



iText 7 Core - Providing PDF library for India's PayNearby app

Learn how iText 7 Core is used by PayNearby - a company that is transforming financial and digital services across India and offering a technology-driven, customer-first approach with last mile connectivity and solutions.

BACKGROUND

Nearby Technologies (PayNearby) is the world's largest branchless banking and digital network of microentrepreneurs that aims to provide easy access to financial services to everyone, everywhere. It was established in April 2016 by a team of professionals with experience in the Digital Banking & Payments industry. They brought with them deep insights and understanding of the payment and transaction technology to achieve their dream of making India a more financially empowered nation.

Operating on a B2B2C model, PayNearby partners with neighborhood retail stores and through its tech-led distribution network ensures high-end technology is simplified for easy consumption at the last mile. It envisions to make all digital and banking services available to every citizen in the country through an assisted format at a store nearby. The company's innovative solutions are modelled to make transactions seamless, quick and easy. It strives to empower microentrepreneurs and their customers while ensuring true democratization of services and consumption, leading to the overall growth of the nation. PayNearby enables retailers to become a part of the Digital India initiative, thus increasing their income by providing financial and digital services to their regular customers.

The Digital India program was launched in July 2015, to connect rural areas with high-speed internet networks and improve digital literacy. Its vision is the inclusive growth

of electronic services, products, manufacturing, and job opportunities. It is centered on three key areas – digital infrastructure as a utility to every citizen, governance and services on demand, and the digital empowerment of citizens.

Complementing the Digital India program is the Aadhaar ID system. Aadhaar (which means foundation or base in English) is a 12-digit unique identity number that can be obtained voluntarily by citizens of India, NRIs, and resident foreign nationals. It has been described as the world's largest biometric ID system and "the most sophisticated ID program in the world".

GOALS

To enable PayNearby partner stores offering a wide range of services including cash withdrawal, cash deposits, money transfer, savings, insurance, travel, digital payments such as utility bills, online shopping, access to government benefits, and many more to generate PDF invoices, receipts, and other documents for the PayNearby mobile application.

CHALLENGES

A solution that allowed the generation of PDF documents for all these types of transactions. It also needed to allow the customization of certain elements such as the insertion of a merchant's address and logo, barcodes, authorization signatures etc. into the documents.

SOLUTION

To achieve these goals, PayNearby evaluated a range of PDF libraries, and ultimately decided on using iText 7 Core due to its simplicity, amount of documentation, and ease of integration into their server applications.

The company has already registered over 4 million retailers across India, and aims to make financial and digital services accessible to everyone, everywhere. Using the power of Mobile and Aadhaar, PayNearby's mission is to transform India's retail stores into Fintech Marts. The PayNearby retail stores will lead the movement to digitize cash by offering services like Domestic Money Transfer (DMT), Recharge, Bill Payments and more.

AEPS is a bank-led model which allows online interoperable transactions with PoS (MicroATM) using the Aadhaar authentication service. Aadhaar Pay is a payment system that allows merchants to collect payments from a customer using their Aadhaar number and biometric authentication. The Aadhaar seeded account of the customer gets debited and the merchant account gets credited.



The PayNearby app offers a wide range of digital services

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VIVEK VISWANATHAN, CTO, PAYNEARBY.



HOW IT WORKS

The PayNearby mobile application allows local retailers to operate as Fintech Marts. PayNearby Co-founder, Yashwant Lodha, explains “Our goal, when establishing PayNearby, was to bring financial inclusion to a large part of India that is deprived of both digital literacy and digital money. We have partnered with small and large businesses across India and provided them with an app that enables them to offer these services.” He continues, “In rural communities, retailers have a higher social status due to the community’s reliance on them. They also tend to have both a higher standard of digital literacy and access to digital money. With the PayNearby app, customers can visit their nearest PayNearby retailer and instruct them what to do rather than performing digital transactions on their own devices where internet connectivity may be unreliable or unavailable.”

TAX INVOICE



From: Nearby Technologies Pvt. Ltd. 1AB Arena House Road 12 MIDC Andheri E Mumbai PAN No. AAFCxxxxxxx GST No. 27AAxxxxxxx CIN No. U74xxxxxxx		Invoice No : MAYNTxxxxxxx	Invoice Date : 2021-05-24 00:00:00.000000
Bill To : MERE GARIB NAVAZ TELECOM xxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxx, India GST No. Uxxxxxxx		Place of Supply : 24-GUJARAT	Reverse Charge Applicable : No
Particulars		SAC Code	Amount
Retailer A/C Transfer		997119	97.46
Mobile and DTH Recharge		998413	105814.22
Merchant Account Validation		997119	5.06
Beneficiary Validation		997119	47.46
CGST		9%	0.00
SGST		9%	0.00
IGST		18%	19073.56
Total Amount			125037.78
Amount in Words : One Hundred Twenty Five Thousand Thirty Seven Rupees And Seventy Eight Paise Only			

For Nearby Technologies Pvt. Ltd.



Signature

iText 7 Core is an essential part of two key PayNearby processes. The first is in onboarding new retailers to become PayNearby partners, where the retailer’s information is collected as a requirement for India’s KYC (Know Your Customer) verification scheme. Images of documents such as proof of identification, address etc. are converted into PDF with iText, and then shared with the bank for approval.

The second process is to generate PDFs that result from a transaction. These PDFs can be shared digitally with the customer over WhatsApp, or alternatively printed and given to the customer in situations when a physical document is required. To this end, many of the small retailers have small in-store printers to be able to print out travel tickets or transaction receipts.

iText 7 Core is used to generate PDFs for each type of transaction offered by the PayNearby app. Vivek Viswanathan, CTO, PayNearby explains how this is achieved. “We integrated the iText PDF library into our server infrastructure, where we have various systems that require PDFs to be generated. Each of these systems connects to that service and request a PDF to be generated from it as and when required.”

A simple example of a PayNearby invoice, demonstrating the integration of a QR code and an authorization signature



“PayNearby was previously familiar with iText’s PDF capabilities before integrating it into the server infrastructure. We were already using iText to generate internal documents. However, since late 2020 we started using it in bulk for PayNearby transactions. Now, we probably produce 4-5 million documents annually, spread across various use cases.”

YASHWANT LODHA, CO-FOUNDER, PAYNEARBY



RESULT

Over the last few years, PayNearby has grown to become India's leading digital payments company and largest branchless banking network. In 2021, the PayNearby mobile app crossed over 5 million downloads on the Google Play Store with over 2 million daily transactions throughout its network of over 4 million retailers.

Having a stable and reliable PDF library to serve these needs is essential, and iText 7 Core performs its tasks admirably, scaling with PayNearby's increasing requirements. As Yashwant Lodha explains, "PayNearby was previously familiar with iText's PDF capabilities before integrating it into the server infrastructure. We were already using iText to generate internal documents. However, since late 2020 we started using it in bulk for PayNearby transactions. Now, we

probably produce 4-5 million documents annually, spread across various use cases."

Of course, as a result of the coronavirus pandemic, the need for citizens across India to access digital money and carry out digital-only transactions has increased significantly. And PayNearby's retail partners have played a vital role in assisting local communities with vaccine awareness and registrations, since a vaccine registration module has been integrated into the PayNearby app. Even after the pandemic subsides, it is expected that the demand for access to digital services such as e-commerce, OTT subscription and e-learning through the local retailer will continue to grow.

ABOUT PAYNEARBY

Incepted in April 2016, PayNearby is a fintech company creating a technology and distribution network to make financial/non-financial services accessible to both India and Bharat. PayNearby empowers retail shop owners to offer financial and digital services to local communities through its tech-led distribution platform and today connects to 50% of India to provide a whole range of services from banking and financial services to a gamut of digital services including e-commerce, online education, online entertainment, online retailing along with digital payments, microSavings, microInsurance, loan enablement among others.

PayNearby was founded by Anand Kumar Bajaj, Subhash Kumar, Yashwant Lodha & Rajesh Jha who bring with them rich experience in the field of banking, payments and other financial sectors. It is a DPIIT (then DIPP)-certified FinTech startup, partnering with various financial institutions including YES Bank, RBL Bank, IndusInd Bank, SBM Bank India, Equitas SFB, Ujjivan SFB, Axis Bank, ICICI Bank, State Bank of India, CC Avenue, Bill Desk, NPCI, FASTag, NBFC and FMCG companies. Also, it is the sole technology provider using Aadhaar Enabled Payment System (AEPS) and IMPS to YES Bank, making them one of the only two fintech companies hosted by the National Payments Corporation of India (NPCI).

ABOUT US

iText is a global leader in innovative award-winning PDF software. It is used by millions of users - both open source and commercial - around the world to create digital documents for a variety of purposes: invoices, credit card statements, mobile boarding passes, legal archiving and more. iText works and works well. Our customers choose iText because of our world-class quality of software, and our reliable mature, proven technology in the iText code library iText 7 Suite. We are recognized as a global thought leader and innovator in PDF solutions and functionalities. As an open source code library, iText PDF can be embedded into the document solution workflows of various industries and their applications.

Europe, Middle East, Africa & CIS

AA Tower
Technologiepark - Zwijnaarde 122
9052 Zwijnaarde
Belgium

✉ sales.isb@itextpdf.com
🌐 www.itextpdf.com
☎ +32 9 298 02 31

Americas

530 Harrison Ave,
Second Floor
Boston, MA 02118
United States

✉ sales.isc@itextpdf.com
🌐 www.itextpdf.com
☎ +1 617 982 2646

Asia & Oceania

Republic Plaza
9 Raffles Place, Level 6,
Republic Plaza 1
Singapore 048619

✉ sales.isa@itextpdf.com
🌐 www.itextpdf.com
☎ +65 6932 5062