**AI-Driven Personal Finance Assistant**

**Data Definition Document (DDD)**

**Date: April 14, 2025**

**1. User Table**

Holds data about users who register in the system.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| User\_id | INT (PK, AI) | Unique identifier for each user |
| Full\_name | VARCHAR(100) | Full name of the user |
| Email | VARCHAR(100) | User email address (unique) |
| Phone\_number | VARCHAR(20) | User phone number (unique) |
| Country | VARCHAR(50) | Country of the user |
| Password | VARCHAR(255) | Hashed user password |
| Is\_verified | BOOLEAN | Email/phone OTP verification status |
| Created\_at | DATETIME | Account creation timestamp |

**2. Bank Account Table**

Stores securely linked bank account info.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Bank\_id | INT (PK, AI) | Unique bank account record ID |
| User\_id | INT (FK) | References user\_id from User |
| Bank\_name | VARCHAR(100) | Name of the bank |
| Account\_number | VARCHAR(30) | Encrypted account number |
| Account\_type | VARCHAR(50) | Savings / Current, etc. |
| Is\_verified | BOOLEAN | Verification status via OTP |
| Added\_on | DATETIME | Date of linking |

**3. Transactions Table**

Tracks both imported and manually added transactions.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Transaction\_id | INT (PK, AI) | Unique ID for each transaction |
| user\_id | INT (FK) | References user\_id from User |
| Bank\_id | INT (FK) | Nullable (null if manual) |
| type | ENUM | 'income' / 'expense' |
| amount | DECIMAL(10,2) | Amount of transaction |
| category | VARCHAR(50) | Categorized label (AI/manual) |
| description | TEXT | Description (optional) |
| date | DATE | Date of transaction |
| Is\_manual | BOOLEAN | Flag if user-entered manually |

**4. Budget Table**

Stores user-defined or AI-suggested budget settings.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Budget\_id | INT (PK, AI) | Unique ID |
| user\_id | INT (FK) | References user\_id from User |
| category | VARCHAR(50) | Budget category |
| Budget\_amount | DECIMAL(10,2) | Budgeted amount |
| Month | VARCHAR(7) | Format: YYYY-MM |
| Is\_ai\_suggested | BOOLEAN | Flag if auto-suggested by AI |

**5. Notifications Table**

Holds generated alerts for spending and bill reminders.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Notification\_id | INT (PK, AI) | Unique ID |
| user\_id | INT (FK) | Recipient user |
| title | VARCHAR(100) | Short title of the notification |
| message | TEXT | Message content |
| type | ENUM | 'budget\_alert', 'bill\_reminder', etc. |
| Sent\_on | DATETIME | Timestamp when sent |
| Is\_read | BOOLEAN | Whether the user has seen it |

**6. Bills Table**

Stores recurring bills and reminders.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Bill\_id | INT (PK, AI) | Unique ID |
| user\_id | INT (FK) | References user\_id from User |
| Bill\_type | VARCHAR(50) | E.g., Electricity, Internet |
| amount | DECIMAL(10,2) | Expected amount |
| Due\_date | DATE | Recurring due date |
| Is\_paid | BOOLEAN | Payment status |
| Is\_ai\_detected | BOOLEAN | Auto-detected by AI or not |

**7. Insights Table**

Stores generated AI-based financial suggestions.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Insight\_id | INT (PK, AI) | Unique ID |
| user\_id | INT (FK) | References user\_id from User |
| Insight\_text | TEXT | Message/Insight |
| Created\_on | DATETIME | Timestamp |
| Is\_actioned | BOOLEAN | Whether user acted on it |

**8. Financial Goals Table**

Defines savings or investment goals for users.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Goal\_id | INT (PK, AI) | Unique goal ID |
| User\_id | INT (FK) | References user\_id from User |
| Goal\_name | VARCHAR(100) | Goal title (e.g., “Vacation Fund”) |
| Target\_amount | DECIMAL(10,2) | Total amount to save |
| deadline | DATE | Target completion date |
| Saved\_amount | DECIMAL(10,2) | Amount saved so far |
| Linked\_category | VARCHAR(50) | Optional category association |

**9. Export History Table**

Tracks what financial data has been exported by users.

| **Field Name** | **Data Type** | **Description** |
| --- | --- | --- |
| Export\_id | INT (PK, AI) | Unique ID |
| User\_id | INT (FK) | Exporting user |
| Export\_type | ENUM | 'PDF' / 'Excel' |
| Data\_sections | TEXT | E.g., “Overview, Transactions” |
| Time\_range | VARCHAR(50) | E.g., “Last 30 Days” |
| Exported\_on | DATETIME | Timestamp of export |