of RPA bots during Software Development .
- Integrating AI into the Software Development
- Integration of Blockchain
- Integration of the Internet of Things in Software Development
- Rise of Native App Development
- Improvement in Continuous Integration of Software Development
- Software Development to be Cloud-Centric
- Shift towards DevSecOps
- Cross-Platform and Hybrid Development

Big Data Security

Big data security is the process of monitoring and protecting a company's important business data with the goal of ensuing safe and compliant ongoing operation.

Big data security is a constant concern because Big Data deployments are valuable targets to would-be intruders. A single ransomware attack might leave a company's big data deployment subject to ransom demands. Even worse, an unauthorized user may gain access to a company's big data to siphon off and sell valuable information. The losses can be severe. A company's IP may be spread everywhere to unauthorized buyers, and it may suffer fines and judgments from regulators.

Securing big data platforms takes a mix of traditional security tools, newly developed toolsets, and intelligent processes for monitoring security throughout the life of the platform.

A CLOSER LOOK AT BIG DATA SECURITY

♦ Big Data Security Works

♦ Navigating Big Data Security & Trends

♦ Big Data Security Benefits

♦ Big Data Security Challenges

♦ Big Data Security Technologies

♦ Implementing Big Data Security

♦ Big Data Security Companies

♦ Bottom Line: Big Data Security

Benefits Of Big Data Security

With the benefits of customer retention, risk identification, business innovation, cost, and efficiency, a big data security system can be of value to companies everywhere.

Here are key benefits of big data security:

Customer Retention: With big data security, a company can observe many data patterns, which allows them to better fit their products and services with their clients needs.

Risk Identification: Because of big data security, a company can use big data tools to identify risks in their infrastructure, helping companies create a risk management solution.

Business Innovation: Big data security can help companies update their tools and help transfer products into new secure systems. This innovation can improve business processes, marketing techniques, customer service, and company productivity.

Cost Optimization: Big data security technologies can reduce customer costs by efficiently storing, processing, and analyzing large volumes of data. Big data security tools also will calculate how the product will benefit the company, so companies can pick a company that is better for their infrastructure.

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Virtual Reality and Augmented Reality

Innovative technologies provide more immersive experiences, such as AR and VR. Virtual reality immerses users in a simulated environment, and augmented reality is a superposition of technologies in the real world. Cisco predicts that by 2022, ARVR traffic in all entertainment sectors worldwide will increase 12 times. Nowadays, virtual reality work does not require a lot of training. Simple programming skills should be enough to find a job, as well as interest in the field and the power of visualization. With millions of virtual reality devices sold around the world every year, it is only a matter of time before we see that virtual reality and augmented reality take over our daily lives. in a phrase, and then video of the phrase used in a sentence for context.

Advantages:

- Enables individualized learning and enhances the learning process.

- AR offers a wide range of applications that are continuously being improved.

- The technology makes it possible to increase accuracy and efficiency.

- Experience or knowledge can be shared over long distances.

Disadvantages:

- The costs of implementing AR are comparatively high.

- Many devices have only a low level of performance.

- A key disadvantage is the lack of user privacy.

- If the focus on security is neglected, the introduction of augmented reality can lead to a security breach.

M.Krishhan

III B.Voc. (SD)

Augmented Reality vs Virtual Reality

The distinctions between VR and AR come down to the devices they require and the experience itself:

- AR uses a real-world setting while VR is completely virtual
- AR users can control their presence in the real world; VR users are controlled by the system
- VR requires a headset device, but AR can be accessed with a smartphone

AR enhances both the virtual and real world while VR only enhances a fictional reality

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Practical Drone Delivery

Drone industry overview

Drones were initially introduced as military/police equipment and were used primarily for surveillance and monitoring against any targeted attacks. The application and usage of this technology have since evolved to include various other labor-intensive and complex tasks across industries. These include identifying defects in oil/gas pipelines, checking the health of crops, identifying hotspots in fire situations, surveillance for mining and construction activities, cinematography, delivering packages, etc.

Adoption of drones in the retail and logistics industries

The retail and logistics industries invest in and leverage drone technology to implement alternative and scalable delivery models. Major industry players like Amazon, UPS, DHL, Walmart etc., have already introduced drone delivery services on their platforms. The industry is also supported by specialist drone delivery operators and technology providers like Wing, Zipline, and Matternet. The size of the global drone package delivery market is estimated to reach USD 8 B by 2027[ii], at a significant CAGR of 41.8%.

"Gartner predicts that in 2026, more than one million drones will be carrying out retail deliveries, up from 20,000 today.[iii]"

Countries leading the adoption of drone delivery are:

1. Asia - China and Japan for parcels and shipment.
2. Africa - Remote areas in Rwanda and Ghana for medical supplies and test samples.
3. Oceania - Australia and Vanuatu for food, personal, and home care products.
4. Europe - Finland, Iceland and Switzerland for food, medicines, and other retailproducts.
5. America - Multiple states in the US and Canada for various packages.

Challenges for drone delivery providers

Legislative and regulatory issues: To keep a check on issues like altitude (drones cannot fly higher than 400 ft.), span of operation, the weight of the drone, privacy laws, navigable airspace.

Talent availability for scaled operations: There is limited availability of skilled and experienced resources in the drone delivery space.

Infrastructure: The initial implementation and set-up costs are high for drones. Setting up of drone launch pads, aligning the movement of drones with buildings and open operational spaces, licenses, battery charging facilities, software and technology, training facility, and research and development require high investments.

Public acceptance: Many consumers are still not ready to accept drone deliveries due to privacy, safety, and security concerns.

Weather impact: Efficient drone delivery operations are dependent on weather conditions like rain, wind, snow, etc.

Drone abuse: There are chances of theft of packages and potential damage to the drone equipment

The future of drones

The use of drone technology and drones for delivery is inevitable. Soon, multiple industries will leverage drone technology to bring innovation to their business areas, including surveillance, research, last-mile delivery, etc. E-commerce giants have been at the helm of research, development, and filing patents in drone technology since 2005. They continue to be invested in this space and are focused on bringing down the cost of operations in last-mile delivery, improving delivery time, and integrating drone technology with mobile phone applications to provide better user experiences. Drone delivery services will only grow in the coming years, and companies will need to stay invested in drone delivery programs and technology enhancements before realizing operational growth and cost benefits.

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5 Ways to Wellbeing

BE ACTIVE
CONNECT
GIVE
TAKE NOTICE
TO LEARN

EDGE COMPUTING

Edge computing is an emerging computing paradigm which refers to a range of networks and devices at or near the user. Edge is about processing data closer to where it's being generated, enabling processing at greater speeds and volumes, leading to greater action-led results in real time.

It offers some unique advantages over traditional models, where computing power is centralized at an on-premise data center. Putting compute at the edge allows companies to improve how they manage and use physical assets and create new interactive, human experiences. Some examples of edge use cases include self-driving cars, autonomous robots, smart equipment data and automated retail.

Possible components of edge include:

Edge devices: We already use devices that do edge computing every day—like smart speakers, watches and phones – devices which are locally collecting and processing data while touching the physical world. Internet of Things (IoT) devices, point of sales (POS) systems, robots, vehicles and sensors can all be edge devices—if they compute locally and talk to the cloud.

Network edge: Edge computing doesn't require a separate "edge network" to exist (it could be located on individual edge devices or a router, for example). When a separate network is involved, this is just another location in the continuum between users and the cloud and this is where 5G can come into play. 5G brings extremely powerful wireless connectivity to edge computing with low latency and high cellular speed, which brings exciting opportunities like autonomous drones, remote telesurgery, smart city projects and much more. The network edge can be particularly useful in cases where it is too costly and complicated to put compute on premises and yet high responsiveness is required (meaning the cloud is too distant).

On-premises infrastructure: These are for managing local systems and connecting to the network and could be servers, routers, containers, hubs or bridges.

Edge computing combined with other technologies

Edge integrates centralized and distributed architectures. Cloud and the edge work hand in hand to enable new experiences. Data is generated or collected in many locations and then moved to the cloud, where computing is centralized, making it easier and cheaper to process data together in one place and at scale. Edge computing uses locally generated data to enable real-time responsiveness to create new experiences, while at the same time controlling sensitive data and reducing costs of data transmission to the cloud. Edge reduces latency, meaning it lowers response time by doing the work close to the source instead of sending it to the more distant cloud and then waiting for a response.

Maturing technologies like 5G make edge more efficient, reliable and easier to manage:

- **5G** makes edge implementations seamless by guaranteeing the transmission of critical control messages that enable devices to make autonomous decisions. This last-mile technology connects the edge to the internet backhaul and ensures that edge devices have the right software-defined network configurations to do the right things.

- **IoT and connected devices** are unique data sources that need to be secured and registered in the cloud. Edge will reside near or on these data sources.

- **Containers** provide a standardized deployment environment for developers to build and package applications. Containers can be deployed on various hardware, regardless of device capabilities, settings and configurations.

- **Service and data mesh** provide a way to deploy and query data and services distributed across containers and datastores across the edge. These meshes present a single interface that abstracts away the routing and management of services and data interfaces. This critical enabler makes possible bulk queries for entire populations within the edge, rather than on each device.

- **Software-defined networking** allows users to configure the overlay networks. It also makes it easy to customize routing and bandwidth to determine how to connect edge devices to each other to the cloud.

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I M.Voc.(SD)

WHAT INSPIRES YOU?

Bruce lee's quotes.

--R .Viswanath
II-B.Voc.(SD)

Speech of Sagayam IAS.

-- S.Vigneshwaran.
III-B.Voc.(SD)

My Father.

--K.Sowmiya
II B.Voc.(SD)

Motivational talk, movies, songs and my own confidence.

-- A.Pandivel.
III B.Voc.(SD)

Dr. APJ. Abdul Kalam.

--Most of the students
B.Voc. & M.Voc.(SD)

Saina Nehwal.

-- V.Sri Surya
I B.Voc.(SD)

My teachers are my inspiration.

-- S.Priyanka
I M.Voc.(SD)

Best App Ideas

Thinking of a unique mobile app idea can be challenging. Sometimes you just need a little inspiration to get your brain working.

That's why we created this guide.

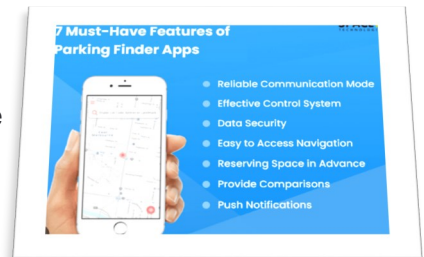Based on current business trends and technology movements, we've identified the best new app ideas of the year. These money-making app ideas are poised for growth and success in 2021 and beyond.

Innovative Mobile App Ideas

Coming up with the right idea is the first step of any mobile app development project. These ideas are great starting points for any entrepreneur or investor that wants to get involved in app development.

Parking Space Finder App

Parking is a big commodity in major cities and tourist destinations. Creating an app that allows users to find a parking space using their mobile devices can be a huge winner.

There are lots of different ways you can make this work.

One creative idea is a parking space marketplace, where people who own parking spaces can rent them out by the hour, day, week, or month. Alternatively, you can direct app users to both free and paid parking lots in the area.

You can make money by taking a commission on each transaction or charging a fee to list a parking space on the platform.

Employee Communication App

Internal communication is the key to success in any organization.

Employee apps help businesses with human resources initiatives, safety and compliance, employee training, benefits administration, and more.

P. Kalaivani
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You can even use an employee self-service app for your staff to check pay stubs on their phones.

Push notifications make it easy for organizations to notify employees about upcoming events and urgent scheduling changes. These such apps even work for crisis and emergency communication.

Check out our guide on the **top benefits of an employee communication app** to learn more. Then you can use **BuildFire's workforce app builder** to get started.

Content and Media App

Content creators that on YouTube, social forms can scale to bile app for their

already have a presence media, and other plat-create a standalone mo-brands.

This is an excellent tribute exclusive casts.

way to produce and dis-blogs, videos, and pod-

You can either repurpose your existing content from all channels into a single app for your fans. Or you can use your app to promote premium content that isn't available anywhere else. A combination of these two methods is also a viable business model.

This is a great way to turn your content into revenue by charging a subscription fee for your app users to access exclusive content.

M.Marimuthu

I B.Voc. (SD)

Voice Translation App

There are about 430 languages spoken in the United States alone. This has created a significant demand for voice translators.

You can create an app that records someone speaking, then automatically transcribes that recording in the user's desired language.

This type of app can help break down language barriers in the workplace, for tourism and international travel, and even teach people how to speak a new language.

A voice translation app can help users travel abroad and feel comfortable enough to communicate with others in a language that they've never spoken before. There are countless ways to market this idea.

Travel Planner App

If you love to travel, this app is a must-have. It allows users to plan every aspect of their trip from start to finish, including booking flights, finding accommodation, and creating a personalized itinerary.

Users can also access reviews from other travelers, as well as recommendations for local restaurants, at-

G.Simoka & K.Sowmiya

II M.Voc (SD)

Gadgets

1. Tile

Tiles have been around for a while now, letting people find their phones, Kindles, purses, and whatever else you can stick them on. The line has evolved to include smaller, rounder, and even credit card-sized iterations for more placement options and better range. The end result is the same though: these things can be domestic lifesavers. Using the app, you can ding any tile in use around you to help locate those lost items. The company even sells multi-packs and offers a variety of colors and patterns, making them perfect gifts for the more forgetful members of your household.

2. Logitech G305 Light speed Wireless Gaming Mouse

The world of the gaming mouse can be a rabbit hole of choice, meaningless tech specs, and cost, so Logitech taking the tech from their exceptionally good high end G90x line and putting it into a lower price bracket is great news for both gamers and normal computer users. The G305 is light, responsible, energy efficient, and just comfortable to use. You can even adjust the sensitivity and response speed on the fly. Best of all, it looks like a normal mouse instead of something designed as a set piece for a Transformers movie.

3. My Charge Hub Turbo

For the person in your life who constantly kills their batteries on just about anything, the My-Charge is the best portable charger we've come across. It's slightly hefty(almost an inch thick and about the size of a phone), but the performance makes it worth it. This charger has short USB-C and Apple Lightning cables cleverly built in, so you don't have to worry about losing them, and a regular USB port for plugging anything else in. More than that, it offers truly rapid charging that can fuel your phone or tablet to over 50% in about 15 minutes. We've charged laptops, Switches, iPhones, Kindles, Androids with this thing without issues (even multiple devices at once) and it

4. Google Nest Audio

Surprisingly big sound in a portable standalone package, Google's foray into a screenless smart speaker is a much cheaper and surprisingly good alternative to the Sonos. Since it's from Google, it uses the company's Google Home voice assistant to not just play music, but answer all your biting questions about the weather, how to spell, esoteric animals facts, and whatever else you can think of to, well, Google. If you opt for more than one, they link together for true stereo or let you continue playing your con-

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