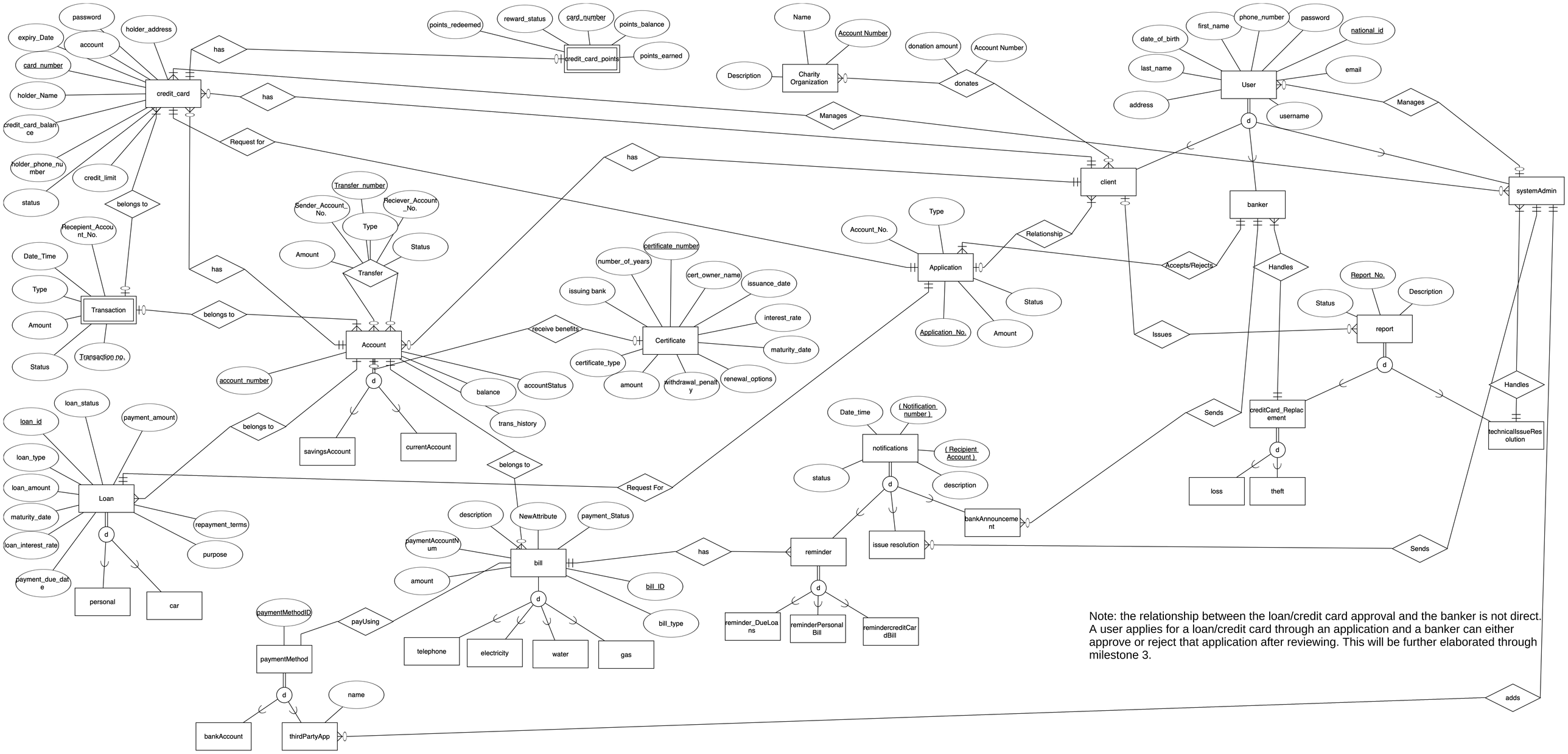
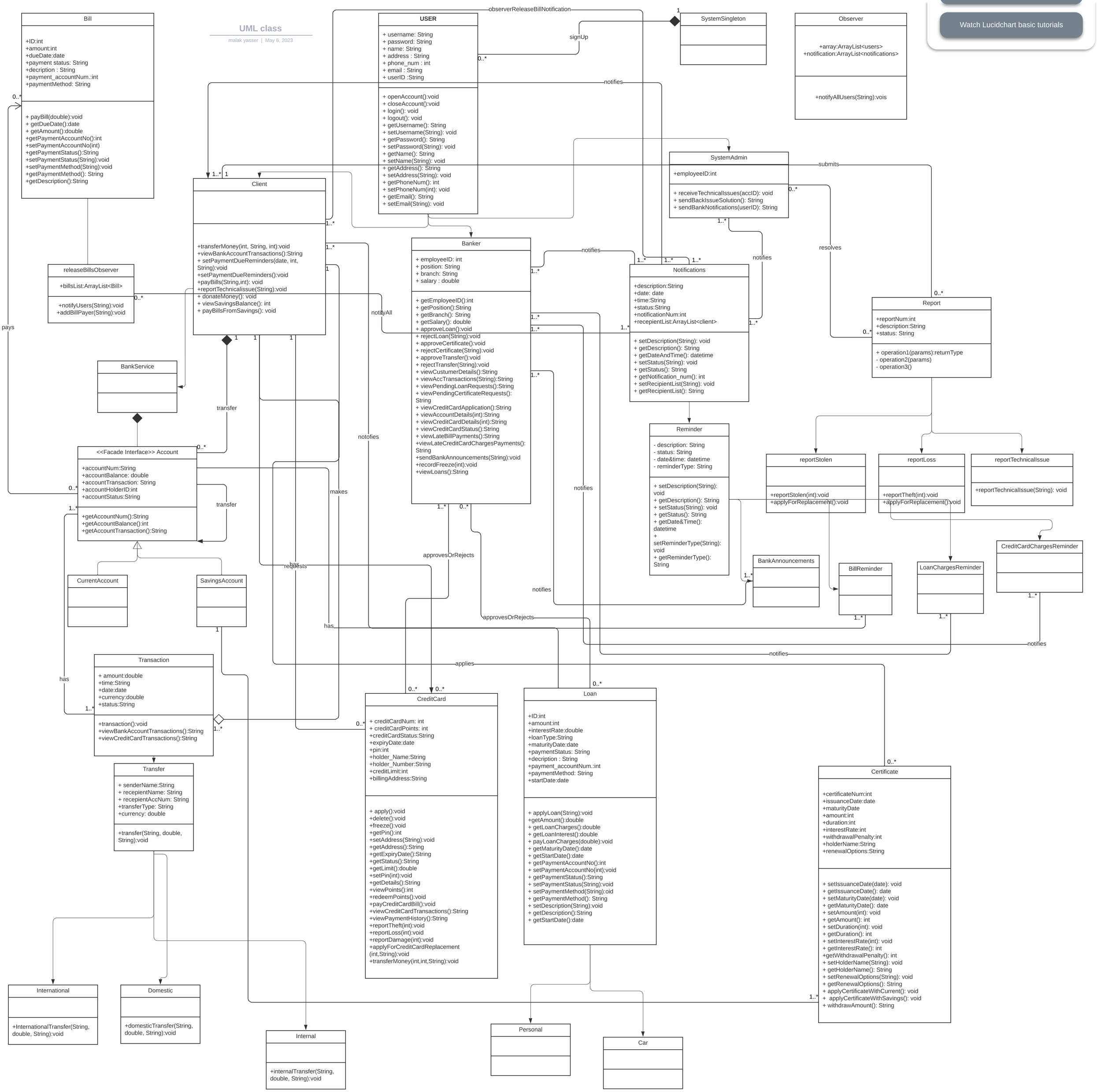


Note: the relationship between the loan/credit card approval and the banker is not direct. A user applies for a loan/credit card through an application and a banker can either approve or reject that application after reviewing. This will be further elaborated through milestone 3.


UML class
malak yasser | May 6, 2023
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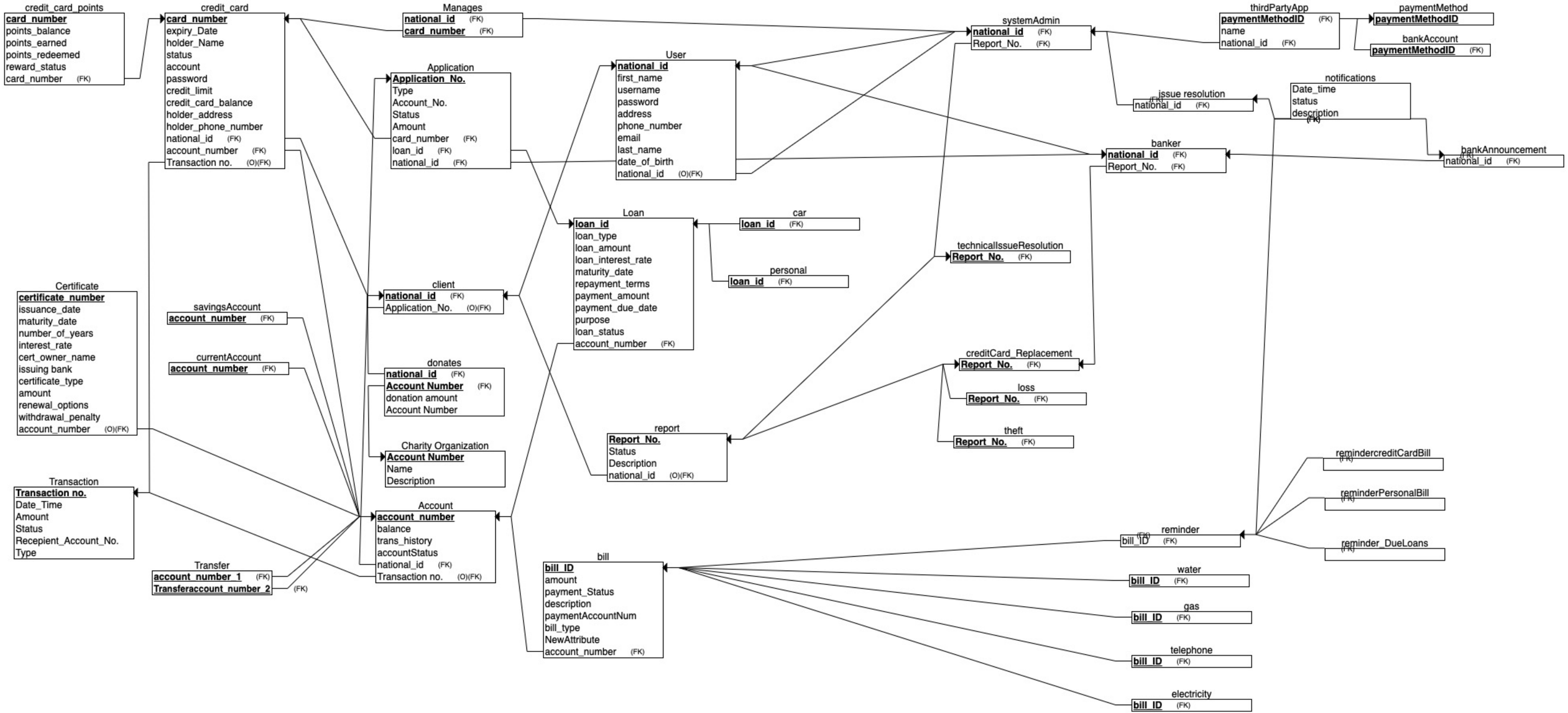
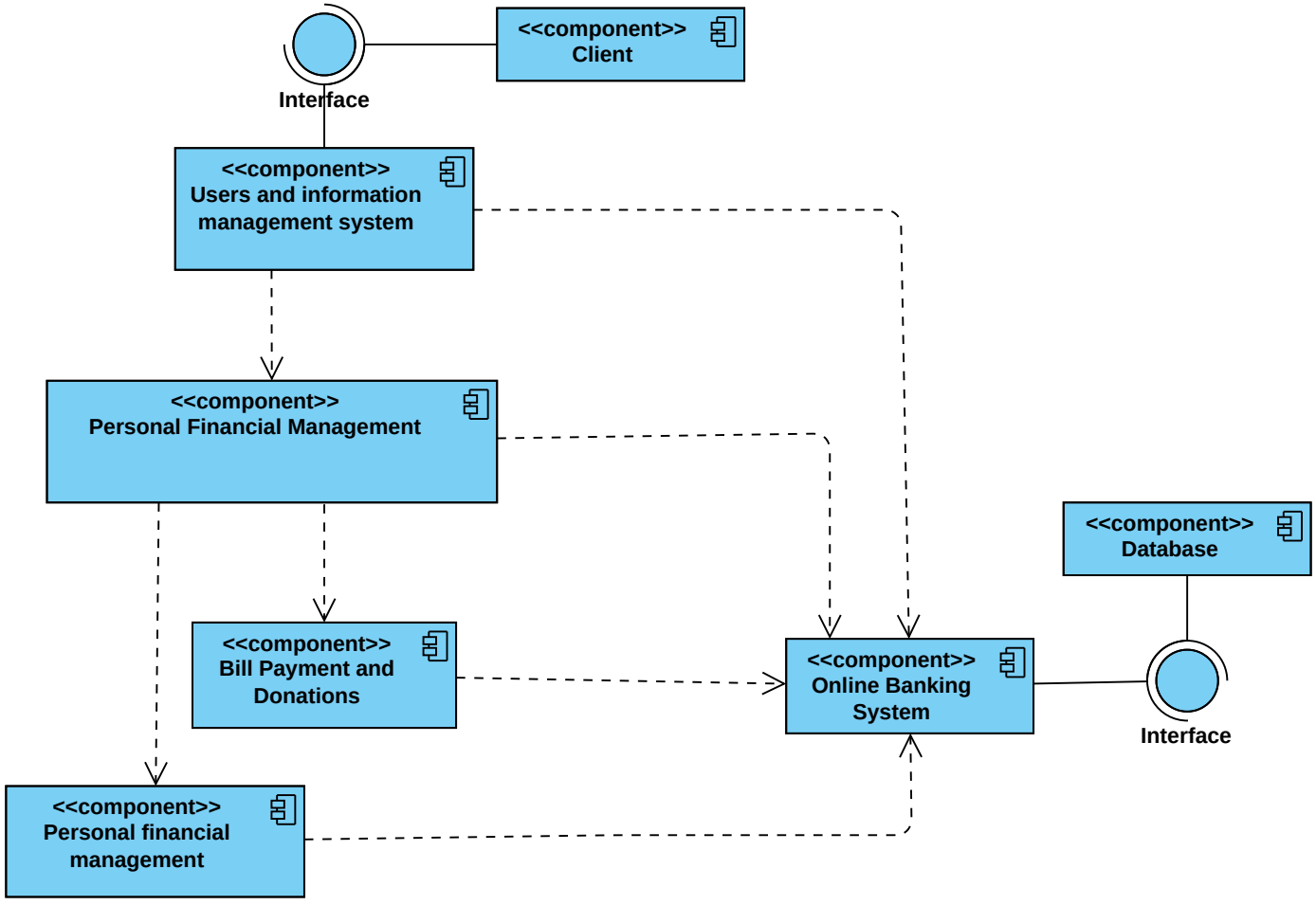
Bill
+ID:int
+amount:int
+dueDate:date
+payment status: String
+decription : String
+payment_accountNum.:int
+paymentMethod: String
+ payBill(double):void
+ getDueDate():date
+ getAmount():double
+getPaymentAccountNo():int
+setPaymentAccountNo(int)
+getPaymentStatus():String
+setPaymentStatus(String):void
+setPaymentMethod(String):void
+getPaymentMethod(): String
+getDescription():String
USER
+ username: String
+ password: String
+ name: String
+ address : String
+ phone_num : int
+ email : String
+ userID :String
+ openAccount():void
+ closeAccount():void
+ login(): void
+ logout(): void
+ getUsername(): String
+ setUsername(String): void
+ getPassword(): String
+ setPassword(String): void
+ getName(): String
+ setName(String): void
+ getAddress(): String
+ setAddress(String): void
+ getPhoneNum(): int
+ setPhoneNum(int): void
+ getEmail(): String
+ setEmail(String): void
SystemSingleton
Observer
+array:ArrayList<users>
+notification:ArrayList<notifications>
+notifyAllUsers(String):vois
observerReleaseBillNotification
signUp
notifies
SystemAdmin
+employeeID:int
+ receiveTechnicalIssues(accID): void
+ sendBackIssueSolution(): String
+ sendBankNotifications(userID): String
submits
Client
+transferMoney(int, String, int):void
+viewBankAccountTransactions():String
+ setPaymentDueReminders(date, int, String):void
+setPaymentDueReminders():void
+payBills(String,int): void
+reportTechnicalissue(String):void
+ donateMoney(): void
+ viewSavingsBalance(): int
+ payBillsFromSavings(): void
Banker
+ employeeID: int
+ position: String
+ branch: String
+ salary : double
+ getEmployeeID():int
+ getPosition():String
+ getBranch(): String
+ getSalary(): double
+ approveLoan():void
+ rejectLoan(String):void
+ approveCertificate():void
+ rejectCertificate(String):void
+ approveTransfer():void
+ rejectTransfer(String):void
+ viewCustumerDetails():String
+ viewAccTransactions(String):String
+ viewPendingLoanRequests():String
+ viewPendingCertificateRequests():String
+ viewCreditCardApplication():String
+ viewAccountDetails(int):String
+ viewCreditCardDetails(int):String
+ viewCreditCardStatus():String
+ viewLateBillPayments():String
+viewLateCreditCardChargesPayments():String
+sendBankAnnouncements(String):void
+recordFreeze(int):void
+viewLoans():String
Notifications
+description:String
+date: date
+time:String
+status:String
+notificationNum:int
+recepientList:ArrayList<client>
+ setDescription(String): void
+ getDescription(): String
+ getDateAndTime(): datetime
+ setStatus(String): void
+ getStatus(): String
+ getNotification_num(): int
+ setRecipientList(String): void
+ getRecipientList(): String
resolves
Report
+reportNum:int
+description:String
+status: String
+ operation1(params):returnType
- operation2(params)
- operation3()
releaseBillsObserver
+billsList:ArrayList<Bill>
+notifyUsers(String):void
+addBillPayer(String):void
pays
notifyAll
BankService
transfer
notofies
makes
<<Facade Interface>> Account
+accountNum:String
+accountBalance: double
+accountTransaction: String
+accountHolderID:int
+accountStatus:String
+getAccountNum():String
+getAccountBalance():int
+getAccountTransaction():String
Reminder
- description: String
- status: String
- date&time: datetime
- reminderType: String
+ setDescription(String): void
+ getDescription(): String
+ setStatus(String): void
+ getStatus(): String
+ getDate&Time(): datetime
+ setReminderType(String): void
+ getReminderType(): String
reportStolen
+reportStolen(int):void
+applyForReplacement():void
reportLoss
+reportTheft(int):void
+applyForReplacement():void
reportTechnicalIssue
+reportTechnicalIssue(String): void
CreditCardChargesReminder
BankAnnouncements
BillReminder
LoanChargesReminder
approvesOrRejects
requests
has
CurrentAccount
SavingsAccount
Transaction
+ amount:double
+time:String
+date:date
+currency:double
+status:String
+transaction():void
+viewBankAccountTransactions():String
+viewCreditCardTransactions():String
applies
CreditCard
+ creditCardNum: int
+ creditCardPoints: int
+creditCardStatus:String
+expiryDate:date
+pin:int
+holder_Name:String
+holder_Number:String
+creditLimit:int
+billingAddress:String
+ apply():void
+delete():void
+freeze():void
+getPin():int
+setAddress(String):void
+getAddress():String
+getExpiryDate():String
+getStatus():String
+getLimit():double
+setPin(int):void
+getDetails():String
+viewPoints():int
+redeemPoints():void
+payCreditCardBill():void
+viewCreditCardTransactions():String
+viewPaymentHistory():String
+reportTheft(int):void
+reportLoss(int):void
+reportDamage(int):void
+applyForCreditCardReplacement(int,String):void
+transferMoney(int,int,String):void
Loan
+ID:int
+amount:int
+interestRate:double
+loanType:String
+maturityDate:date
+paymentStatus: String
+decription : String
+payment_accountNum.:int
+paymentMethod: String
+startDate:date
+ applyLoan(String):void
+getAmount():double
+ getLoanCharges():double
+ getLoanInterest():double
+ payLoanCharges(double):void
+ getMaturityDate():date
+ getStartDate():date
+ getPaymentAccountNo():int
+ setPaymentAccountNo(int);void
+ getPaymentStatus():String
+ setPaymentStatus(String):void
+ setPaymentMethod(String):oid
+ getPaymentMethod(): String
+ setDescription(String):void
+ getDescription():String
+ getStartDate():date
Certificate
+certificateNum:int
+issuanceDate:date
+maturityDate
+amount:int
+duration:int
+interestRate:int
+withdrawalPenalty:int
+holderName:String
+renewalOptions:String
+ setIssuanceDate(date): void
+ getIssuanceDate(): date
+ setMaturityDate(date): void
+ getMaturityDate(): date
+ setAmount(int): void
+ getAmount(): int
+ setDuration(int): void
+ getDuration(): int
+ setInterestRate(int): void
+ getInterestRate(): int
+getWithdrawalPenalty(): int
+ setHolderName(String): void
+ getHolderName(): String
+ setRenewalOptions(String): void
+ getRenewalOptions(): String
+ applyCertificateWithCurrent(): void
+ applyCertificateWithSavings(): void
+ withdrawAmount(): String
Transfer
+ senderName:String
+ recepientName: String
+ recepientAccNum: String
+transferType: String
+currency: double
+transfer(String, double, String):void
International
+InternationalTransfer(String, double, String):void
Domestic
+domesticTransfer(String, double, String):void
Internal
+internalTransfer(String, double, String):void
Personal
Car


credit_card_points
card_number
points_balance
points_earned
points_redeemed
reward_status
card_number (FK)
credit_card
card_number
expiry_Date
holder_Name
status
account
password
credit_limit
credit_card_balance
holder_address
holder_phone_number
national_id (FK)
account_number (FK)
Transaction no. (O)(FK)
Manages
national_id (FK)
card_number (FK)
systemAdmin
national_id (FK)
Report_No. (FK)
thirdPartyApp
paymentMethodID (FK)
name
national_id (FK)
paymentMethod
paymentMethodID
bankAccount
paymentMethodID (FK)
Application
Application_No.
Type
Account_No.
Status
Amount
card_number (FK)
loan_id (FK)
national_id (FK)
User
national_id
first_name
username
password
address
phone_number
email
last_name
date_of_birth
national_id (O)(FK)
issue resolution
national_id (FK)
notifications
Date_time
status
description
(FK)
banker
national_id (FK)
Report_No. (FK)
bankAnnouncement
national_id (FK)
Loan
loan_id
loan_type
loan_amount
loan_interest_rate
maturity_date
repayment_terms
payment_amount
payment_due_date
purpose
loan_status
account_number (FK)
car
loan_id (FK)
personal
loan_id (FK)
technicalIssueResolution
Report_No. (FK)
Certificate
certificate_number
issuance_date
maturity_date
number_of_years
interest_rate
cert_owner_name
issuing bank
certificate_type
amount
renewal_options
withdrawal_penalty
account_number (O)(FK)
savingsAccount
account_number (FK)
currentAccount
account_number (FK)
client
national_id (FK)
Application_No. (O)(FK)
donates
national_id (FK)
Account Number (FK)
donation amount
Account Number
Charity Organization
Account Number
Name
Description
creditCard_Replacement
Report_No. (FK)
loss
Report_No. (FK)
theft
Report_No. (FK)
report
Report_No.
Status
Description
national_id (O)(FK)
Transaction
Transaction no.
Date_Time
Amount
Status
Recepient_Account_No.
Type
Account
account_number
balance
trans_history
accountStatus
national_id (FK)
Transaction no. (O)(FK)
Transfer
account_number_1 (FK)
Transferaccount_number_2 (FK)
bill
bill_ID
amount
payment_Status
description
paymentAccountNum
bill_type
NewAttribute
account_number (FK)
reminder
bill_ID (FK)
water
bill_ID (FK)
gas
bill_ID (FK)
telephone
bill_ID (FK)
electricity
bill_ID (FK)
remindercreditCardBill
(FK)
reminderPersonalBill
(FK)
reminder_DueLoans
(FK)



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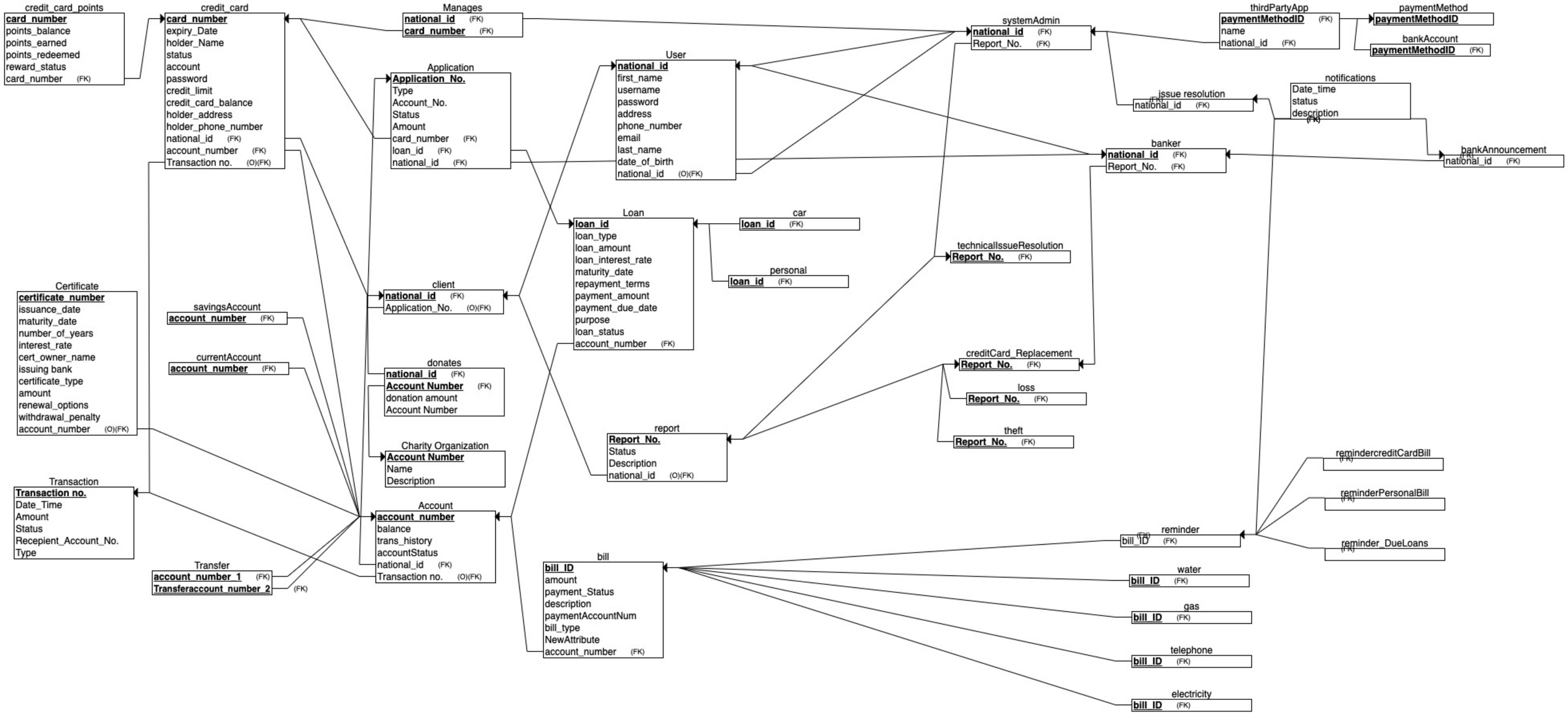
credit_card_points
card_number
points_balance
points_earned
points_redeemed
reward_status
card_number (FK)
credit_card
card_number
expiry_Date
holder_Name
status
account
password
credit_limit
credit_card_balance
holder_address
holder_phone_number
national_id (FK)
account_number (FK)
Transaction no. (O)(FK)
Manages
national_id (FK)
card_number (FK)
systemAdmin
national_id (FK)
Report_No. (FK)
thirdPartyApp
paymentMethodID (FK)
name
national_id (FK)
paymentMethod
paymentMethodID
bankAccount
paymentMethodID (FK)
Application
Application_No.
Type
Account_No.
Status
Amount
card_number (FK)
loan_id (FK)
national_id (FK)
User
national_id
first_name
username
password
address
phone_number
email
last_name
date_of_birth
national_id (O)(FK)
issue resolution
national_id (FK)
notifications
Date_time
status
description
(FK)
banker
national_id (FK)
Report_No. (FK)
bankAnnouncement
national_id (FK)
Loan
loan_id
loan_type
loan_amount
loan_interest_rate
maturity_date
repayment_terms
payment_amount
payment_due_date
purpose
loan_status
account_number (FK)
car
loan_id (FK)
personal
loan_id (FK)
technicalIssueResolution
Report_No. (FK)
Certificate
certificate_number
issuance_date
maturity_date
number_of_years
interest_rate
cert_owner_name
issuing bank
certificate_type
amount
renewal_options
withdrawal_penalty
account_number (O)(FK)
savingsAccount
account_number (FK)
currentAccount
account_number (FK)
client
national_id (FK)
Application_No. (O)(FK)
donates
national_id (FK)
Account Number (FK)
donation amount
Account Number
Charity Organization
Account Number
Name
Description
creditCard_Replacement
Report_No. (FK)
loss
Report_No. (FK)
theft
Report_No. (FK)
report
Report_No.
Status
Description
national_id (O)(FK)
Transaction
Transaction no.
Date_Time
Amount
Status
Recepient_Account_No.
Type
Account
account_number
balance
trans_history
accountStatus
national_id (FK)
Transaction no. (O)(FK)
Transfer
account_number_1 (FK)
Transferaccount_number_2 (FK)
bill
bill_ID
amount
payment_Status
description
paymentAccountNum
bill_type
NewAttribute
account_number (FK)
reminder
bill_ID (FK)
water
bill_ID (FK)
gas
bill_ID (FK)
telephone
bill_ID (FK)
electricity
bill_ID (FK)
remindercreditCardBill
(FK)
reminderPersonalBill
(FK)
reminder_DueLoans
(FK)