**Software Requirement Engineering (SE-301-A)**

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Topic:

**Project Deliverable – 3 (2/2)**

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**BS Software Engineering (III)**

**GIFT University, Gujranwala**

**Functional Requirements:**

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| **Features** | **Actors** | ***Functional Requirements*** |
| Register | User, Admin | * The system shall provide a registration feature for users to create new accounts. * The system shall require users to provide necessary details including Name, CNIC, Email, Password, and verify these details. * The system shall validate the provided information during registration. * The system shall create a new account upon successful validation of user information. |
| Login | User, Admin | * The system shall provide a login feature for users to access their accounts. * The system shall require users to enter their credentials, including Email/username and password, for login. * The system shall validate the entered credentials during the login process. * The system shall allow users to log in only if the provided credentials are correct. |
| Funds Transfer | User, Admin | * The system shall provide a functionality for users to transfer funds between accounts. * The system shall support both intra-bank and inter-bank fund transfer. * The system shall verify the availability of sufficient balance in the user's account before processing the fund transfer. * The system shall require user confirmation, possibly through OTP verification or biometric verification, for completing the fund transfer. |
| Payment | User, Admin | * The system shall provide a feature for users to pay utility bills and institute fees online. * The system shall verify the availability of sufficient balance in the user's account before processing bill payments. * The system shall support various utility bill categories for payments. |
| Card Information | User | * The system shall allow users to view their card information. * The system shall allow users to block their cards in case of theft or loss. |
| Payment History | User | * The system shall provide users with access to their transaction history or E-Statement. * The system shall allow users to view and download transaction history. |
| Notification | User, Admin, Help Center | * + The system shall provide users with transaction notifications.   + The system shall allow users to set up notification preferences. |
| Customer Support | User | * The system shall provide a feature for users to contact customer support. * The system shall generate support tickets for user inquiries or issues. |
| Logout | User, Admin | * + The system shall provide a logout feature for users to securely log out of their accounts.   + The system shall prompt users to confirm their intention to logout before proceeding with the logout action. |

**User Case Description/Scenario**

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| UC-01: **Registration** | | | | | |
| **Primary Actors:**  User | | | | **Secondary Actors:**  Admin | |
| **Feature:** Registration | | | | | |
| **Use case Id:** | | UC-01 | | | |
| **Description:** | | Allows users to create a new account easily. | | | |
| **Pre-condition:** | | Must have an active internet connection. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **1.1** | User navigates to the registration page. | | | |  |
| **1.2** | User provides necessary details (Name, CNIC, Email, Password, Verification of these details). | | | |  |
| **1.3** | User clicks on the “Register” button. | | | | System validates the information and creates a new account. |
| **Alternate Scenarios:** | | | | | |
| The provided information is not eligible i.e. user in under 18. | | | | | |
| **Exceptional Scenarios:** | | | | | |
| 1. The entered username/email is already used. 2. The entered details is in wrong format. 3. The system detects suspicious activity. 4. Verification of email/phone number was not completed in time. | | | | | |
| **Post Conditions:** | | | | | |
| **Step#** | **Description** | | | | |
| **1** | User’s account is successfully created. | | | | |
| **User Interface reference** | | | Registration Page | | |

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| UC-02: Login | | | | | |
| **Primary Actors:**  User | | | | **Secondary Actors:** ,Admin | |
| **Feature:** Login | | | | | |
| **Use case Id:** | | UC-02 | | | |
| **Description:** | | Allows Users to create a new account easily. | | | |
| **Pre-condition:** | | 1. User must have an active internet connection. 2. User’s account is already registered in the system. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **2.1** | User Navigates to the login page. | | | |  |
| **2.2** | User enters his details (Email/username, password). | | | |  |
| **2.3** | User clicks on the “Login” button. | | | | System validates the information and logs into the account. |
| **Alternate Scenarios:** | | | | | |
| 1. User uses saved information to login | | | | | |
| **Exceptional Scenarios:** | | | | | |
| 1. User entered incorrect credentials 2. User’s account is suspended due to inactivity. 3. User is logging in from a new device. | | | | | |
| **Post Conditions:**  User gets logged into the account after successful verification. | | | | | |
| **Step#** | **Description** | | | | |
| **1** | User’s account is successfully Logged in. | | | | |
| **User Interface reference** | | | Login Page | | |

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| UC-03: Fund Transfer | | | | | |
| **Primary Actors:**  User | | | | **Secondary Actors:** Admin | |
| **Feature:** Fund Transfer | | | | | |
| **Use case Id:** | | UC-03 | | | |
| **Description:** | | Allows User to transfer funds between accounts. | | | |
| **Pre-condition:** | | User is logged into the application using his credentials. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **3.1** | User navigates to the transfer of funds functionality. | | | |  |
| **3.2** | User selects the type of transaction i.e. intra-bank/inter-bank. | | | |  |
| **3.3** | User enters the receivers’ account number and amount confirms to send. | | | | System verifies if enough balance is available in his account. |
| **3.4** | After fetching the final details, user confirms the transaction using OTP verification/biometric verification. | | | | System completes the transaction and updates the account balance. |
| **Alternate Scenarios:** | | | | | |
| 1. Account balance is not enough. | | | | | |
| **Exceptional Scenarios:** | | | | | |
| 1. User has exceeded transfer limit. 2. Payee’s or Payor’s account is locked/on hold. 3. User gave duplicate transfer requests. | | | | | |
| **Post Conditions** | | | | | |
| **Step#** | **Description** | | | | |
| **1** | Funds are successfully transferred within the User account. | | | | |
| **User Interface reference** | | | Home Page, Transfer Section | | |

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| UC-04:Payments | | | | | |
| **Primary Actors:**    User | | | | **Secondary Actors:** Admin | |
| **Feature:** Payments for bills, school fees etc. | | | | | |
| **Use case Id:** | | UC-04 | | | |
| **Description:** | | Allows user to pay utility bills and institute fee online. | | | |
| **Pre-condition:** | | User is logged into the account. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **4.1** | User navigates to the bill payment option. | | | |  |
| **4.2** | User selects the utility bill category. | | | |  |
| **4.3** | User provides necessary bill details and confirms the payment. | | | | System verifies if enough balance is available in his account. |
| **4.4** | After fetching all the details, user completes the payment using OTP Verification/Biometric Verification. | | | | System completes the transaction, pays the bill and updates the account balance. |
| **Alternate Scenarios:** | | | | | |
| 1. User did not have enough balance in his account. | | | | | |
| **Exceptional Scenarios:** | | | | | |
| None | | | | | |
| **Post Conditions** | | | | | |
| **Step#** | **Description** | | | | |
| **1** | Utility bills are successfully paid online. | | | | |
| **User Interface reference** | | | Bill Payment Section | | |

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| UC-05: Card Information | | | | | |
| **Primary Actors:** User | | | | **Secondary Actors:** None | |
| **Feature:** Card Information | | | | | |
| **Use case Id:** | | UC-05 | | | |
| **Description:** | | Allows user to view and block their card. | | | |
| **Pre-condition:** | | 1. User is logged into the account. 2. User already is a debit/credit card holder. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **5.1** | User navigates to the card’s information option. | | | |  |
| **5.2** | User selects between his cards and reveal its information. | | | | System prompts the user to verify though some pin/biometric verification and copies the details to the clipboard of device. |
| **5.3** | User blocks the card in case of stolen/lost. | | | | System after verification blocks the card. |
| **Alternate Scenarios:** | | | | | |
| None | | | | | |
| **Exceptional Scenarios:** | | | | | |
| 1. User has not issued a card. 2. User’s card was marked stolen. 3. User’s card was blocked due to suspicious activity. | | | | | |
| **Post Conditions** | | | | | |
| **Step#** | **Description** | | | | |
| **1** | User manages his card’s information and usability. | | | | |
| **User Interface reference** | | | Cards Information Section | | |

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| UC-06: Payment History/E-Statement | | | | | |
| **Primary Actors:** User | | | | **Secondary Actors:** None | |
| **Feature:** Payment History/E-Statement | | | | | |
| **Use case Id:** | | UC-06 | | | |
| **Description:** | | Allows user to view his previous transactions. | | | |
| **Pre-condition:** | | User is logged into his account. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **6.1** | User navigates to the payment history option. | | | |  |
| **6.2** | User selects the from/to dates to view the details of transactions during that period. | | | | System displays all the history of the former transactions to the user and generates pdf file to download. |
| **Alternate Scenarios:** | | | | | |
| None | | | | | |
| **Exceptional Scenarios:** | | | | | |
| 1. User enters the date in wrong format. 2. User demands data that is not available. | | | | | |
| **Post Conditions** | | | | | |
| **Step#** | **Description** | | | | |
| **1** | User can view and download his transaction history/E-Statement | | | | |
| **User Interface reference** | | | Payment History Section | | |

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| UC-07: Transaction Notifications | | | | | |
| **Primary Actors:** User | | | | **Secondary Actors:** Admin | |
| **Feature:** Alerts and Notifications | | | | | |
| **Use case Id:** | | UC-07 | | | |
| **Description:** | | Allows User to receive notifications for every transaction and any update about system maintenance etc. | | | |
| **Pre-condition:** | | User is successfully registered in the system. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **7.1** | User sets up transaction notification preferences. | | | | System sends notifications for transactions exceeding a defined threshold. |
| **Alternate Scenarios:** | | | | | |
| 1. User has disabled receiving notifications option. | | | | | |
| **Exceptional Scenarios:** | | | | | |
| 1. The user has not provided an email/phone number for notifications. | | | | | |
| **Post Conditions** | | | | | |
| **Step#** | **Description** | | | | |
| **1** | User receives timely notifications for transactions and scheduled system maintenance. | | | | |
| **User Interface reference** | | | Notification Preferences | | |

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| UC-08:Contact Customer Support | | | | | |
| **Primary Actors:** User | | | | **Secondary Actors:** Help Centre | |
| **Feature:** Customer Support | | | | | |
| **Use case Id:** | | UC-08 | | | |
| **Description:** | | Allows customers to contact customer support for assistance. | | | |
| **Pre-condition:** | | User is a registered account holder in the system. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **8.1** | Customer initiates a support request through the system. | | | |  |
| **8.2** | Customer provides details of the issue or inquiry. | | | | System generates a support ticket and notifies the customer. |
| **Alternate Scenarios:** | | | | | |
| None | | | | | |
| **Exceptional Scenarios:** | | | | | |
| None | | | | | |
| **Post Conditions** | | | | | |
| **Step#** | **Description** | | | | |
| **1** | Customer's support request is successfully logged. | | | | |
| **User Interface reference** | | | Customer Support Section | | |

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| UC-09:Logout | | | | | |
| **Primary Actors:** User | | | | **Secondary Actors:** Admin | |
| **Feature:** Logout | | | | | |
| **Use case Id:** | | UC-09 | | | |
| **Description:** | | Allows user to logout securely. | | | |
| **Pre-condition:** | | User was already logged into the account. | | | |
| **Scenarios** | | | | | |
| **Step#** | **Action** | | | | **Software Reaction** |
| **9.1** | User navigates and selects the "Logout" button. | | | | Prompts the user to confirm their intention to logout. |
| **9.2** | User confirm their action again. | | | | Log the user out of their account. |
| **Alternate Scenarios:** | | | | | |
| None | | | | | |
| **Exceptional Scenarios:** | | | | | |
| None | | | | | |
| **Post Conditions:** | | | | | |
| **Step#** | **Description** | | | | |
| **1** | User is successfully logged out of their account. | | | | |
| **User Interface reference** | | | Logout | | |