

123PAY

**The Future of
Inclusive Payments**

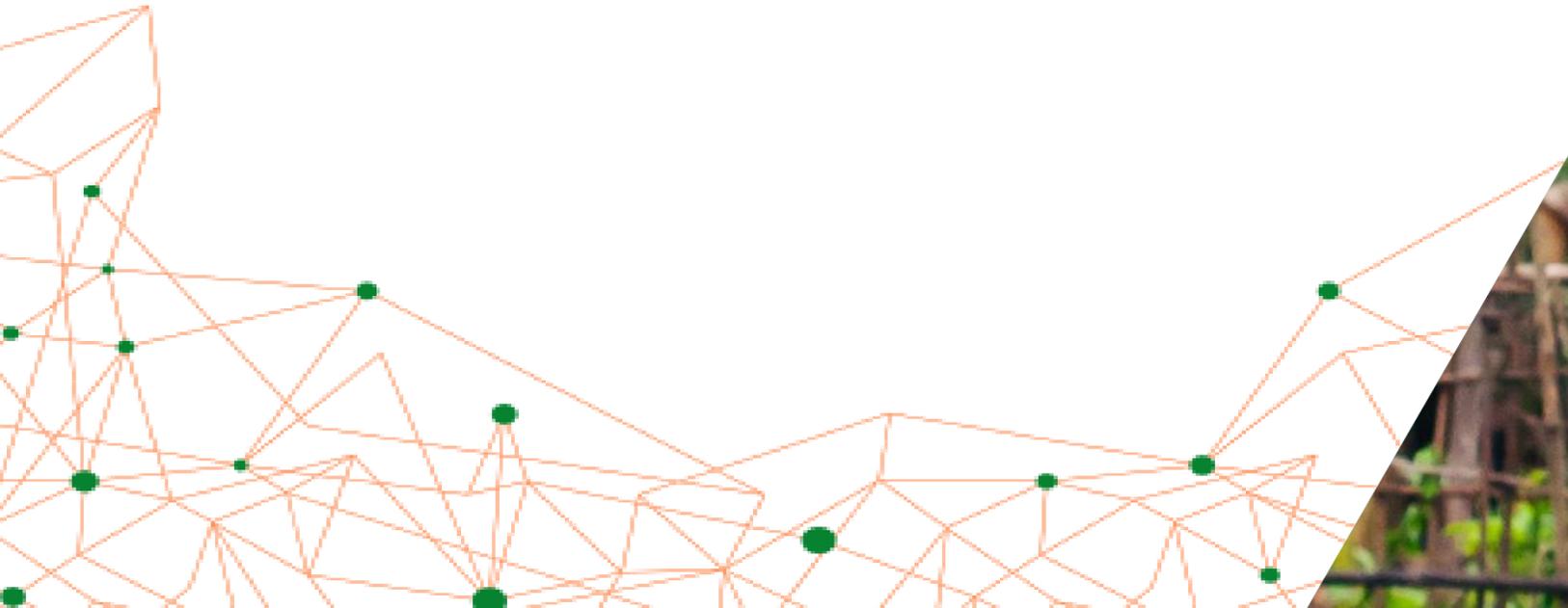


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Foreword

Payment systems foster economic development and financial stability as well as support financial inclusion. Ensuring safe, secure, reliable, accessible, affordable and efficient payment systems has been one of the important strategic objectives and goals of the Reserve Bank of India (RBI). Towards the pursuit of these objectives, India has developed one of the most modern payment systems in the world, be they large value, retail or fast. The past decade has witnessed the blossoming of quite a few payment systems, all for the convenience of common man with enhanced level of confidence through various safety and security measures. Over 260 million digital payment transactions* are processed daily by our payment systems, of which Unified Payments Interface (UPI) system itself processes more than two-thirds.

In March 2022, the Reserve Bank of India made a revolutionary leap in India's payments ecosystem, launching a version of UPI that enables payments on voice and feature phones. The move will be an influential way forward for bolstering digital payment, and bringing more than 440 million¹ feature phone users into the fold of Digital India.

The 123Pay is different from the traditional UPI service. Earlier, one needed to have at least a smartphone and an active internet connection to carry out a UPI transaction. This limited the extent of UPI transactions to people who are proficient in using smartphones. Through these newly launched UPI functionalities, users will now be able to seamlessly perform various financial and non-financial transactions on voice and over phone lines. These solutions can be used to make multiple day-to-day payments such as Person-to-Person (P2P), merchant transactions, LPG gas refill, Utility bills, mobile postpaid bills, DTH, NETC FASTag, mobile recharges, etc. Customers will also be able to link bank accounts, set or change their UPI PIN as well as check account balance, hassle-free. To facilitate UPI for feature phone solutions, Bank PSPs need to integrate with Server Side Common Library hosted by NPCI and enable UPI Numeric ID Mapper.

We are glad to launch the first-of-its-kind digital payment functionalities for feature phones that will revolutionize the payments landscape of the country. By digitally empowering millions of feature phone customers, we are confident that this initiative will help NPCI reach its goal of taking digital payments to every Indian. This will further, be applicable to users globally who face similar circumstances. We at NPCI, believe that these innovative services will provide a push to payment acceptance in various geographies across the country and will transform the way payments are experienced.

Praveena Rai
Chief Operating Officer
NPCI



Introduction

E-Payments for Everyone, Everywhere, Everytime

One of the strategic objectives of The Reserve Bank of India (RBI) is ensuring **accessible, affordable, safe, secure, reliable** and **efficient** payment systems. The country has made massive strides in this direction, and the past decade has seen the rise of robust payment systems, propelling India to the forefront of innovation.

The RBI's Payments Vision 2025 focuses on **Integrity, Inclusion, Innovation, Institutionalisation** and **Internationalisation**, and the National Payments Corporation of India (NPCI) has been driving these initiatives on the ground.

The majority of Indians did not have access to

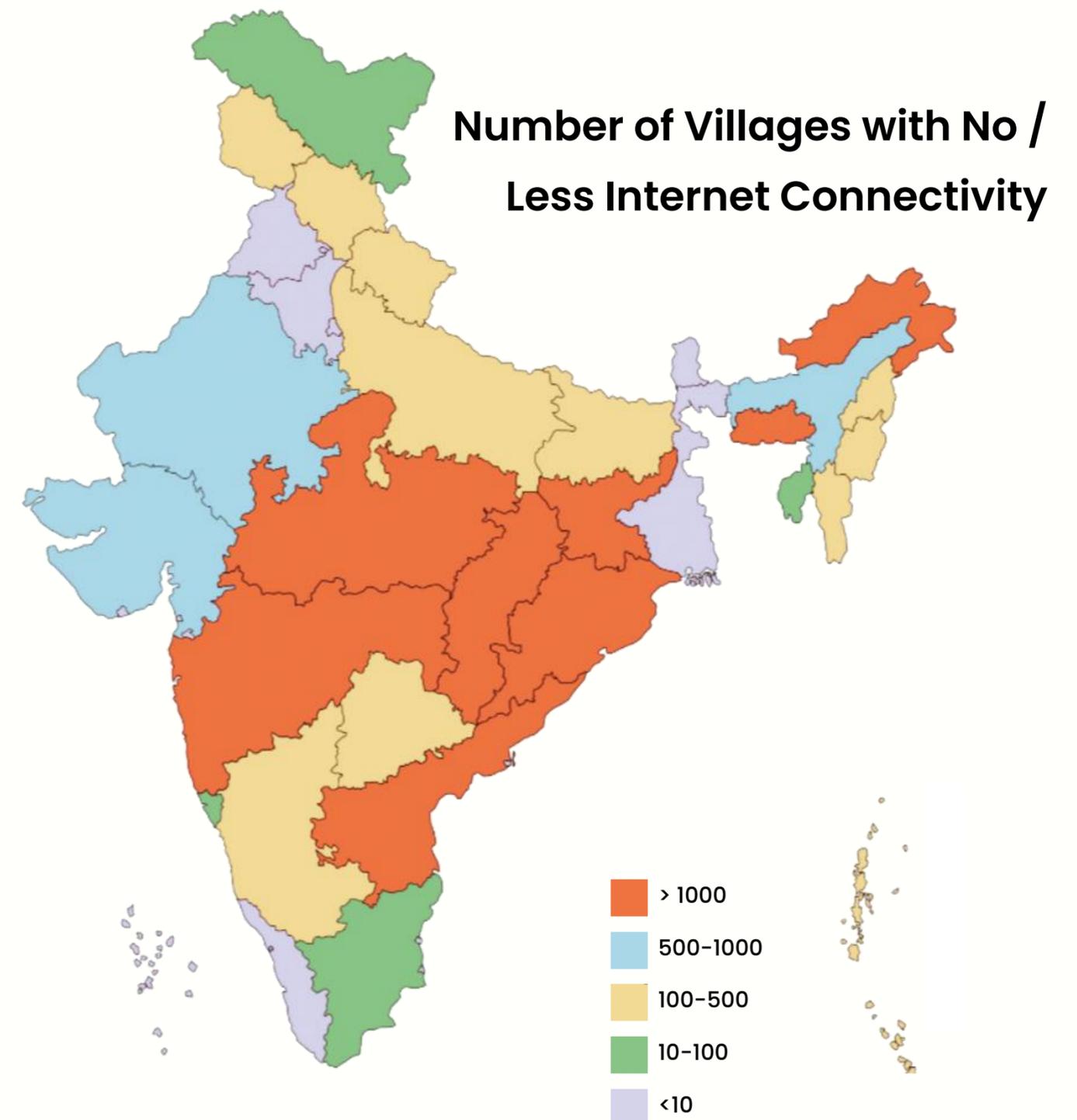
financial services. The pandemic significantly accelerated the adoption of digital payments, with about 33% of surveyed households having transacted using that mode. This trend was witnessed uniformly across board, irrespective of their age, education or whether the individuals had earlier tried and subsequently abandoned digital payments. Smartphone ownership played a key role in enabling individuals to use online payments.

However, it is pertinent to acknowledge that not everyone is privileged enough to possess a smartphone, and though internet connectivity has skyrocketed, it is still lacking in many parts of the country.

Why 123Pay?

Internet penetration has increased by 140% over the past five years, at an average YoY growth rate of 19%². This can be attributed to many factors, such as affordability, wider service availability, evolving consumption patterns of subscribers, conducive regulatory environment as well as the pandemic nudging everyone to adapt to the online environment.

India had 646 million active Internet users in 2021³. There are 25,067 villages that lack access to internet connectivity, and 547,484 villages^{2&5} have low connectivity⁵. Approximately 60%³ of the rural population is still not actively using the internet.



Internet connectivity is one of the factors driving digital payments.

As of 2020, smartphone penetration was 54%⁶, leaving the remaining population with no means to make payments online.

Furthermore, the literacy rate is at 77.77%⁷.

Keeping all these factors in mind, UPI 123Pay was launched. This allows feature phone users with no internet connectivity to use the UPI payment service and seamlessly perform various financial and non-financial transactions.

1.35 billion

Total Population

1 billion

18+ population



It can be used to make multiple day-to-day payments such as Person-to-Person (P2P), merchant transactions, utility bills, DTH, NETC FASTag and mobile recharges. Customers will also be able to link bank accounts, set or change their UPI PIN as well as check their account balance with no hassle.

UPI 123Pay addresses the vernacular diversity of India, and has a possibility to address all languages and dialects

The Next Half Billion

With UPI 123Pay, we as a nation can aspire to bring the next half billion into the fold of digital payments.

Anyone with an Aadhaar card and a bank account can use this immediately, making it truly inclusive and grounded.



Small merchants would immensely benefit from this initiative as it would increase their working capital as well as help build their credit history, thus making them eligible for loans.

1.3 Bn
have Aadhaar card

760 Mn
Bank-linked Aadhaar Cards

Voice Activities Globally



Popularity of Whatsapp Voice Message

Globally 7 Billion voice messages get exchanged on whatsapp over a user base of 2 billion

Potential for high penetration
4.2 Bn digital Voice Assistant Users in globally



Popular Amongst Millennials

66% of the voice assistant user in USA are between the age group of 25-34

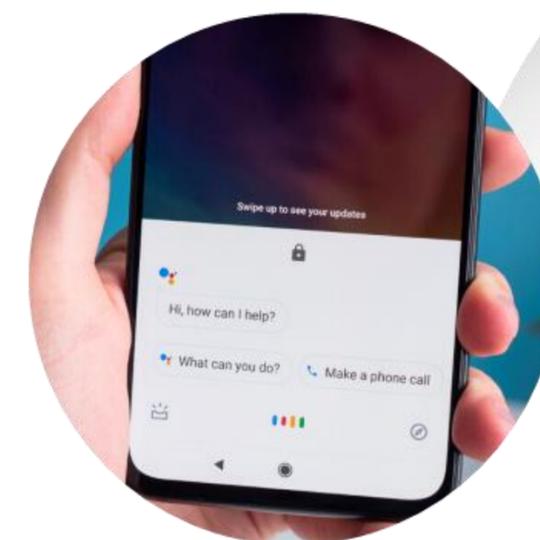
Push from Vernacular Language Options

Globally 500 million people use voice assistant with Hindi being second only to English as the most common language



Indian User picking up at great pace

In India, IoT devices saw 67% growth in one year



123Pay Approaches

Currently, following channels are available to implement 123Pay:

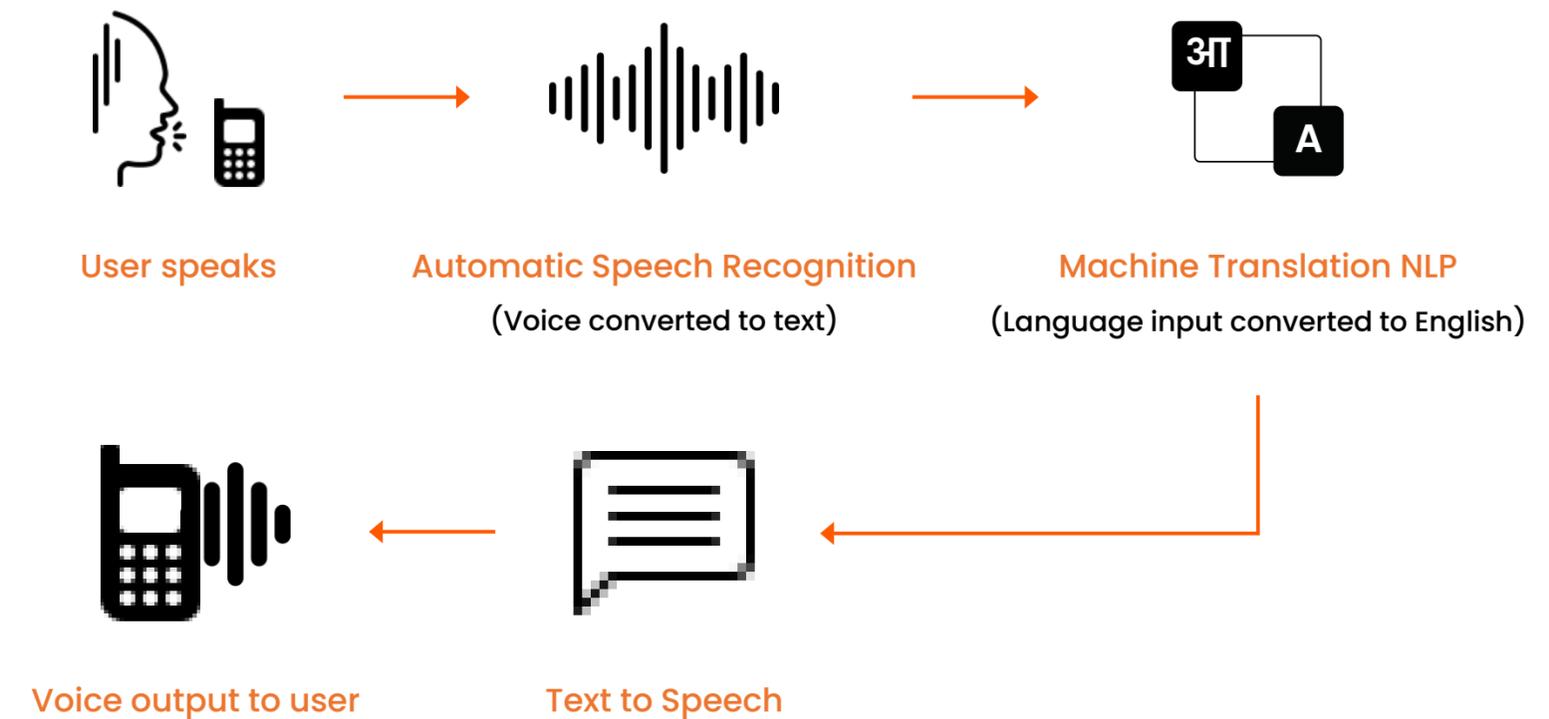
- 1 Phone network / IVR based
- 2 App embedded in SIM for on Feature Phone
- 3 Proximity Sound-based Payments
- 4 Missed Call-Based Payments



123Pay Approaches

Voice Pay

Interactive Voice Response (IVR) is an automated telephone system which allows users to access information using telecommunications. This technology combines text-to-speech technology with a dual-tone multi-frequency (DTMF)⁴ interface to engage callers. Now, with the development of Natural Language Processing, a mechanism that allows AI to comprehend and respond to the human language, users can voice their needs and the system will provide information in real time.



- ✓ **Universal**
compatible on all phones
- ✓ **Available**
pan-India
- ✓ **Truly Accessible**
anyone, irrespective of education or age, can use
- ✓ **No Language Barrier**
Easy to understand

Feature Phone
Compatible with feature phones

Available
pan-India

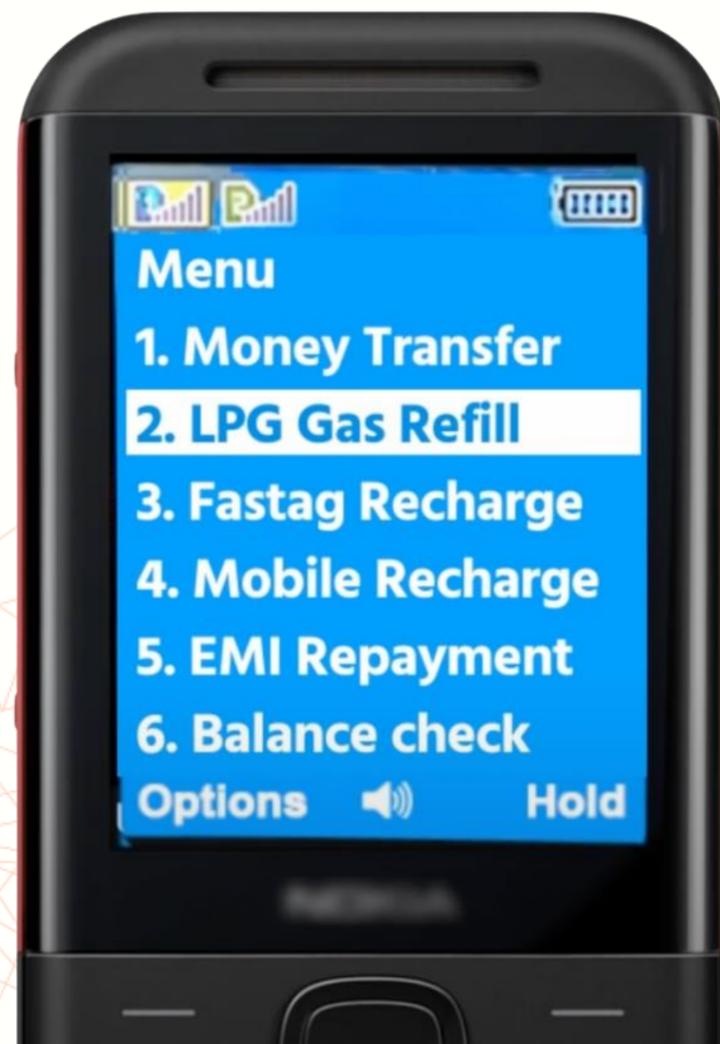
Pre-Downloaded
Users can immediately begin using on purchase of a new feature phone

Intuitive
Easy to use

UPI App on Feature Phone

Retail digital solutions are built keeping in mind that the user will access it through their smartphone, which is not necessarily the default. UPI had originally been created for the same target market, but now a UPI app which is compatible with feature phones and comes pre-installed has been developed by Gupshup with Airtel Payments Bank.

As there is no application marketplace for feature phones in India, the interested solution providers would partner with the feature phone mobile manufacturers to enable a native payment app. This app offers a similar and seamless experience compared to the original smartphone version, thus empowering feature phone users.



Proximity Sound-based Payments

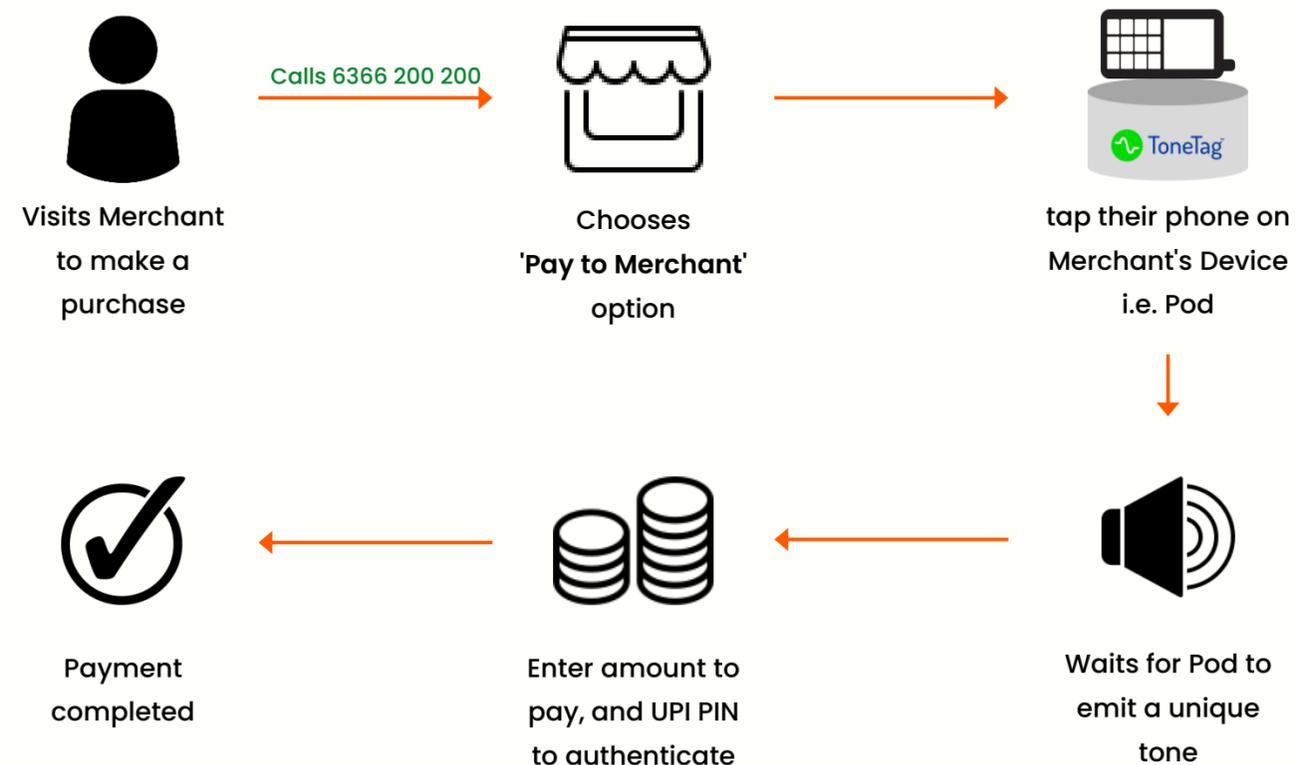
Users can also make UPI payments using their phone to tap-and-go, which uses Near Field Communication (NFC). NFC is a contactless communication technology which operates over a radio. It enables contactless, offline, and proximity data communication between the NFC token i.e. the feature phone and the merchant's POS machine (which is typically an mPOS.)

Proximity sound-based payments have been created in collaboration with Tonetag and supported by NSDL Payments Bank.

Accepted for



Merchant payments

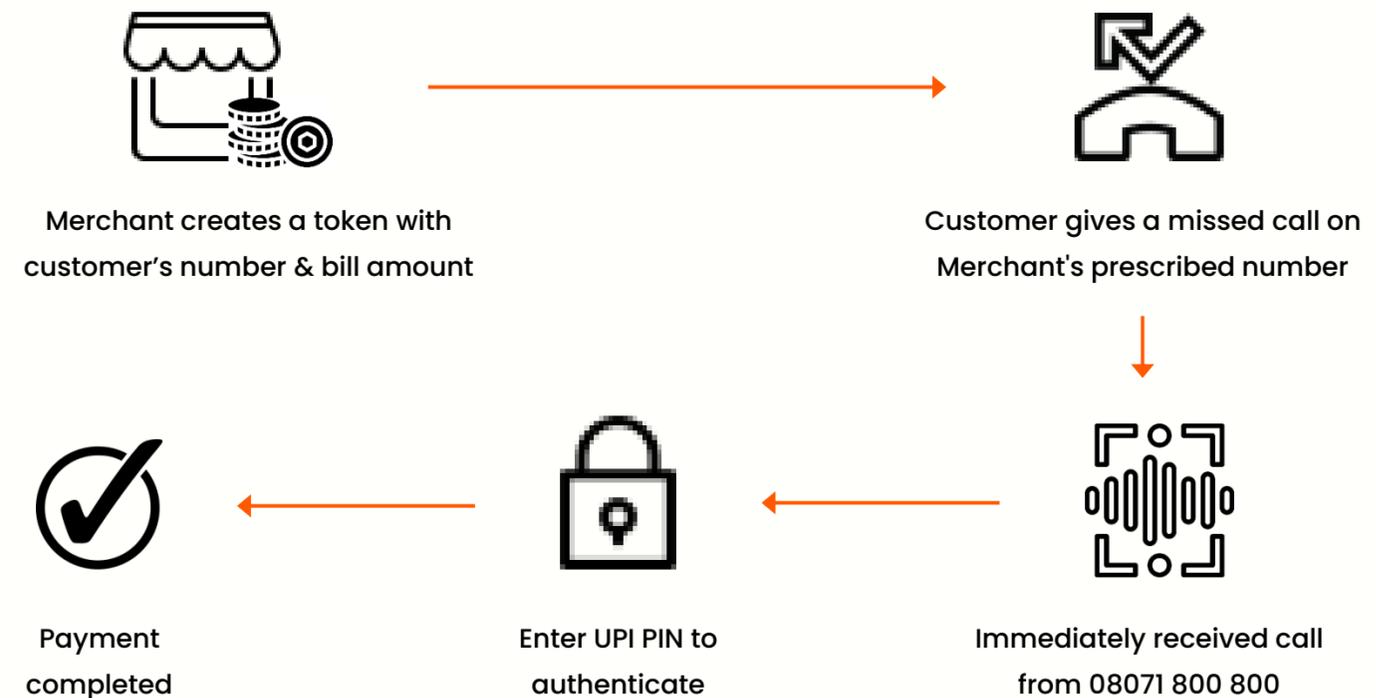


- Universal**
available on all phones
- Easy to use**
for merchants
- Truly Accessible**
all audiences, irrespective of education or age can use
- Available**
pan-India

Missed Call-Based Payments

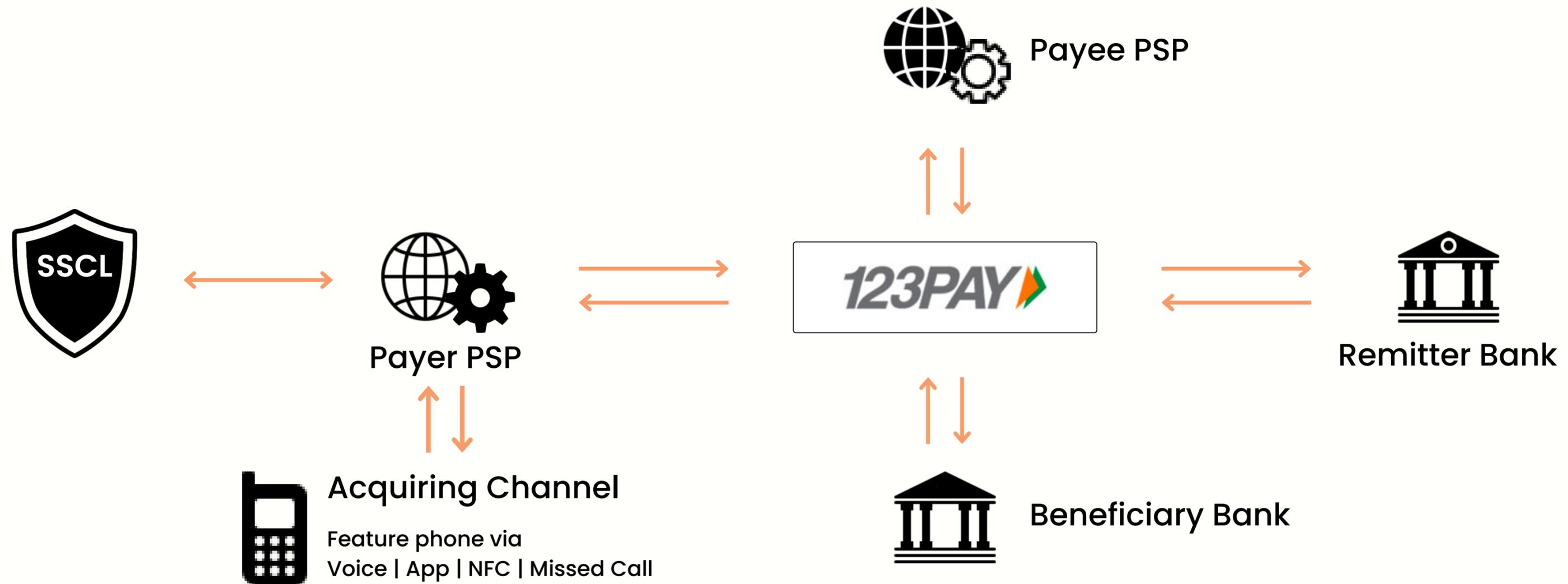
This method allows users to make payments to merchants by giving a missed call on a predefined number. Feature phone users can access their bank account and perform routine transactions such as receiving or transferring funds, regular purchases, bill payments, insurance premium payments, and more by giving a missed call on the number displayed at the merchant's place.

This solution is developed by MissCallPay with Bank of India as the supporting bank.



- Universal**
available on all phones
- Easy to use**
for merchants
- Truly Accessible**
all audiences, irrespective of education or age can use
- Available**
pan-India

Sample Process Flow



Business Model

A gamut of new use cases and dynamic engagement models can be built on 123Pay. Additionally, the feature phone segment is completely unexplored, and new startups can look to enter and create ground up, scalable businesses.

PSP fees and BBPS fees for utility payments can be direct revenue sources.

Building new use cases in Financial & Non-Financial Systems shall be helpful in generating indirect revenue.

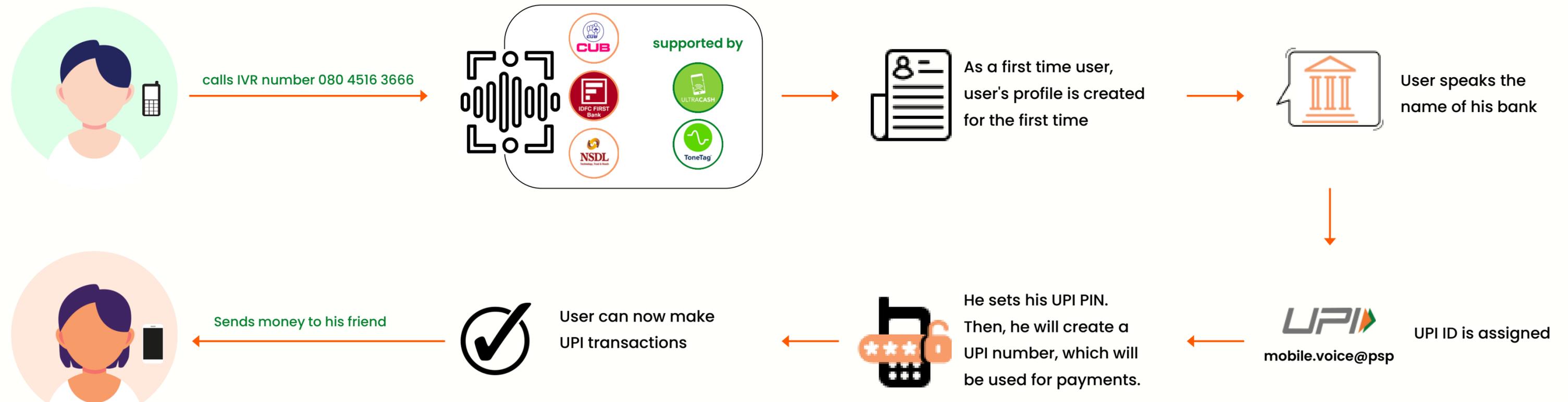
Use Cases



123Pay

P2P Transfer

A user wants to send money to his friend. He owns a feature phone, while his friend owns a smart phone.





Bill Payments

123Pay enables individuals to make utility bill payments, recharge their phones, pay for mobile postpaid, book LPG cylinders, pay electricity bills and pipe gas by calling a standard IVR number.



calls IVR number 080 4516 3666

- 1 Money Transfer
- 2 Balance Enquiry
- 3 Mobile Recharge
- 4 Bharat Gas LPG
- 5 Electricity Bill
- # Settings

User is asked to input the OTP shared

Chooses to recharge own/ other phone

Confirms telephone provider and inputs amount to recharge



User enters PIN and payment is complete



User calls 080 4516 3554



Can pay and book LPG for home

Speaks Electricity Board name and enters customer number

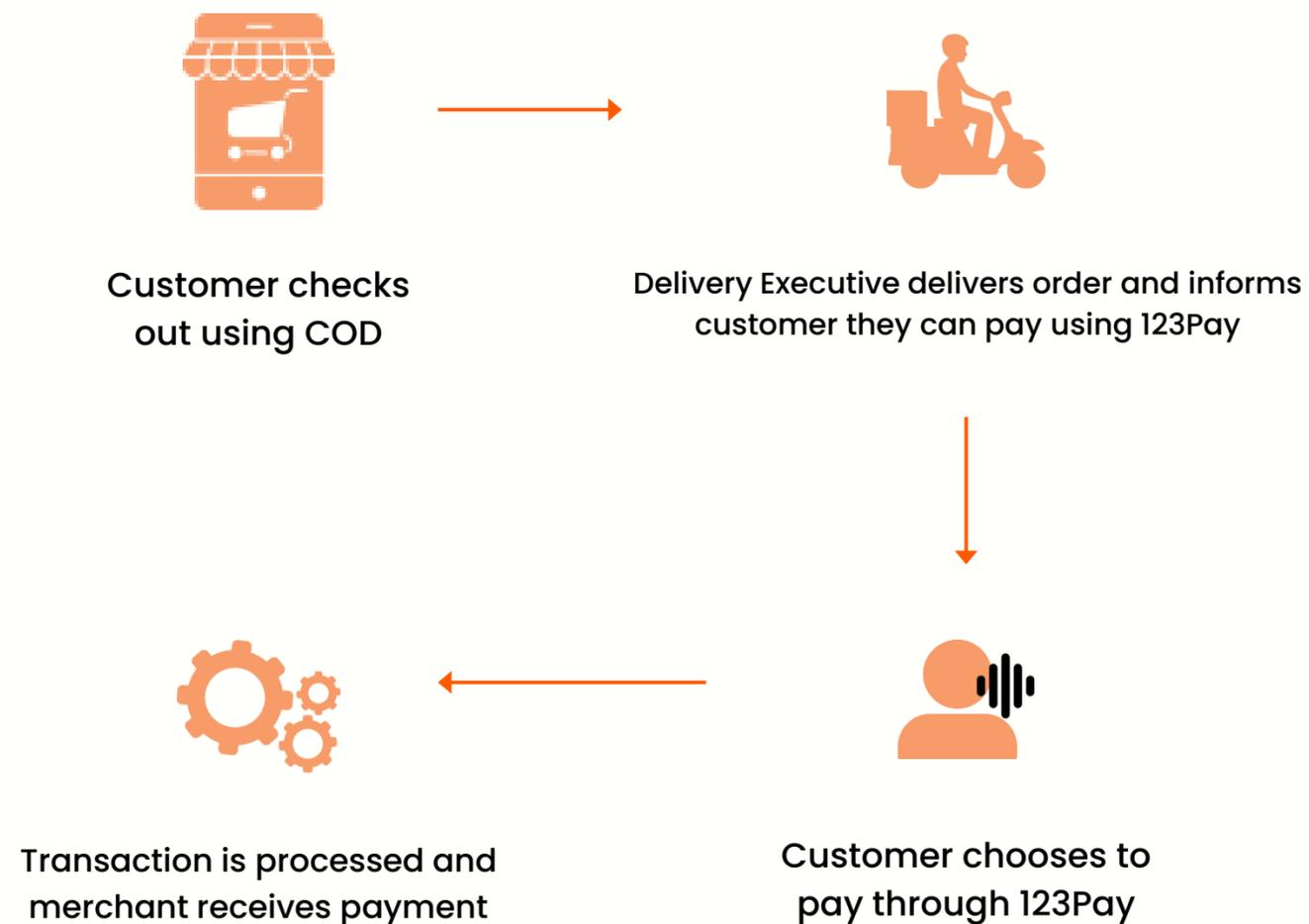


System will fetch the bill

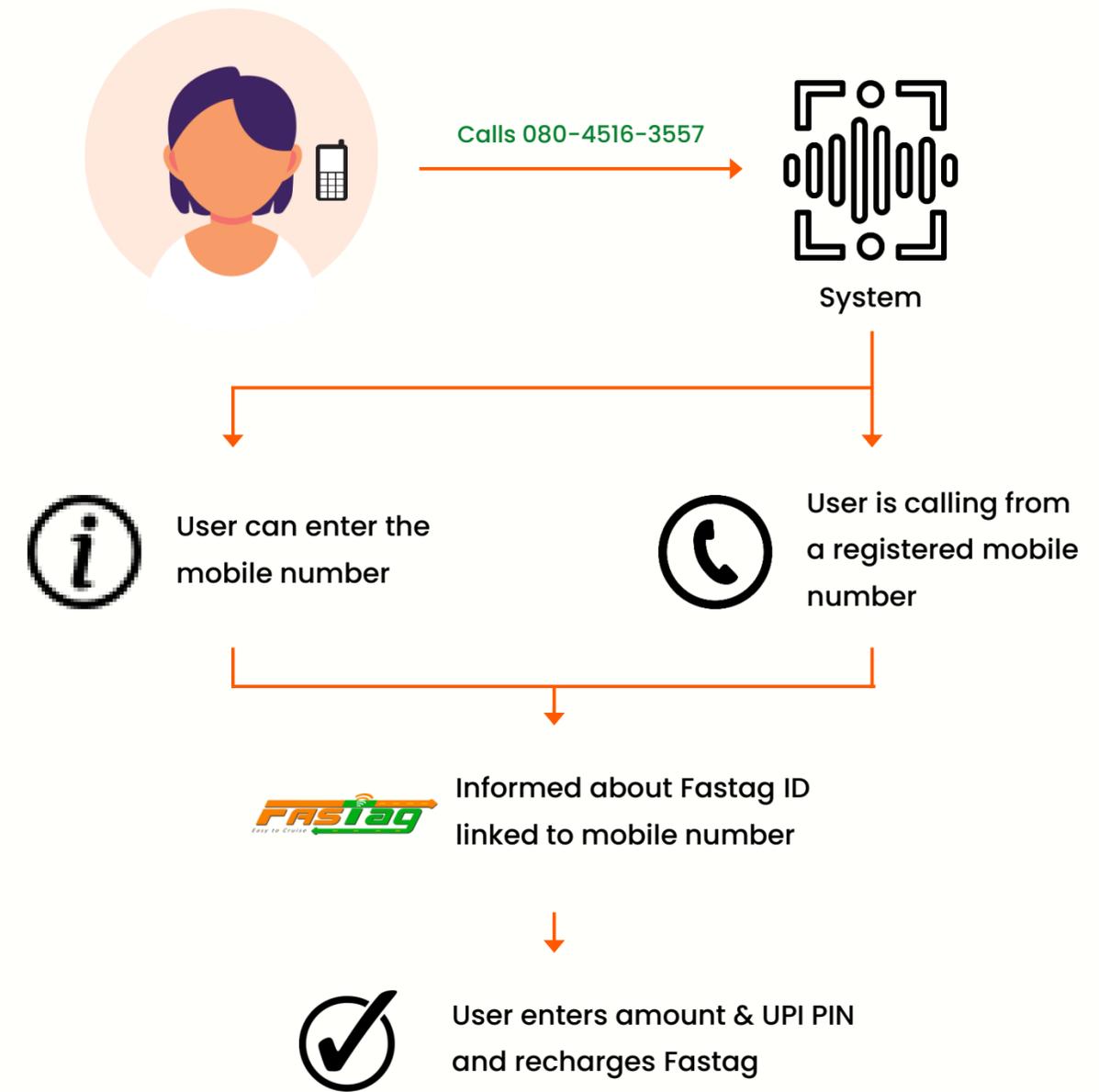
User enters PIN and payment is complete

Cash On Delivery Collection

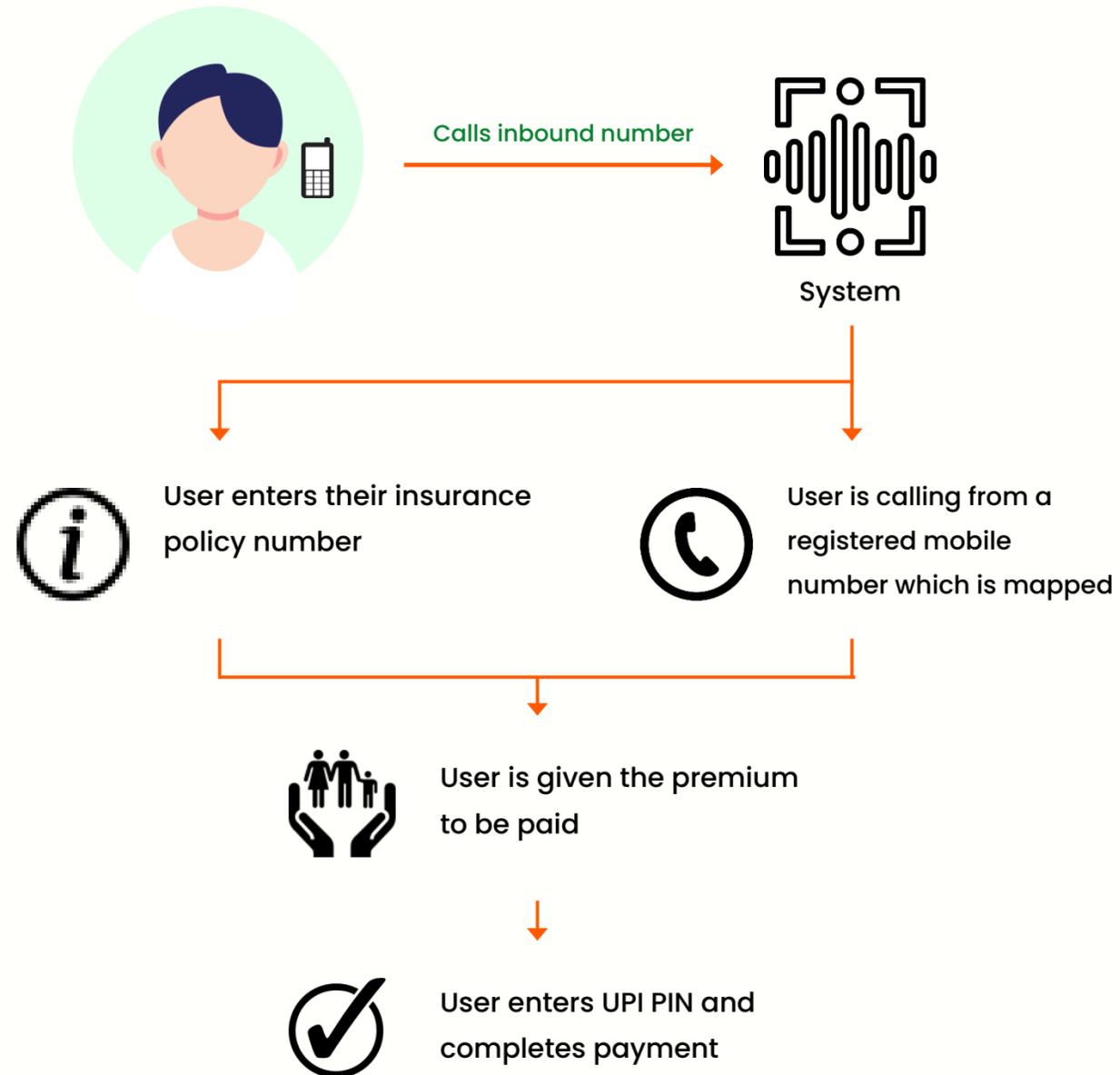
Businesses can now receive payment for cash on delivery orders over voice payment or through app integration.



FasTag Recharge



Insurance Payment



Other Use Cases

Similarly, users can also make payments like:



EMI Repayments



Government scheme payments



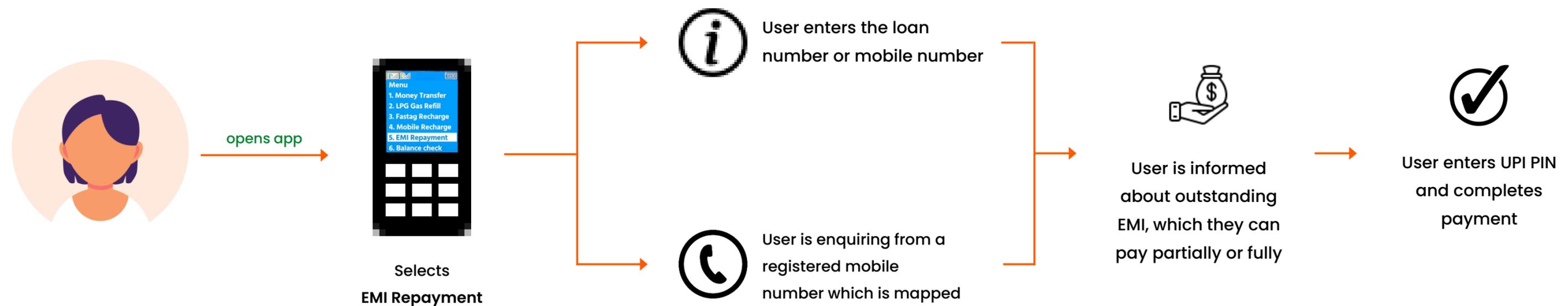
Archeological Sites in India

The breadth of use cases that 123Pay offers will empower feature phone users, and ensure they are at par.

UPI on Feature Phone

EMI Payments

Users can repay their EMI using the UPI app on their feature phones



123Pay based Payment Trends

Voice Emerging As Universal Engagement Layer

In India, scaling of Digital Payments is impacted by illiteracy, lack of smartphones and lack of broadband in remote locations. While underlying payment infrastructure (like UPI, IMPS) has improved dramatically, customer engagement layers have remained under constraint. At the same time, Indians are getting used to Voice-based interactions. Voice as a medium of engagement for payments works in all situations, hence would lead to the next wave of digital payment adoption. Over the next 5 years, we expect almost 10% of payments would be routed via Voice Payments.

Multilingual Support

With the diversity of languages in India and higher accuracy of Natural Language Processing (NLP) technology, Banks and Fintechs would launch this service in multiple languages. This would enable millions of customers to come on board, who have not yet been able to use digital payments due to a lack of language skills.

Power of 5G

5G services, which are expected to launch shortly, will allow for faster voice processing and thus enabling a better customer experience. This is especially critical for P2M transactions, wherein the friction levels must be extremely low for adoption.

Investment

As 123Pay pick up in India, we expect higher investment by VCs over the next few years. This would be for early-stage innovative start-ups as well as for giants moving to voice-based payments.

Quick adoption for low amount payments and inquiry transactions

The market is still getting ready to adopt this service and hence the focus would initially be on small payments and inquiry transactions. Over the next 5 years, we expect almost 30% of Rural Inquiries and Transactions would be over Voice.



Future Possibilities...

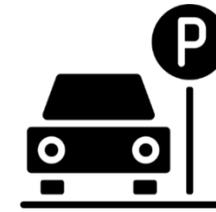
Hands-free payments
while sitting in car



Drive through order



Pay at fuel station



Parking payment

Voice based payments
through IoT devices



Order groceries



Online shopping



Bill payments

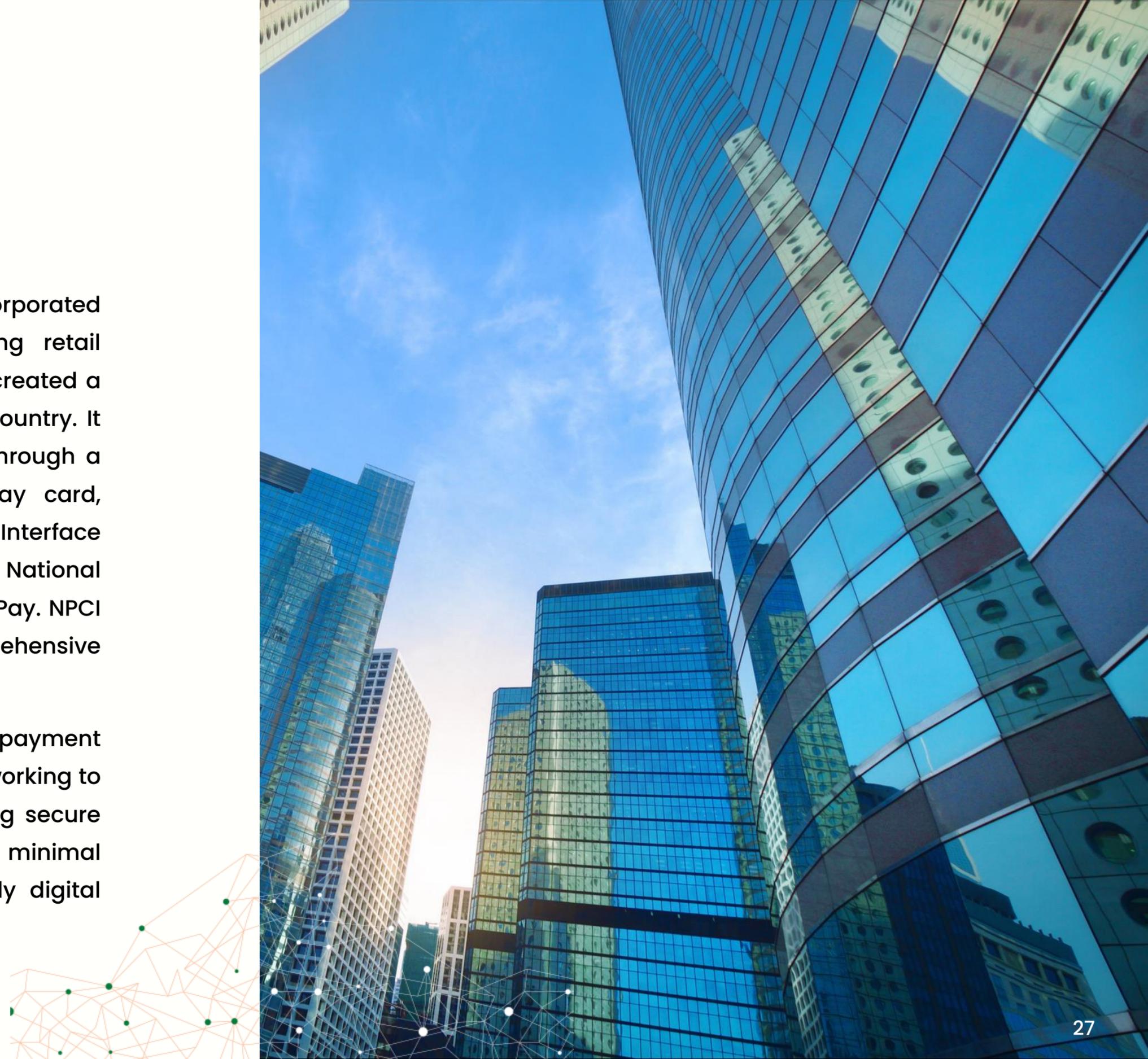
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About NPCI

National Payments Corporation of India (NPCI) was incorporated in 2008 as an umbrella organization for operating retail payments and settlement systems in India. NPCI has created a robust payment and settlement infrastructure in the country. It has changed the way payments are made in India through a bouquet of retail payment products such as RuPay card, Immediate Payment Service (IMPS), Unified Payments Interface (UPI), Bharat Interface for Money (BHIM), BHIM Aadhaar, National Electronic Toll Collection (NETC Fastag) and Bharat BillPay. NPCI also launched UPI 2.0 to offer more secure and comprehensive services to consumers and merchants.

NPCI is focused on bringing innovations in the retail payment systems through use of technology and is relentlessly working to transform India into a digital economy. It is facilitating secure payments solutions with nationwide accessibility at minimal cost in furtherance of India's aspiration to be a fully digital society.



Reach out

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