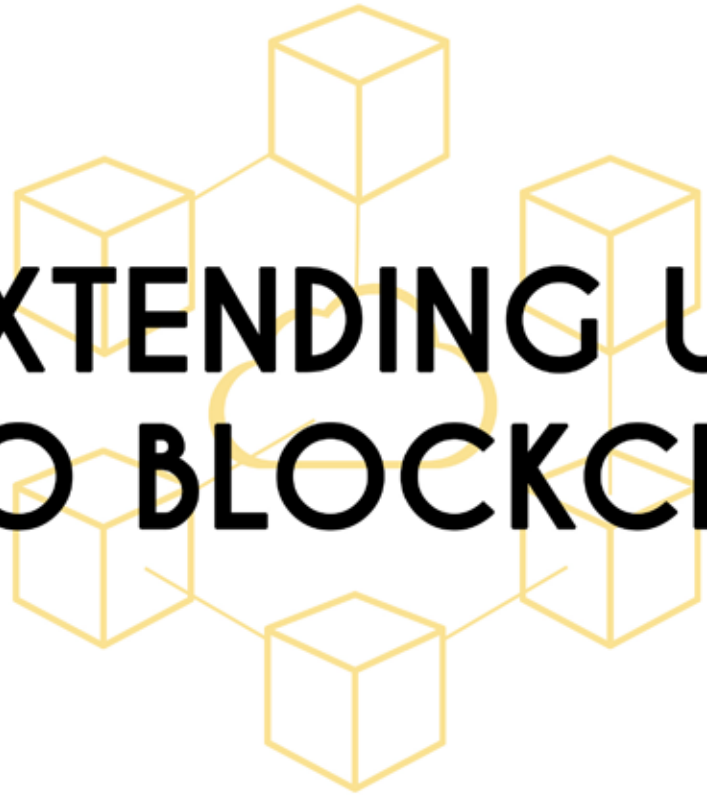

EXTENDING UPI INTO BLOCKCHAIN

RANCHIMALL
27th November 2019.

EXTENDING UPI
INTO BLOCKCHAIN

PROOF OF THIRD PARTY PAYMENT

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EXTENDING UPI INTO BLOCKCHAIN

Blockchain Technology can significantly amplify the benefits of **United Payment Interface (UPI).**

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EXTENDING UPI INTO BLOCKCHAIN

UPI for instance does not have
third party **proof of payment** facility.

If X pays to Y, but needs to prove it to Z,
there is no easy way to do it other than
sharing screenshots.

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EXTENDING UPI INTO BLOCKCHAIN

In many UPI transaction scenarios, like suppose you want to buy a bus ticket from an **unknown** bus agent, you **want a third party to ensure** that the Bus Agent is paid only when the tickets are delivered.

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But the bus agent will not
issue tickets to a stranger unless
he got the **payments first.**

So both of them can approach **a third party** who **takes the money** first from purchaser. Then they ask the bus agent to **issue the tickets** as money has been received.

And the **third party can release the funds**
to the bus agent when the purchaser confirms
that tickets have been received.

EXTENDING UPI INTO BLOCKCHAIN

In current UPI architecture, there is **no way** a vendor can **see that purchaser** has made payments to a third party.

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EXTENDING UPI INTO BLOCKCHAIN

There are also cases when
X can pay directly to Y through UPI.

And in case of disputes, X may **show** his **bank statement** endorsing the payment, but Y **can** simply **refuse** and **claim** the statement is **fabricated.**

UPI system does not offer any neutral direct third party **verification** on basis of transaction ID.

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EXTENDING UPI INTO BLOCKCHAIN

A third party proof of payment
can easily be provided
using a blockchain system.

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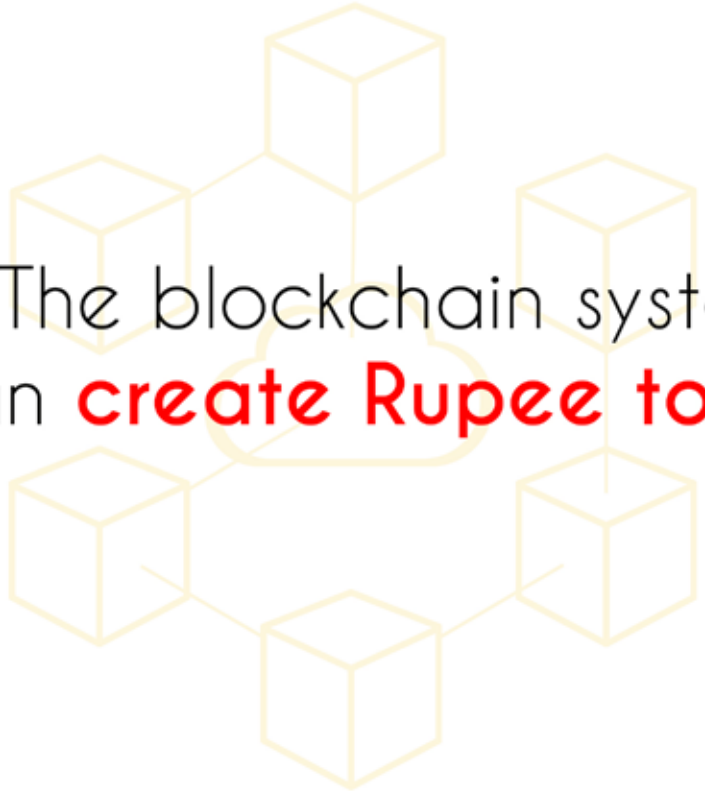
EXTENDING UPI
INTO BLOCKCHAIN



The blockchain system
can **create Rupee tokens.**

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Such a facility will be a
massive capability magnifier for UPI.

It is **compliant** with current banking guidelines
as it **not a tradeable Cryptocurrency.**

EXTENDING UPI
INTO BLOCKCHAIN

The purchaser sends
UPI transaction to a third party.

The third party gives the blockchain based
Rupee token to vendor **proving payment** was received.

Vendor **delivers the service**
and presents the Rupee token back to the
third party along with proof of delivery.

The third party **release the funds** the vendor.

Flow of Rupee tokens
can be publicly seen in the blockchain.

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EXTENDING UPI
INTO BLOCKCHAIN

TIME DELAYED PAYMENTS

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EXTENDING UPI INTO BLOCKCHAIN

Sometimes you want to
commit your money **right now.**
But the payment should be made
only **after a time delay.**

There is **no easy way in UPI** to do this.

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EXTENDING UPI INTO BLOCKCHAIN

In a blockchain system, using
the Rupee token system,
we can **block** the UPI payment
against Rupee token right away.

And then **release** the Rupee token to intended
receiver after a **programatic delay** through Blockchain.

The receiver can **encash** his Rupee tokens **back**
into an incoming UPI payment anytime after
he is in possession of Rupee tokens.

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EXTENDING UPI
INTO BLOCKCHAIN

AGGREGATION OF PAYMENTS

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EXTENDING UPI INTO BLOCKCHAIN

There are payment scenarios when the **many different senders** send money to **different receivers** in small piecemeal amounts through **one service provider.**

Like many passengers wanting to book different buses routes each operated by a different company through one common agent.

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EXTENDING UPI
INTO BLOCKCHAIN

Blockchains can handle these
payment scenarios **very easily.**

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EXTENDING UPI INTO BLOCKCHAIN

The **cutomers** send payment **to** one **blockchain agent** who then issues small Rupee tokens to different companies.

At the end of the day, each **company** aggregates its Rupee tokens, send it back **to the blockchain agent** and collects back one big amount.

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EXTENDING UPI
INTO BLOCKCHAIN

This **reduces** the
number of UPI transactions
sent from agent to receiving companies.

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