



CTC(T&IT), CRPF



Monthly

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Never stop learning, Because life never stop Teaching

If you want to shine like a sun, first burn like a sun.

A. P. J. Abdul Kalam

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READER'S CENTER

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What is 123pay and how you can use it to make UPI payments without internet connection

Reserve Bank of India (RBI) has launched a new UPI service, 123PAY, that is aimed to help almost 40 crore feature phone users in the country. The new feature was announced by RBI governor, Shaktikanta Das. Till now, UPI payments were only possible through payment applications on smartphones and USSD-based service for feature phones. But as per deputy governor T Rabi Shankar the latter has been found to be cumbersome due to the unavailability of the services on several mobile networks.

What is UPI 123PAY

As mentioned above, the UPI 123PAY is aimed to help feature phone users make digital payments easily. The new feature will work on simple phones and it also does not require an internet connection. As explained during the event, 123PAY is a three-step method to initiate and execute UPI transactions for users.

The feature will allow users to make transactions through feature phones in four different ways - calling an interactive voice response (IVR), using app functionality in feature phones, proximity sound-based payments, and through a missed call functionality.

Using the 123PAY feature you can make payments, recharge FAST Tags for vehicles, pay utility bills and it also allows you to check your account balance that is linked with UPI. Apart from that, the new feature will allow you to set or change your UPI PINs. National Payments Corporation of India (NPCI) has launched a 24x7 helpline for digital payments with an aim to support 123PAY. Users can visit www.digisaathi.info or call on 14431 and 1800 891 3333 from their phones for their queries on digital payments and grievances.

How to make digital payment without internet connection through UPI 123PAY IVR calling service

One of the simplest ways to use the UPI123 PAY feature is through IVR service. To know how to use this feature, you can follow these steps:

Dial the number 08045163666 from the phone.

Select your preferred language.

Tap on the '1' key on your phone to transfer money.

Select the bank paired with UPI by saying the bank name.

Tap '1' key to confirm the details.

Tap the '1' key to send money by using your mobile number.

Enter the mobile number.

Confirm the details.

Enter the amount that you want to transfer.

Enter your UPI PIN and authorise the money transfer.

Here is how you can make UPI payments without internet access

In case there is a situation when a user does not have access to the internet, it may seem impossible to make online payments. Thankfully, it is still possible to UPI transactions without the internet.

With the advent of technology, new methods of online payments are getting increasingly popular. UPI services such as Google Pay and PhonePe have become an essential part of our daily lives. These platforms allow us to transfer money instantly from one bank account to the other via mobile apps, and with a stable internet connection.

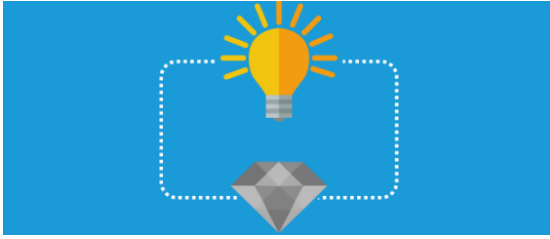
In case there is a situation when a user does not have access to the internet, it may seem impossible to make online payments. Thankfully, it is still possible to UPI transactions without the internet. To make UPI transactions without the internet, the user's mobile number must be registered with UPI and the bank account must be linked to the same mobile number. Additionally, a fee of Rs 0.50 is charged for every such payment is made.

Here is how you can make UPI payments without access to the internet

1. Open the dialler on your device.
2. Dial *99# from your registered mobile number. You will then be redirected to a new menu comprising of options such as 'My Profile', 'Send Money', 'Receive Money', 'Pending Requests', 'Check Balance', 'UPI PIN', and 'Transactions'.
3. Next, you will need to select the option 'Send Money' by pressing number 1 in the text field on your dial pad. You will then need to choose whether you want to send money via your bank account number, UPI ID, IFSC code, or phone number.
4. If you choose UPI, then you will need to enter the beneficiary's UPI ID. On the other hand, if you go for the phone number option, you will need to enter the mobile number of the user you are sending the money to. Users who select the bank account option will need to input the 11-digit IFSC code and the recipient's bank account number.
5. You will then need to enter the amount you wish to transfer to the other recipient's bank account
6. Enter your UPI PIN number. Select 'send' to complete the transaction.

ASI/T Veera Rasu

DIAMOND BATTERY



New technology has been developed that uses nuclear waste to generate electricity in a nuclear-powered battery. New Diamond Battery Will Last 28,000 Years, Powered By Nuclear Waste

The challenge

The short lifespan of conventional batteries means they either cannot be used or have significant drawbacks in situations where it is not feasible to charge or replace them. For example, pacemakers, satellites, high-altitude drones or even spacecraft are low-power electrical devices where long life of the energy source is needed.

A US-based startup has combined radioactive isotopes from nuclear waste with ultra-slim layers of nanodiamonds to assemble a battery that will last up to 28,000 years.

Diamond battery will be available by 2023



The Nano Diamond Battery (NDB) says that the radioactive battery is 'completely safe' for humans and it hopes to start selling the battery to commercial partners, including space agencies for long duration missions, within the next two years.

The company is also working on a consumer version of the battery that could power a smartphone or electric car for over a decade without a charge. This doesn't just save the hassle of recharging our devices but also holds key to the environmental implications of the manufacture and disposal of batteries.

The Technology behind diamond battery

The battery is powered by radioactive waste graphite used in graphite-cooled nuclear reactors--which is encased in layers of nano-thin, single crystalline diamond, which act both as a semiconductor and heat sink.

Each unit will contain a single crystalline diamond that absorbs energy from the isotopes. Now diamonds are rare and also have the highest energy-conductivity, meaning it quickly transfers heat from the radioactive graphite--and the transaction is so quick that it generates electricity. The diamond layers not only collect charge, but also prevent radiation leakage. NDB even claims that the radiation levels emitted by the cells will be less than those emitted by the human body.

The firm hasn't produced the batteries yet but has a proof-of-concept design, called "Diamond Nuclear Voltaic," which was presented in 2016 by scientists from the University of Bristol using waste graphite blocks.

HC/RO Manoj Kumar

QUBITS

Qubits represent atoms, ions, photons or electrons and their respective control devices that are working together to act as computer memory and a processor.

A bit is a unit for measuring information		
Classical bits		Quantum bits (Qubits)
Bit 1  Empty = "0"	Bit 2  Filled = "1"	Qubit 1  $\frac{1}{3}$ of "0" and $\frac{2}{3}$ of "1"
 20 red beads = "0"	 20 blue beads = "1"	 $\frac{8}{20}$ of "0" and $\frac{12}{20}$ of "1"
 Head = "0"	 Tail = "1"	 50% chance of landing on "0" 50% chance of landing on "1"

Qubits are represented by a superposition of multiple possible states

A qubit uses the quantum mechanical phenomena of superposition to achieve a linear combination of two states. A classical binary bit can only represent a single binary value, such as 0 or 1, meaning that it can only be in one of two possible states. A qubit, however, can represent a 0, a 1, or any proportion of 0 and 1 in superposition of both states, with a certain probability of being a 0

and a certain probability of being a 1.

Because a quantum computer can contain these multiple states simultaneously, it has the potential to be millions of times more powerful than today's most powerful supercomputers.

Superposition



Imagine touching the surface of a pond at two different points at the same time. Waves would spread outward from each point, eventually overlapping to form a more complex pattern. This is a superposition of waves. Similarly, in quantum science, objects

such as electrons and photons have wavelike properties that can combine and become what is called superposed



Quantum entanglement

Counterintuitive phenomenon that explains how two subatomic particles can be intimately linked to each other even if separated by billions of light-years of space. Despite their vast separation, a change induced in one will affect the other.

Conclusion

We can never imagine what such a new technology can achieve in the next 10 years. Researchers are working on creating full-fledged quantum computers to answer problems which are just too hard for classical computers today. Many fields such as cryptography, machine learning, information security may soon undergo a drastic change due to the advent of the Quantum computing capabilities.

Insp/T Biju S T

SOUND BEAM TECHNOLOGY

Futuristic audio technology will beam music directly to your head. New futuristic audio technology developed in Israel allows music to be played in a person's head without any headphones or wires.

Noveto Systems is launching its new desktop device — the SoundBeamer 1.0 — on Friday, promising customers the chance to listen to music, watch TV and play computer games with little chance of disturbing anyone else.

The product works by using something called “sound beaming.” It employs a 3-D sensing module that first locates and then tracks the ear's position and uses ultrasonic waves to send audio to the listener, creating sound pockets around their ears.

While sound beaming is not new, Noveto has created the first branded consumer item to employ the tech and has plans to unveil a “smaller, sexier” version of the prototype in time for Christmas.

This week, buyers will have the option of using a traditional stereo sound, which will hit both ears evenly, or a 3-D option that creates a 360 degree audio experience that envelopes the listener, the company said. Because the device is headphone-free, the listener can still hear other things going on in the room.



An illustration of the the SoundBeamer 1.0.

Noveto expects the new product to be an earphone-free solution to many of life's mundane annoyances. Office workers can play music or listen to conference calls without bothering their colleagues and

people in relationships can blast their favorite Metallica album horror movie with little chance of disturbing their significant other. The new tech is so anomalous it's hard for the company's CEO to even put into words. “The brain doesn't understand what it doesn't know,” Christophe Ramstein said. When he first tried out the device, he questioned how it was different from other listening experiences.

“I was thinking, ‘Yeah, but is it the same with headphones?’ No, because I have the freedom and it's like I have the freedom of doing what I want to do. And I have these sounds playing in my head as there would be something happening here, which is difficult to explain because we have no reference for that,” the CEO said.

HC/RO Manoj Kumar

Acknowledgement

We are highly thankful for reading out this compilation and hope it will be useful for you in day to day professional and personal life. We would like to hear your interest areas, suggestions from you to make this newsletter more informative and interesting. Your views will definitely help us to create this newsletter as an effective medium to reach you with latest development in the fields of communication and technology.

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