Account management system

1. **Objective**

* Design and develop a simple account management system as per following specifications

1. **Actors / Roles**

* Visitor
  + Able to see home page of the bank and apply for new account
* Account Holder
  + Able to login to internet banking
  + View / download statements of one or more accounts
  + Transfer / Withdraw / Deposit Funds
  + Register Biller
  + Make Payments to a Biller
* Administrator
  + Process New Account Applications
* System

1. **Use Cases**

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Title** | **Actors** | **Functionality** |
| 1 | New Account Opening Application | Visitor | Following information to be captured while requesting opening of new account   * Title (Mr/Mrs/Ms etc) * Full Name of the person * Date of birth * Email address * Mobile Number * Pan Card Number * Aadhar Card Number * Upload scanned copies of Pan card & Aadhar Card * Application ID (system generated)   Allow successful submission if age >18. Application number will be auto generated and an email will be sent to the email applicant that new account opening application has been received |
| 2 | Approve New Account Application | Administrator | * Search details of applications received between 2 dates * On click should open selected application and show details * Accept amount deposited for account opening > 1000 * On Successful submission   + System will create a new account (6 digit auto generated)   + Account balance would be updated with initial deposit amount   + If there does not exist user id same as applicant email id new user id with applicant email address will be created. If user id is newly created send mail to applicant informing about user id   + Send email to applicant mentioning new account number   + System will keep track of all accounts linked to same user id (email address) |
| 3 | First time access to internet banking | Account Holder | * User enters email * For verification system will ask for new account number and pan card number * Once verified user can set password * Password will be 8 – 12 characters with at least 1 capital letter, at least 1 small case letter, at least 1 digit and at least 1 special character #, +, - , \_ * Passwords will stored hashed in DB |
| 4 | Subsequent Login to internet banking | Account Holder | * User enters email address and password * On successful authentication user can see landing page * Landing page will display all accounts linked to the user id * Landing page will have menu and / or left side navigation panel |
| 5 | Change Password | Account Holder | * Authenticated User can change existing password * System will prompt for old password, new password and new password confirmation * Password rules will be as mentioned above |
| 6 | Deposits / Withdrawal | Account Holder | * Authenticated user can withdraw or deposit (assumed cash) * User will select the account from dropdown to which deposit or withdraw from * Enter amount > 0 * For withdrawal maximum allowed amount will be account balance – 1000 * Enter remarks * On success account will be credited or debited |
| 7 | Register Payee | Account Holder | * User can transfer funds to any valid account holder within the bank * First user has to register payee with following details Short Name and account number (assumed payee account is in same bank) * If Payee account number exists the Payee will be registered |
| 8 | Transfer Funds Own Accounts | Account Holder | * Select own account from which transfer has to happen (dropdown) * Select own target account to which amount is to be transferred * Enter amount > 0 * Enter Remarks * On success source account will be debited and target account will be credited * System will send email to the account holder that their specific account has been debited or credited |
| 9 | Transfer Funds Others | Account Holder | * Select own account from which transfer has to happen (dropdown) * Select payee from list of registered payees (dropdown) * Enter amount > 0 * Enter Remarks * On success source account will be debited and target account will be credited * System will send email to both account holders that their specific account has been debited or credited |
| 10 | Account Statements | Account Holder | * Authenticated users can view their account history * From Landing page they can select account for which they want to view statement * Enter From and To Dates * Onscreen Table / Grid will be populated * User can download in XLS and PDF format |
| 11 | Register Biller | Account Holder | * A Biller is service provider to whom account holder can pay monthly bills through his / her account * There will be pre-populated master list of billers at the bank level * Register biller screen   + Select biller from master list of biller   + Enter reference number for the biller (reference number could be mobile number or consumer account number for which payment will be made)   + Biller will be registered for the account holder login |
| 12 | Payment to registered biller | Account Holder | * Select from list of registered billers * Select account number from which payment is made * Enter bill number * Enter amount to be paid > 0 * On success record bill payments * Debit the account |
| 13 | Payments Statements | Account Holder | * Select date range * Select 1 or all registered billers * Display list of bills paid between specified dates * Export to XLS & PDF |
| 13 | System Functions | System | * Maintain log of all debits / credits account wise with date time stamps. Each transaction will have unique transaction reference number * Maintain audit log of user log in and log off with date time stamps |

1. **Business Rules & Validations**

* Name - Only alphabets and spaces
* Email – valid Email address
* Pan Number – Of the format XXXXXNNNNX – where X is alphabet and N is digit
* Aadhar Card number – 16 digits
* Amount > 0 (Maintain minimum 1000 balance in account)
* Bill Number – Only Alphabets & Digits

1. **Pre-populated Master List of Billers**

|  |
| --- |
| AirteL |
| jio |
| vi |
| tata sky |
|  |

1. **Other Info**
   1. All application errors must be appropriately logged and user friendly messages must be shown on screen.
   2. Note assumptions you are making.