****

***Introducing OF HDFC UPI NEW LAUNCH FOR SPECIFIC HDFC USERS***

**FUNCTIONAL REQUIREMENTS DOCUMENT**

**(FRD)**

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| --- | --- | --- | --- |
| **Version** | **Description of Change** | **Author** | **Date** |
| 0.1 | Initial version of the FRD. | Noorjahan | 15/2/2025 |
| 0.2 | Introduced of HDFC New UPI launch Mobile Application | Noorjahan | 15/2/2025 |

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# **INTRODUCTION**

# **1.1 Purpose**

"This document defines the functional and non-functional requirements for the **[INTRODUCED OF HDFC UPI NEW LAUNCH].** It serves as a detailed reference for developers, testers, and stakeholders to ensure alignment on project objectives."

# **1.2 Scope**

This FRD cover the functionality of the UPI New Launch mobile Application Process:

* **Account Linking**

(Ability for users to link their HDFC Bank accounts to the UPI system for transaction processing.)

* **UPI Payments**
* **Payment Requests**

(Users can send and receive payment requests, including bill payments, merchant payments, and invoice settlements.)

* **Transaction Limits**

**(**Define and implement transaction limits, such as maximum per-day transactions or limits per transaction for security and regulatory compliance.)

* **Security Features**
* **Balance Check and Mini Statements**
* **ATM and Branch Integration**
* **International Payments**

(The UPI system will initially support domestic payments only, with international transaction capabilities not included in this version.)

The **scope** based on the specific features and goals of the UPI service being launched

# **1.3 Project Background**

HDFC Bank is launching its Unified Payments Interface (UPI) service to offer customers a seamless, fast, and secure way to make digital transactions. UPI, developed by NPCI, is revolutionizing the payments landscape in India, providing a real-time, paperless payment method for sending and receiving money, paying bills, and making merchant payments directly from smartphones.

# **1.4 Reference**

[Standard for establishing, implementing, operating, monitoring, reviewing, maintaining, and improving the information security management system.]

# **Assumptions and Constraints**

# **1.5.1 Assumptions**

It is assumed that a significant number of HDFC Bank account holders will be familiar with the UPI platform and will be able to use it effectively right after the launch.

* User Adoption and Familiarity
* Customer Data Privacy and Security
* Third-Party Service Providers
* Availability of Support Services

# **Constraints**

* Technology and Device Compatibility.
* Third-Party Vendor Dependencies
* User Support and Customer Service

## **Document Overview**

[Describe what HDFC UPI is, its core features, and how it enhances digital payments.]

# **2 METHODOLOGIES**

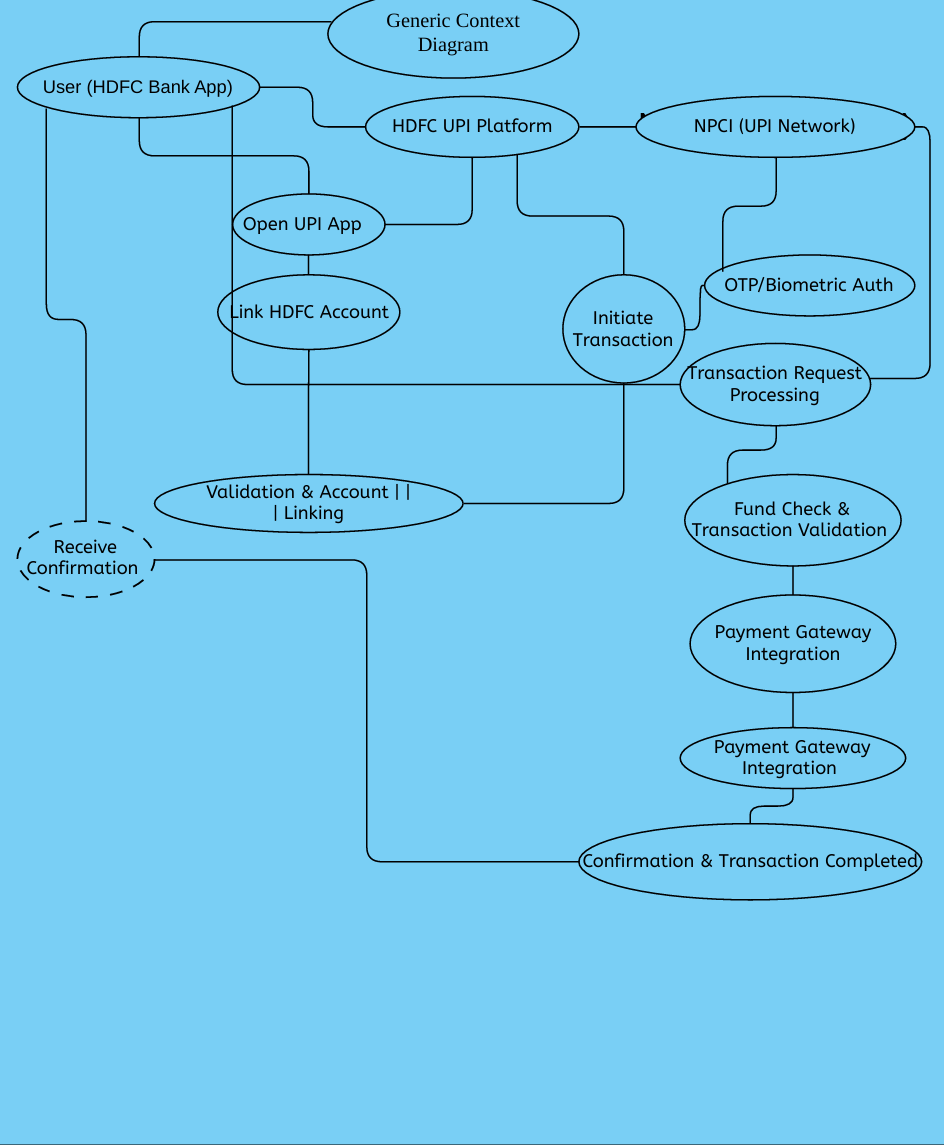
The methodology to be used for this project is an **Agile** approach, with iterative development, frequent feedback loops, and close collaboration with stakeholders. This allows flexibility in adapting to changing requirements and ensures that HDFC Bank’s customers receive a high-quality UPI experience.

**3 Functional Requirements**

**3.1 Context**

[The platform enables users to send money, pay bills, check balances, and make merchant payments directly from their HDFC Bank accounts, all within a single app.]

# **4 Generic Context Diagram**

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# **4.1 User Registration and Authentication**

* **Account linkage**: Users should be able to link their HDFC Bank accounts to the UPI system.
* **Authentication:** Describe the authentication process (e.g., PIN-based, biometric authentication).

# **4.2 Payment Processing**

* UPI Transaction Types: Explain various types of transactions (e.g., peer-to-peer, merchant payments, bill payments)
* Real-time payments: Transactions should be processed instantly.

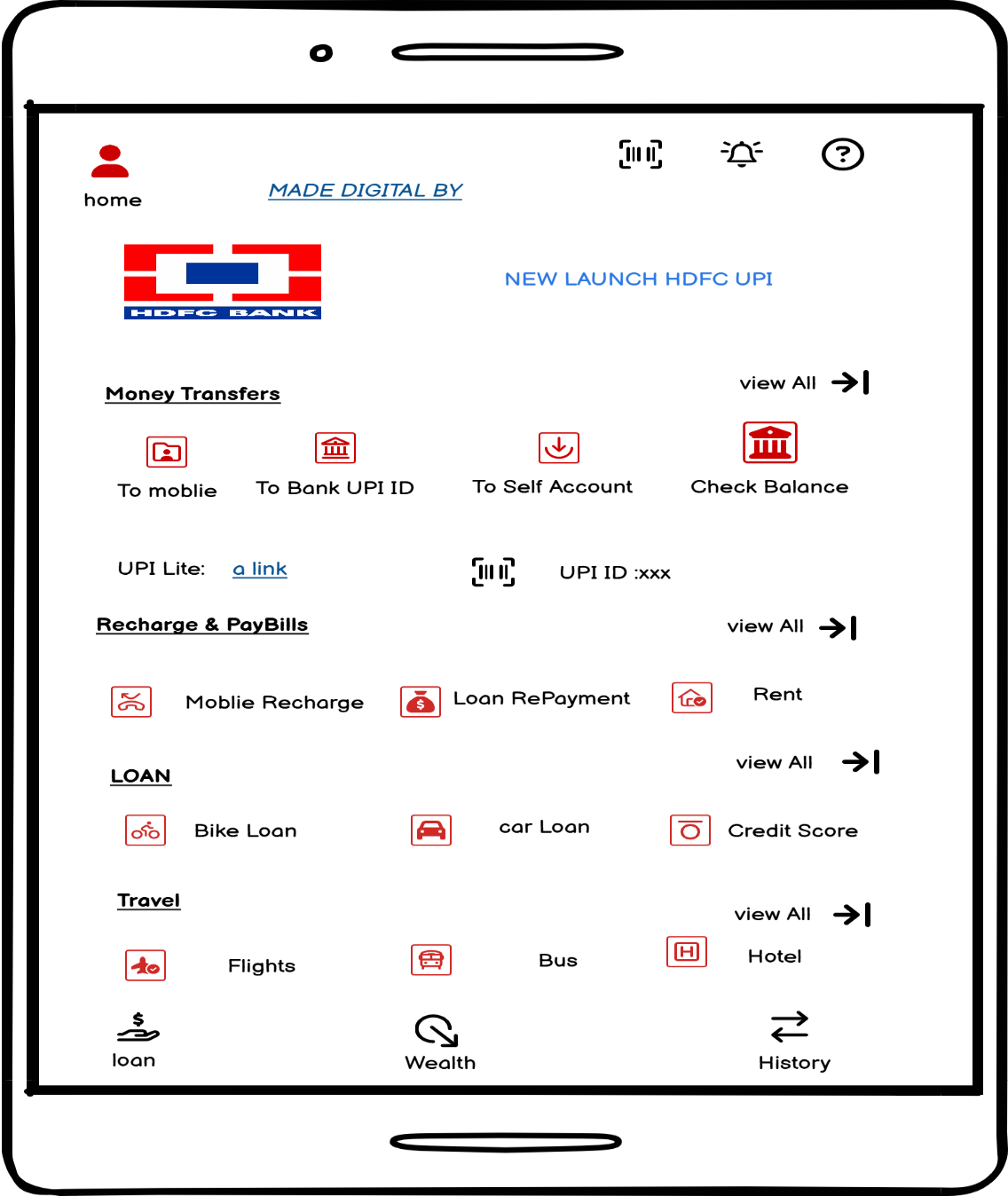
# **4.3 Security Features**

* Two-factor authentication: If applicable, two-factor authentication for additional security during transactions.

# **4.4 User Interface (UI) Design**

[Provide wireframes or a description of the user interface for both mobile platforms]

# **Wireframe Design**



# **4.5 Transaction History**

[Users should be able to view transaction history, including past payments and pending requests.]

# **4.6 Notifications**

Notifications for successful transactions, failed payments, and system updates.

# **4.7 Account Management**

Users should have the ability to manage their linked accounts, update their personal details, and reset passwords.

# **5 Functional Requirements Group 2 – Requirements**

**5.1 UPI-based Transactions**

Users should be able to send money to other UPI-enabled accounts, whether they are HDFC Bank account holders or from other banks.

**Key Functionality**

* Transfer money by entering recipient UPI ID or scanning a QR code.
* Option for splitting bills or sending a specific amount to multiple recipients.

# **5.2 Bill Payments**

Users can pay various utility bills (electricity, water, mobile recharge) through the platform.

* Option to save biller information for quicker payments in the future.
* Users can view bills, schedule payments, and set reminders for due bills.

**Key Functionality**

* Immediate processing of the recharge or top-up request.
* Option to enter mobile number or select predefined plans for quick recharge.

# **5.3 Transaction History and Management**

[Users should be able to view a detailed summary of all their transactions.]

**Key Functionality**

* Option to mark and track recurring transactions
* Transaction details such as date, time, recipient, amount, status (successful/failed).

# **5.4 Security and Authentication**

Users should authenticate themselves using two-factor authentication for added security during transactions.

**Key Functionality**

* Biometric authentication (fingerprint/face recognition) for login and transaction approval, where supported.
* OTP (One-Time Password) sent to the registered mobile number for all financial actions.

# **5.5 Secure Data Encryption**

All user data, including personal details and financial transactions, must be encrypted using strong encryption standards**.**

**Key Functionality**

* Compliance with data protection regulations like GDPR, ensuring the privacy and safety of user data.
* Secure storage of sensitive data like UPI ID, account numbers, and transaction details.

# **5.6 User Interface (UI) and User Experience (UX)**

The system should provide an intuitive, easy-to-navigate interface for mobile platform, making it simple for users to perform transactions.

**Key Functionality**

* Clear, minimalistic design with easily accessible menu options.
* Access to frequently used features such as transaction history, bill payments, and account settings with one tap.

# **5.7 Multi-Language Support**

The platform should support multiple regional languages to cater to a diverse user base.

**Key Functionality**

* Support for Hindi, Tamil, Telugu, Kannada, and other regional languages.

# **5.8 Third-Party Payment Gateway Integration**

Integration with third-party payment gateways for supporting bill payments, merchant transactions, and recharges.

**Key Functionality**

* Ability to handle payments to multiple external systems (e.g., mobile carriers, utilities, online merchants).

# **Requirement Gathering**

|  |  |  |  |
| --- | --- | --- | --- |
| **Feature** | **Description** | **User Benefit** | **System Requirements** |
| **User Registration & Onboarding** | Simple and intuitive process to create a new account, either with an HDFC Bank account or through UPI ID. | Easy registration with minimal steps. | User registration API, integration with HDFC Bank accounts, OTP/KYC verification. |
| **Peer-to-Peer (P2P) Transfers** | Send money to friends, family, or any other UPI user instantly using their UPI ID or QR code. | Instant and hassle-free money transfers. | UPI integration with HDFC Bank and external UPI systems, real-time transaction processing. |
| **Bill Payments** | Pay utility bills such as electricity, water, gas, and mobile bills directly through the app. | Quick and centralized bill payments. | Integration with billers, utility companies, payment gateways. |

# **6 Important Equipment Gathering**

The process of identifying and collecting the necessary tools, resources, software, hardware, and other assets required to successfully implement or launch a project, such as the HDFC UPI New Launch**.**

# **6.1 Hardware Equipment**

* Dedicated servers or cloud services like AWS, Google Cloud, or Azure for hosting UPI systems, user data, and transaction management**.**

# **6.2 POS Terminals and QR Code Generators**

* Devices and systems for merchants to accept UPI payments through QR codes.

# **6.3 Mobile Devices (for Testing)**

* Android and iOS devices for testing the UPI app across different screen sizes, OS versions, and device capabilities.

# **6.4 Network Infrastructure**

* High-speed, reliable internet connections to handle large-scale transactions in real-time.

# **7 Software and Tools**

# **7.1 UPI Integration Software**

* **NPCI (National Payments Corporation of India)** or other third-party vendors to integrate UPI with the HDFC Bank systems.

# **7.2 Banking and Transaction Software**

# Software for managing banking transactions, balance management, user data security, and real-time transaction processing.

# **7.3App Development Tools**

* Mobile app development software (e.g., Android Studio for Android, Xcode for iOS) for creating and testing the HDFC UPI mobile application.

# **8 Testing Equipment and Tools**

# **8.1 Device Testing Lab**

* A set of mobile devices (both Android and iOS) for manual testing to ensure cross-device compatibility and a smooth user experience.

# **9 Communication and Collaboration Tools**

# **9.1Project Management Tools**

* Tools like Jira, Trello, or Asana to manage development sprints, track tasks, and collaborate with teams during the project lifecycle.

# **9.2Collaboration Platforms**

* Platforms like Slack, Microsoft Teams, or Google Meet to facilitate team communication, especially for remote teams.

# **10 Backup and Disaster Recovery Equipment**

# **10.1 Data Backup Solutions**

* Backup systems to store sensitive user data, transaction history, and app-related data to ensure business continuity in case of a disaster.

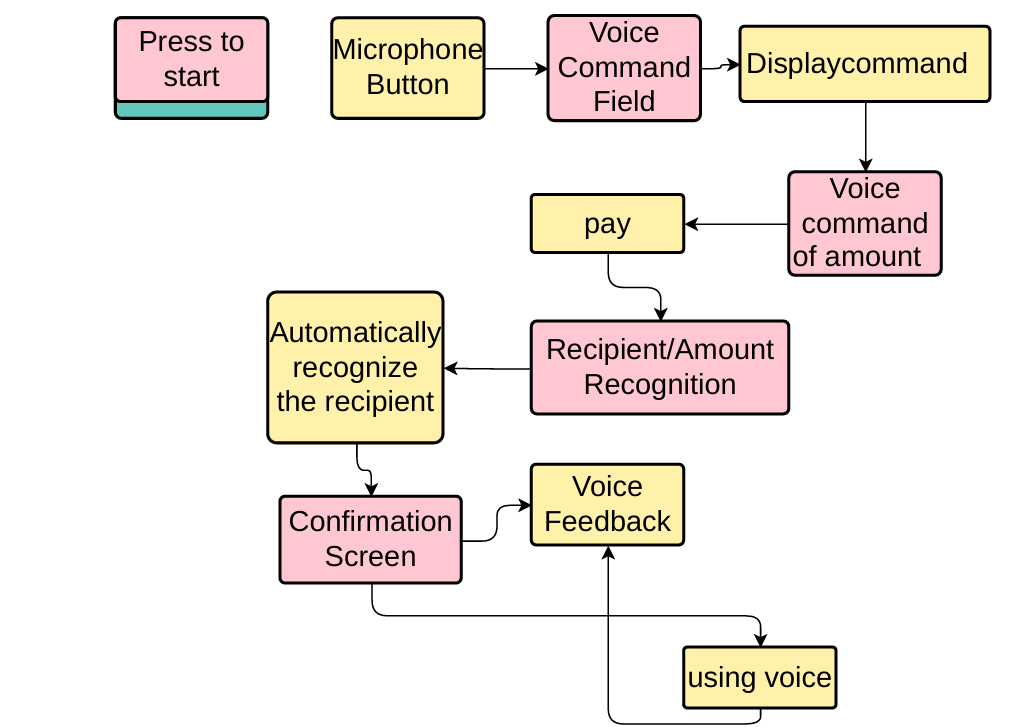
# **Future Features for HDFC UPI Launch**

# **(Requirement Gathering)**

**11** **Voice-Based UPI Payments**

Enabling users to make UPI payments using voice commands through integration with virtual assistants like Google Assistant, Siri, or Alexa.

* Secure voice authentication: Users can authorize transactions via voice recognition for enhanced convenience.



# **11.1 Cross-Border UPI Payments**

Expanding UPI's use for international remittance and cross-border payments.

* Users can send UPI payments to international bank accounts or wallets.

# **11.2 QR Code Dynamic Payment System**

Introducing dynamic QR codes that change with each transaction to enhance security.

* Dynamic QR codes for merchants: Merchants can generate unique QR codes for every transaction, ensuring secure payments and reducing fraud.
* Refunds via QR: In case of disputes, the merchant can generate a dynamic QR code for processing refunds instantly.

# **11.3 Contactless UPI Payments**

Enabling contactless payments via UPI by linking it with NFC-enabled devices (smartphones, wearables).

* Zero touch, faster transactions: Facilitating faster checkouts in retail and transportation services by eliminating the need to enter a UPI PIN for small amounts.
* Seamless transactions for low-value payments: Transactions under a set limit can be completed without entering PINs for added convenience.

# **11.4 UPI for Bill Payments and Subscriptions**

Enabling UPI to handle recurring bill payments and subscription-based services automatically.

* Automated bill payments: Setting up automatic payment for utilities like electricity, water, broadband, and insurance premiums via UPI.

# **11.5 Enhanced Security Features**

Incorporating advanced security measures to protect user data and transactions.

* Biometric authentication: Enabling biometric (fingerprint, face recognition) login for accessing UPI accounts and authorizing transactions.

# **11.6 UPI in Offline Mode**

Allowing users to make UPI transactions even when there is no internet connection available.

* Offline UPI transactions: Users can complete transactions using SMS or USSD codes when they don’t have access to mobile data or Wi-Fi.
* Pending transactions: Offline transactions will be processed once the network connection is restored.

[**Old Feature Usage Example: Example Data:**

* Old Feature Usage: 60% of total transactions (basic payments, peer-to-peer transfers).
* New Feature Usage: 40% (AI-based recommendations, voice-enabled payments, etc.]

# **11.7 Gamification and Rewards**

Adding **gamification elements** and rewards to make UPI transactions more engaging.

* Cashback offers: Providing rewards or cashback on UPI payments made for certain services, such as bills or shopping.
* Transaction challenges: Encouraging users to complete a certain number of transactions in a given time frame to earn rewards.

[When comparing **old** rewards and **new** rewards, it's important to recognize how the types of rewards offered have changed based on user preferences, market trends, and advancements in technology.]

[An **12 APPENDIX A – GLOSSARY**

effective Glossary section helps ensure that all stakeholders, including developers, business analysts, project managers, and users, can easily understand the technical and business terms]