NEWSLETTER

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Happy New Year

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The time to make resolutions, the time to celebrate a beautiful ending and the time to exhilarate a new beginning is here. It is as exciting and colorful as every year. That special moment the clock hits midnight is full of promise and hope.

New year's day or eve, is very special worldwide and for everyone. It is the symbol of a better tomorrow, the belief and anticipation of being better people with each other, with friends, family, and in personal relationships, and for many, it's the needed wake-up call to be done with the past and start fresh with the future. There is no stronger second than that specific one to be decisive. From the youngest to the oldest and the most famous Hollywood movie star to the girl in the bakery down the street, everybody sees eye to eye on this.

Whatever way one chooses, they all have one thing at heart, it may be a resolution, another option, a happier and lovelier self, a change, or a different breath of air. Yes, it is all possible! Anything is once you set your mind to it, especially on New Year's.

365 Days
8,760 Hours
QUIT
START
CHANGE
LEARN
PLAN

A NOTE FROM OUR REVERED CEO ON THE NEW YEAR

Happy New Year - 2023, to our beloved extended family. The new year stands before us, like a chapter in a book, waiting to be written. We close our eyes to old ends. And open our hearts to new beginnings. We at Utkal Labs, are strong believers in the fact that "We are the products of our glorious past which never gets disheartened when we get excited about our future." Keeping this alive in our hearts, we welcome the new year with open arms.

We enter the new year with Gratitude - for all the empathy, goodwill, integrity, cooperation, and moreover trust that we received last year; and we enter the new year with Promise - to keep continuing serving, to keep continuing learning, and to keep metamorphosing ideas to reality because that is what sets us apart.

Whilst the world is busy celebrating the change of date, we at Utkal Labs are determined to celebrate the dates when we change the world because when we act like we can bring the change, it certainly brings the change.

WELCOME TO THE TEAM

An ardent cricket lover, Adarsh hails from Bhubaneswar and loves to munch on Chicken Pakoras. His father inspires him to strive harder and communication skills are his biggest flex

ADARSH KU. SAHU | L1 TRAINEE ENGINEER

With typical Indian sentiment for biryani, Aditya keeps himself mused by playing e-sports. He is self-driven and his most significant strength is his father. He is trustworthy and that is his most considerable flex as well.

L1 TRAINEE ENGINEER | ADITYA PRATAP SAHOO

A big-time fan of Virat Kohli and Ronaldo, Sambhav is an avid fan of cricket. He loves to spend his leisure time cycling. He considers himself a perfectionist and staying positive is his biggest flex.

SAMBHAV SAHOO - L1 TRAINEE ENGINEER

An ardent non-vegetarian, Abhishek is usually referred to as the Sannata Singh of UtkalLabs for his inbuilt introvertness. Music keeps him engaged during his leisure hours and he is highly inspired by our CEO, who happens to be his mentor as well.

L1 TRAINEE ENGINEER | ABHISHEK MOHAPATRA

A distinct badminton lover and typical Chinese lover, Sradhanjali gets her strength to face day-to-day challenges from her family. She feels dejected to say no and keeps herself motivated by positive self-talk.

L1 TRAINEE ENGINEER | SHRADHANJALI KABI

Books not only inspire her, but they also contribute to the calmness in her personality. Beauty is from Bhubaneswar and spends her free time playing badminton or else reading books.

L1 TRAINEE ENGINEER | BEAUTY P. APARAJITA SINGH

Augmented Reality

Compiled By- **Aman Raj,** Android Developer

Augmented reality is a view of the real world with an overlay of digital elements.

Virtual reality is a fully-immersive digital environment. Virtual reality completely immerses the user into a virtual, computer-generated scenario.

When a user puts on a VR headset, the screen eliminates any interaction with the real-life environment. It is this "real world" element that differentiates AR from virtual reality.

Mixed Reality is a view of the real world with an overlay of digital elements where physical and digital elements can interact. Mixed reality combines the elements of AR and VR so that digital objects can interact with the real world.

There are various areas where AR can be used to enhance the overall output of something:
Education, E-commerce, Outdoor & Indoor navigation, Healthcare, Home Decor

There are two broad classes of AR apps: marker-based apps and location-based apps.

Marker-based AR requires a marker — a photo, QR code, or something similar to initiate the AR.
Marker-based apps use predefined markers to trigger the display of AR overlays on top of the image. For example, take your phone to an image, after recognizing that piece it will start a video.

Location-based apps use GPS, accelerometer, or compass information to display AR objects on top of physical ones.

Location-based AR apps work without markers. They detect the user's position and overlay the augmented reality objects on top of real physical places. The most famous location-based app is surely Pokemon Go.

Let us know what ARCore and ARKit is,

ARCore is Google's platform for building augmented reality experiences. Using different APIs, ARCore enables your phone to sense its environment, understand the world and interact with information.

Apple's ARKit is a set of software development tools for developers to create augmented reality apps for iOS as well as improve different functions and elements on AR apps that have already been developed.

How AR works and different things that are in action

For the computer-generated perceptual information to show up correctly, it calculates the position and orientation of the surrounding objects in real life.
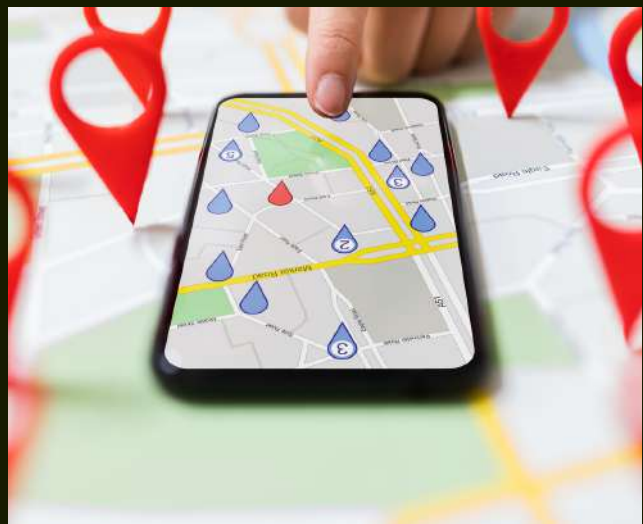
AR can use depth sensors, accelerometers, cameras, gyroscopes, and light sensors to collect data on the user's surroundings. They measure the distance to the objects, speed of the motion, direction and angle, and overall orientation in space. The data is then processed to show animation in a real-time and relevant location.

Motion tracking: AR Core can determine the position and orientation of the device using the camera and spot the feature points in the room. That helps to place virtual objects accurately.

Environmental understanding: Due to the possibility of detecting horizontal surfaces, you can place virtual objects on tables or on the floor. This feature can be also used for motion tracking.

Light estimation: This technology allows your app to match the lighting of the environment and to light virtual objects so they look natural within the surrounding space. With the help of smart light tracking developers can now create very realistic objects.

SLAM (Simultaneous Localization and Mapping) refers to the technology that allows digital content to be accurately placed in the real world. Using a combination of sensors and computer vision, SLAM tracks the user's movements and produces a map of the surrounding environment. This map is then used to place digital content, such as 3D models or virtual objects, in the real world.

MOMENTS THAT MADE US SMILE

WORK ANNIVERSARIES

Reverently addressed as 'Chhota Google', 'Encyclopedia', and the 'Wiki', he is one of the most pragmatic, dedicated, and empathetic people to have around.

He is the go-to guy when things bother you. Be it astrophysics, be it biology, be it philosophy, name a topic and he has the answers ready which will not only amaze you with his competencies but will make you enviously apprehensive of the vistas of his knowledge, We are thankful that he chose us 2 years down the lane and wish that he keeps on choosing us forever. Cheers to many more years of learning and growing together.

Dayal Deviprasad Das
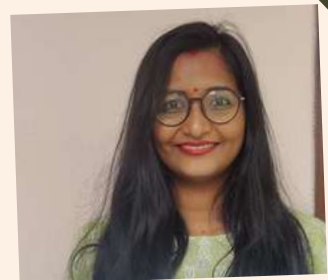Sr. Software Engg(Full Stack)

BIRTHDAYS

Md. Asad

Chandrani

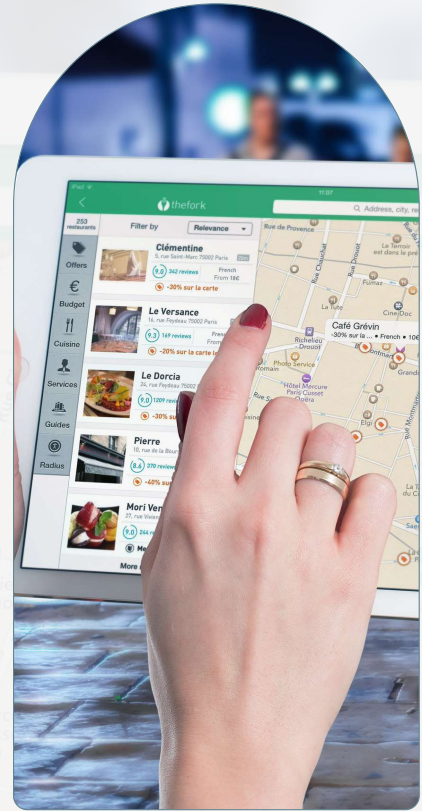**Biswarekha**

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CASE STUDY

ArcGIS Map-Based Travel Application

This is a locator-based travel app that has been developed for one of our clients in the Middle East. In this Application, ArcGIS Map Layer had been used in the city geographical area in essential places, streets, buildings, and parks are highlighted with geospatial addresses.

This has features like locating bus routes, news & events, weather info, city taxi, currency exchange, etc. The app helps the visitors to locate the moving city taxies and their contact numbers.

Our team used technologies like Java for Android, ArcGIS Map, and Retrofit to make the client's idea into reality.

DATA FLOW ARCHITECTURE

WHAT KEPT US ENGAGED

Employees who feel connected to their organization work harder, stay longer and motivate others to do the same.

Employee engagement affects just about every important aspect of your organisation, including profitability, revenue, customer experience, employee turnover, and more.

We have decided to kickstart such employee engagement programs which we felt are quintessential in an employee-centric organization like ours because this would improve communication, participation, inclusion, healthy competition, and above all, will keep us tied together as one entity.

Here is a glimpse of the activity we took up. To participate and to know more, you can check out our LinkedIn and Twitter handles.

Current Openings

JAVA 3+ years with skills

Python 3+ years With skills

- Contribute to all stages of the software development lifecycle
- Analyze user requirements to define business objectives
- Envisioning system features and functionality
- Define application objectives and functionality
- Ensure application designs conform to business goals
- Develop and test software
- Identify and resolve any technical issues arising
- Create detailed design documentation
- Propose changes to the current Java infrastructure
- Develop technical designs for application development
- Develop multimedia applications
- Write well-designed, testable code
- Conducting software analysis, programming, testing, and debugging

- Write effective, scalable code
- Develop back-end components to improve responsiveness and overall performance
- Integrate user-facing elements into applications
- Test and debug programs
- Improve functionality of existing systems
- Implement security and data protection solutions
- Assess and prioritize feature requests
- Coordinate with internal teams to understand user requirements and provide technical solutions
- Work experience as a Python Developer
- Expertise in at least one popular Python framework (like Django, Flask, or Pyramid)
- Knowledge of object-relational mapping (ORM)
- Familiarity with front-end technologies (like JavaScript and HTML5)

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Ideas To Reality

Thanks for reading the Newsletter