NFC Technology (For Instant Payments)

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- Google Pay has recently launched a new feature in India, **‘Tap to pay for UPI’**, in collaboration with Pine Labs.
- The feature makes use of Near Field Communication (NFC) technology.

CACHE TECHNOLOGY

NFC technology for instant payments

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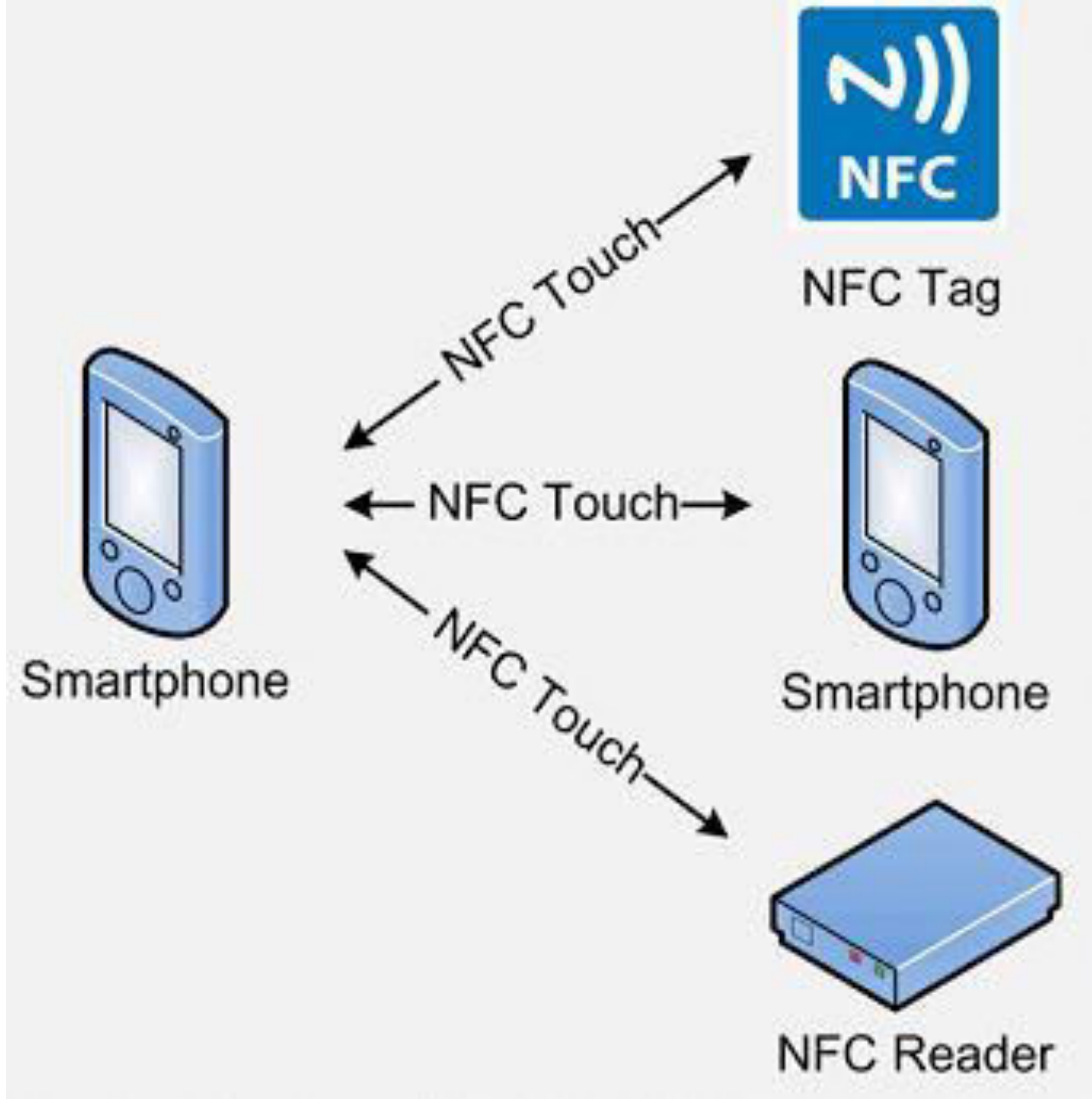
What is Near Field Communication (NFC)?

- NFC is a short-range wireless connectivity technology that allows **NFC-enabled devices** to communicate with each other and transfer information **quickly and easily** with a single touch.
- It makes possible to pay bills, exchange business cards, download coupons, or share a document.

How does it work?

- NFC transmits data through **electromagnetic radio fields**, to enable communication between two devices.
- Both devices must contain **NFC chips**, as transactions take place within a very short distance.
- **NFC-enabled devices** must be either physically touching or within a few centimetres from each other for data transfer to occur.


NFC
NFC Tag
NFC Touch
NFC Touch
NFC Touch
Smartphone
Smartphone
NFC Reader

When did NFC tech start?

- In 2004, consumer electronics companies, **Nokia, Philips and Sony** together formed the NFC Forum, which outlined the architecture for NFC technology to create powerful new consumer-driven products.
- **Nokia released the first NFC-enabled phone in 2007.**

- The process is much faster compared to scanning a QR code or entering the UPI-linked mobile number which has been the conventional way till now.

- In 2004, consumer electronics companies, Nokia, Philips and Sony together formed the NFC Forum, which outlined the architecture for NFC technology to create powerful new consumer-driven products.

How will this technology work with the recently launched feature, ‘Tap to pay for UPI’?

- Google Pay has been the first among UPI apps to bring the Tap to Pay feature working on POS terminals.
- It will allow users with UPI accounts configured on Google Pay to make payments just by tapping their **NFC-enabled Android smartphones** on any Pine Labs Android POS terminal.
- *Once users tap their phones on the POS terminal, it will automatically open the Google pay app with the payment amount pre-filled.*

- Users can then verify the amount and merchant name and authenticate the payment, using their UPI PIN.
- The process is much faster compared to scanning a QR code or entering the UPI-linked mobile number which has been the conventional way till now.

Other applications of NFC technology

- NFC tech has a wide range of applications besides driving payment services like ***Google Wallet and Apple Pay.***
- It is used in **contactless banking cards** to perform money transactions or to generate contact-less tickets for public transport.

- Contactless cards and readers use NFC in several applications from securing networks and buildings to monitoring inventory and sales, preventing auto theft, keeping tabs on library books, and running unmanned toll booths.
- It also has an application in healthcare, to monitor patient stats through NFC-enabled wristbands.
- NFC is used in wireless charging too.

How safe is this technology?

- NFC technology is designed for an operation **between devices within a few centimetres from each other.**
- This makes it difficult for attackers to record the communication between the devices compared to other wireless technologies which have a working distance of several metres.
- The security level of the NFC communication is by default higher compared to other wireless communication protocols.

Where does it stand in comparison to other wireless technologies?

- There are other wireless technologies available which are replacing cable-based connections.
- The **IrDa technology** is a short range (a few metres) connection based on the exchange of data over infrared light where the two communication devices must be positioned within a line of sight.
- Today, this technology is mainly **used for remote control devices.** For larger data communication with computer devices this technology was replaced by Bluetooth or WiFi connections.

- However, for these technologies' receiver devices need their own power supply due to the larger working distance.
- Therefore, the receiving device cannot be powered by the **radiofrequency (RF) field like in NFC**, the NFC forum highlighted.
- Another consequence of the larger working distance is the need for the user to configure their device and to pair them together for communication.

Are other companies using NFC tech for payments using smartphones?

- In February this year, Apple introduced Tap to Pay on the iPhone. It will allow merchants across the U.S. to use their iPhones to accept Apple Pay, contactless credit and debit cards, and other digital wallets through a tap to their iPhone without the need for any additional hardware or payment terminal.

At checkout, the customer just needs to hold their iPhone or Apple Watch to pay with Apple Pay, their contactless credit or debit card, or other digital wallet near the merchant’s iPhone to complete the payment using NFC technology, Apple said in a release earlier.

Question:

Which organization developed BHIM Application?

a) SBI
b) NPCI
c) SEBI
d) RBI