RELATIONAL SCHEMA

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- User (username, password, securityQ, <u>userID</u>, name, RegisterBehavior)

- User Phones (<u>userID, mobile</u>)

userID references userID in table User

- User Emails (<u>userID, email</u>)

userID references userID in table User

- Client (<u>userID</u>, accounts, loans, client transactions, observables)

- Banker (<u>userID</u>, blocked, <u>adminID</u>)

adminID references userID in table Admin

- Admin (<u>userID</u>, adminInstance)

- Guest (<u>GuestID</u>)

-Account (<u>accountNumber</u>, accountBalance, accountOwner, cards, accountObserver, accountCertifcates, accountTransactions, <u>clientID</u>, <u>patientID</u>)

      clientID references userID in table client

      patientID references userID in table VisuallyImpaired

- Current (<u>accountNumber</u>, cheques)

- Saving (<u>accountNumber</u>, interestRate)

- Cheque (<u>chequeID</u>, chequeAmount, chequeRetrievaleDate, chequeReciever, <u>AccountID</u>)

      AccountID references accountNumber in table current

-Certificate (<u>CertificateID</u>, certificateAmount, certificateType, endDate, interestRate, certificatePenalty, isCertificateRedempted, redemptionType, <u>AccountID</u>)

      AccountID references accountNumber in table current

-Transaction (<u>transaction_ID</u>, transactionMaker, name, email, mobile, <u>clientID</u>)

      clientID references userID in table Client

- Transfer (<u>transaction_ID,</u> transferAmount, transferred, transferCurrency, transferDate, transferStatus, fromAccountType, transferUpperLimit, transferCharge)

- Internal (<u>transaction_ID</u>, recipientAccountNumber)

- Domestic (<u>transaction_ID</u>, recipientAccountNumber, recipientBankNumber)

- International (<u>transaction_ID</u>, IBAN, recpientBankNumber)

- BillPayment (<u>transaction_ID</u>, billPayment, billingEntity, dueDate, paid)

- CreditCardBillPayment (<u>transaction_ID</u>, creditCardBill, creditCard, amountDue, dueDate, paid)

- Partial (<u>transaction_ID</u>, creditCardID)

- Full (<u>transaction_ID</u>)

- LoanPayment (<u>transaction_ID</u>, loanInstallment, paid)

- Report (<u>reportID</u>, issuer, issuanceDate, resolved, account, ReportObservers, <u>clientID</u>, <u>bankerID</u>)

    clientID references userID in table client

    BankerID references userID in table Banker

- TechnicalReport (<u>reportID</u>, reportDescription)

- CardTheftReport (<u>reportID</u>, TheftActivityOnCard)

- CardDamageReport (<u>reportID</u>, damagedCard)

- CardLossReport (<u>reportID</u>, lostCard)

- Reminder (<u>ReminderID</u>, reminderName, startDate, purposeOfReminder, amount, reminderCreator, reminderFrequency)

- BillReminder (<u>ReminderID</u>, billEntity, reminderOf)

- CreditCardReminder (<u>ReminderID</u>, creditCardBillPayment)

- LoanPayementReminder (<u>ReminderID</u>, loanPayment)

- Loan (<u>loanID</u>, loanAmount, loanRequested, installments, intersetRate, loanTenor, <u>clientID</u>, <u>bankerID</u>, <u>adminID</u>)

    clientID references userID in table client

    bankerID references userID in table Banker

    adminID references userID in table Admin

- PersonalLoan (<u>loanID</u>, loanPurpose)

- CarLoan (<u>loanID</u>, collateralCarPlateNumber, dealershipName)

- LoanInstallments (<u>installmentID</u>, loanAmount, dueDate, paid, <u>clientID</u>, <u>loanID</u>)

    clientID references userID in table client

    loanID references loanID in table Loan

- VoiceSignal (<u>voiceSignal_ID</u>,pitch, frequency, amplitude)

- BioMetric (<u>sensorID</u>, biometricDeviceScannerName, <u>patientID</u>)

    patientID references userID in table VisuallyImpaired

- fingerPrint (<u>sensorID</u>, x-cord, y-cord, angle, hand)

- facePrint (<u>sensorID</u>, faceWidth, faceLength, faceColour, faceFeatures)

- voicePrint (<u>sensorID</u>, voiceFrequency, voiceIntensity)

- Request (<u>requestID</u>, status, requestInitiator, requestPlacementDate, <u>clientID</u>)

      clientID references userID in table client

- LoanApplictaionRequest (<u>requestID</u>, loanType, requestedLoanInfoAndRequiredDocumnets)

- CreditCardApplicationRequest (<u>requestID,</u> requestedCreditCardAndRequirments)

- creditCardReplacementRequest (<u>requestID,</u> toBeReplacedCreditCard)

- certificateApplicationRequest (<u>requestID,</u> requestedCertificateAndRequirments)

- BankAnnouncements (<u>announcementID</u>, announcementInstance, message, observers)

- CreditCardInstallment (<u>installmentID</u>, installmentAmount, dueDate, paid, <u>cardNumber,</u> <u>clientID</u>)

      cardNumber references cardNumber in table Credit Card

      clientID references userID in table Client

- Bill (<u>billID</u>, billingEntity)

- Guardian (<u>guardianID</u>, Name)

- GuardianPhoneNumbers (<u>guardianID,</u> phoneNumber)

GuardianID references guardianID in table Guardian

- VisuallyImpaired (<u>userID</u>, biometrics, accounts,loans, transactions, command, observables)

- colorBlind (<u>userID</u>, color)

- Blind (<u>userID</u>, guardian, commands, <u>GuardianID</u>)

      GuardianID references guardianID in table Guardian

- CreditCard (<u>cardNumber</u>, cardAmount, cvv, expiryDate, cardOwner, spendingLimit, points, hasInstallments, <u>bankerID</u>, <u>adminID</u>, <u>accountID</u>)

      bankerID references userID in table Banker

      adminID references userID in table Admin

      accountID references accountNumber in table Account