

WhatsApp Pay

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WhatsApp Pay

STAKEHOLDERS

ACTOR	What he can do on the Software Created
WhatsApp users	<ul style="list-style-type: none">• WhatsApp user can transfer money to their contacts using QR scan or mobile number• User can request the amount to their contacts using QR scan or contact• User can approve the requested transaction by their contacts to confirm the initiation of the transaction request• User can check the transaction receipts in the same app to avoid hassles using multiple apps
Banks	<ul style="list-style-type: none">• Bank can validate the KYC for the existing user accounts• Bank can save the encrypted security pin for their transactions using debit card or credit card linked in WhatsApp pay for security purposes• Bank can create merchant id, transaction id and share them in the transaction receipt to WhatsApp users
Credit card providers	<ul style="list-style-type: none">• Mention what credit card providers must do and must allow the system to accomplish• Credit card providers can give cashback for using WhatsApp Pay in form on Cred points• Credit card providers can send the credit bills on WhatsApp for maintaining the easy of payments for the users
Bank (debit card provider)	<ul style="list-style-type: none">• Debit card provider can provide debit limits to WhatsApp users to reduce financial frauds• Debit card provider can send scheduled reminders on WhatsApp as well for the managing the auto debit set by the users

Risk Identification

- Theft of smartphones will rise the data privacy and security concerns of the WhatsApp pay users
- Banking payment gateway integration issues with WhatsApp pay can result in delayed payments
- WhatsApp account hacked can give access to the existing bank account linked of the WhatsApp pay users

SWOT Analysis of WhatsApp pay

SWOT Analysis for the system can be performed for smooth functioning of the new feature without effecting the existing functionality of the WhatsApp application for the users

Strengths:

- Easy of payment for users have different bank accounts
- WhatsApp pay transaction receipts will be right on the chat window without hovering over the other screens
- WhatsApp has a two-level security feature since it sends OTP at the time of account creation so the user using the registered number in WhatsApp can only access the WhatsApp pay

Weakness:

- WhatsApp Pay can result in violating privacy constraints by sharing profile picture, status and other personal details of the customer

Opportunity:

- WhatsApp Pay can increase the client base for WhatsApp users by the new payment feature
- WhatsApp Pay can create wallet for users which can be used by the users for future transactions

Threat:

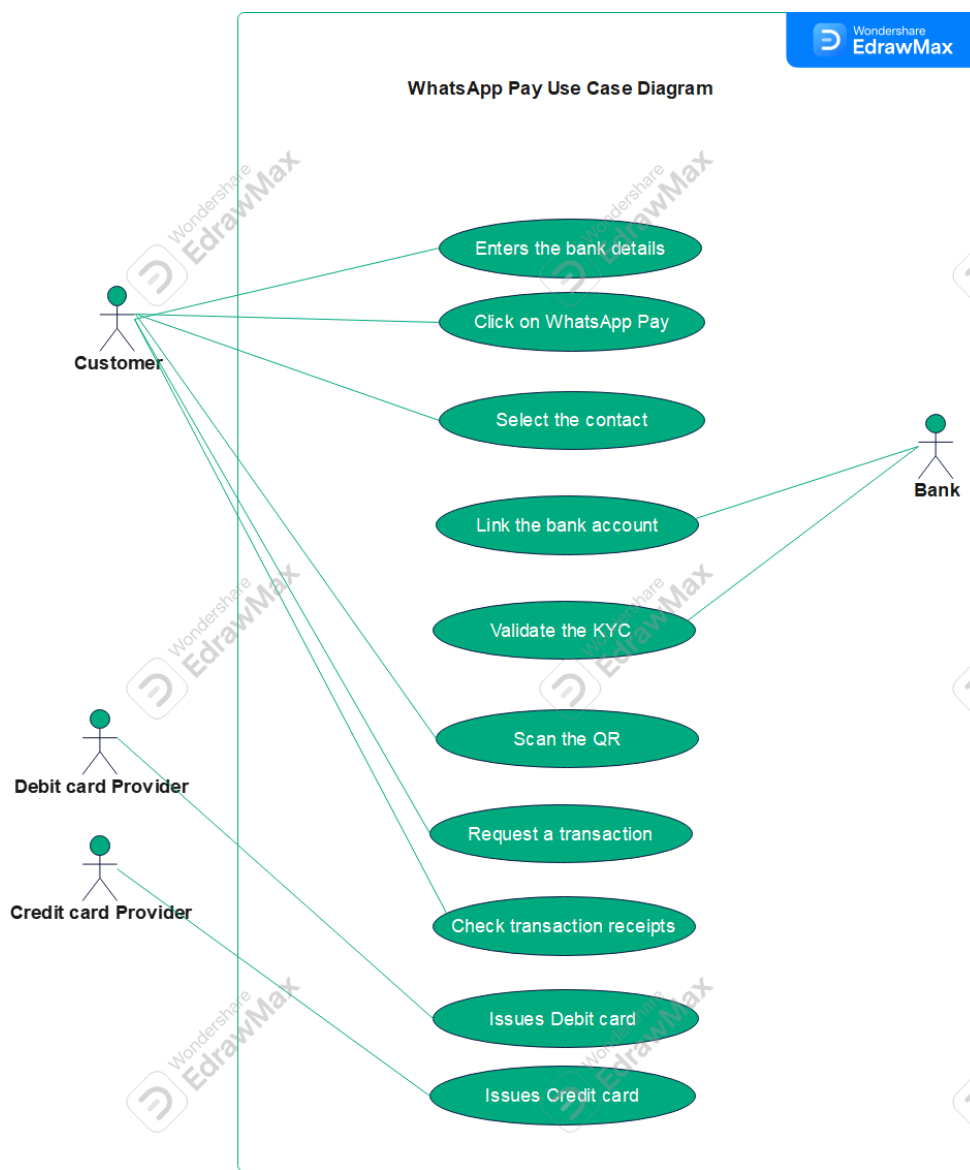
- Existing payment applications with good cashbacks on electricity, recharge transactions can steal the WhatsApp pay clients

PROPOSED SYSTEM

- WhatsApp user needs to have a bank account for using the WhatsApp pay feature linked within WhatsApp
- Users can interact with their contacts and use the Linked bank account for transactions using WhatsApp pay
- Users can confirm the payment received through the receipts generated on the chat window for further reference
- The payment receipts are stored on WhatsApp cloud platform for any investigation or references if required
- WhatsApp account can be backed up by setting frequencies like no backup, daily or monthly which will automatically store the payment documents on users WhatsApp cloud account
- Users can send money to their existing contacts or use the QR scan for any purchases
- Existing users of WhatsApp pay can request payment by clicking on request button and then the payee can click on confirm button to send the amount requested by the user from their linked bank account
- WhatsApp pay can also provide reminders on debit card standing instructions, credit card bills and electricity bills if opted by the users

SCOPE using Use Case Diagram (UML)

- Customer enters the bank details for linking the bank account in WhatsApp pay
- Bank validates the KYC of the customer to confirm the profile
- Card providers issues the cards to customers for payment transfers
- Customer clicks on pay option to select the contact or scan QR to proceed the transaction
- Customer views the transaction receipt on the chat window



IN SCOPE

- WhatsApp Pay feature enables user to pay using QR, UPI or WhatsApp contact of the other user
- WhatsApp Pay offers some cashback for most of the transactions related to frequent recharge or bill payments

OUT OF SCOPE

- Verification of the details of a person requesting the amount from the WhatsApp pay user is currently out of scope
- WhatsApp pay user can get a QR code of a person or contact number and no other bank details which is involved in the transaction

Business Requirements:

- Enhance user Engagement – WhatsApp Pay can increase the user engagement since it will save user's time in browsing web pages of other applications related to payments
- Expand market search – WhatsApp Pay can expand their market by connecting with multiple international, national and state banks to understand their customers
- Drive user Retention – WhatsApp Pay can retain the users by providing the convenience of connecting with their contacts, saving application memory and cashbacks on transactions
- Leverage data insights – Users transactions can be used for analysis to understand their behaviour and trends in payments to increase the usability of the application
- Support for small Business – Small Business which do not use other mode for transactions can speed up their transactions with any hassles of cash payments

FUNCTIONAL REQUIREMENTS

- User Account Management – WhatsApp pay accounts should be managed by the WhatsApp application admins for creating accounts and maintenance for the requests raised by the customers
- User Interface - User Interface of the WhatsApp pay should be user friendly with simple fonts for ease of navigation between the windows and reducing customer efforts in searching the steps for initiating the payment
- Payment processing – Payment processing should have platform compatibility with meta platform applications to speed up the transactions
- Data security and Privacy – Users data is sensitive and confidential so should suffice the security constraints
- Transaction Management – In case the user attempts a double transaction within the same timestamp then the session ids and transaction ids should be different but with a check on the details to avoid double debits
- Compliance – Compliance policies of WhatsApp pay should cover KYC and Regulatory policies to record the customers data in case of further investigations

- Cross functionality – Users can interact online and send money at the same time to avoid confusions involved in multiple application usage and can chat as well through call, text or video from a single application for confirmation
- Customer support – Customers issues related to payment issues, frauds or any delayed transactions will be handled by a technical support team to resolve issues within 48 hours
- Scalability – Customers can scale up their business interactions, shop, pay bills with less travelling and have logs maintained at the WhatsApp cloud platform

NON-FUNCTIONAL REQUIREMENTS

System Requirement:

Hardware

- Database server – Storage space with HDD/SSD of more than 1 Terabyte
- Network – Routers for high-speed network interface

Software

- OS – It should have either Android or iOS operating system
- DBMS – SQL, NoSQL, PostgreSQL
- Payment Gateways – It should a secure homogenous payment gateway well integrated with different banks
- Encryption Libraries – It should have inbuilt encryption libraries like TLS/SSL for security purposes and encoding the passwords, security pins and bank details

Network

WAN for high-speed internet connectivity

LAN – Local area network load balancing across multiple servers and increase scalability

Firewall – It should have firewall to prevent virus attacks like trojan, malware etc.

- Intrusive detection security IDS - Detection of virus attacks
- Intrusion Protection security IPS – Guarding the virus attacks with the help of antivirus

API's

- Bank – It is required to integrating banking web service with WhatsApp pay feature for successful transaction
- Payment service provider PSP – PSP is required for generating unique transactions with MMID, merchant id, transaction ids, session ids etc
- External services – They are required for quick maintenance, backup, archiving old transaction records based on the thresholds

Usability:

Performance – The performance of the new feature should increase the customer engagement rate, profile visits, average daily time spend by the user on the application

Availability – The feature should be available in all the software versions of android and ios devices

Security – It should adhere with WCAG standards, PCI DSS, and data encryptions for preventing frauds or hacking

Maintenance – It should have a good code quality at the back end of the web application to avoid errors in pushing the data in the database for tracking records

Screen Wireframes

- WhatsApp Pay click will redirect the user to the below screen to show the payment options of QR, Contact and UPI payments
- User can view the contact list from their WhatsApp account for carrying the further transactions
- User can click on the desired contact from the contact list for requesting a transaction or paying the contact through WhatsApp Pay feature as shown below:

