**  
  
Break The Bill**

**Smart Group Expense Manager with Accountability**

**Problem:** Group trips and events often end in money fights because no one tracks who paid what.

**Solution:**

* People create/join a group
* Each person logs expenses
* System automatically splits, logs who owes whom, and visualizes debts
* Optional: Add payment integrations (e.g., Razorpay mock)
* Advanced: Add filters like “paid but didn’t attend” or “owed extra for helping”

**Stack:**React + Spring Boot + MySQL + Chart.js + Auth + Notifications

**Why it’s amazing:** Much more than a split-wise clone — custom accountability, scalable for clubs, flatmates, etc.

**FEATURES**

**🚀 1. CORE FEATURES (MUST-HAVE)**

**🔐 User Authentication**

* Sign Up / Login / Logout
* JWT-based Auth (token stored securely)
* Password hashing
* Forgot Password (optional)

**👥 Group Management**

* Create group
* Join group via unique code or invite email
* Group roles: **Owner**, **Member**
* View list of joined groups

**💸 Expense Logging**

* Add Expense: title, amount, paid by, date, description
* Select who it was for (all / selected members)
* Set category (e.g., Food, Travel, Stay, Misc)
* Custom notes or tags

**🧠 Smart Splitting Logic**

* Equal Split (default)
* Custom Split by percentage or amount
* Exclude someone from a particular bill (e.g., “didn’t attend”)
* Add bonus share (e.g., “extra ₹50 to driver”)

**🎨 2. UI/UX FEATURES (VISUAL & EXPERIENCE)**

**📊 Expense Visualization**

* Pie Chart: Category-wise spending
* Bar/Line Graph: Expenses over time
* Matrix/Graph: Who owes whom
* Personal Dashboard with summaries

**🎨 Design & Responsiveness**

* Mobile-first responsive layout
* Framer Motion for smooth transitions
* Hover effects, Toasts, Modals
* Intuitive button placement (e.g., "Settle All Dues")

**🔔 Notification & Updates**

* In-app notifications for:
  + "X added an expense"
  + "Y paid Z"
  + "Your share was updated"
* Email notification (optional)

**💰 3. ADVANCED FEATURES (WOW FACTOR)**

**🧾 Receipt Upload**

* Attach image of the bill to each expense
* View uploaded receipts in expense details

**💳 Settlement System**

* Manual mark as “Paid”
* Settle up with friend or group
* Partial settlement support
* Razorpay Mock Integration (real payment simulation)

**📥 Export Options**

* Export group summary as PDF
* Download CSV of all expenses
* Generate visual report for monthly splits

**🔍 Search & Filters**

* Filter by Category, Date, Person
* Search expenses by keyword/title

**🔐 4. LOGS, ADMIN, SECURITY**

**👮‍♀️ Activity Logs**

* View who edited or deleted an expense
* Version history (optional)

**⚙️ Admin Panel (for owner)**

* Manage members (remove/kick)
* Transfer group ownership
* Rename/delete group

**📜 Audit & History**

* Logs of all major actions
* Admin can view complete group ledger

**USER STORIES  
  
🚀 1. CORE FEATURES (MUST-HAVE)**

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **As a/an...** | **I want to be able to...** | **So that...** |
| US01 | New User | Sign up with email and password | I can create an account |
| US02 | Registered User | Log in using credentials | I can access my dashboard securely |
| US03 | User | Log out securely | My session ends properly |
| US04 | User | Reset password via email | I can recover my account if I forget the password |
| US05 | Logged-in User | Create a new group | I can start tracking shared expenses with friends |
| US06 | User | Join a group using a code or invite | I can collaborate in existing groups |
| US07 | Group Owner | Assign roles like owner or member | I can manage group permissions effectively |
| US08 | User | View a list of all joined groups | I can switch between groups easily |
| US09 | Group Member | Add a new expense | Everyone can see and track what’s been spent |
| US10 | User | Select who an expense was for | Only relevant people are charged |
| US11 | User | Choose or create a category | I can organize expenses by type |
| US12 | User | Add custom notes or tags to expenses | I can remember details about each expense |
| US13 | User | Split an expense equally | Everyone pays their fair share |
| US14 | User | Customize how expenses are split | I can accommodate special cases |
| US15 | User | Exclude someone from a split | I avoid charging someone who didn’t participate |
| US16 | User | Add bonus shares to someone | They are compensated fairly (e.g., driver or organizer) |

**🎨 2. UI/UX FEATURES (VISUAL & EXPERIENCE)**

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **As a/an...** | **I want to be able to...** | **So that...** |
| US17 | User | View pie chart of expenses by category | I can understand my spending distribution |
| US18 | User | See expenses over time on a line graph | I can track trends and spending behavior |
| US19 | User | Visualize who owes whom in a matrix | I can clearly see debt relationships |
| US20 | User | Have a personal dashboard | I can quickly see my balances and summaries |
| US21 | User | Use the site on mobile and desktop | I can access the app on any device |
| US22 | User | Enjoy smooth animations and transitions | The app feels modern and responsive |
| US23 | User | Get real-time notifications in-app | I stay updated on group activities |
| US24 | User | Receive email updates (optional) | I don’t miss important actions outside the app |

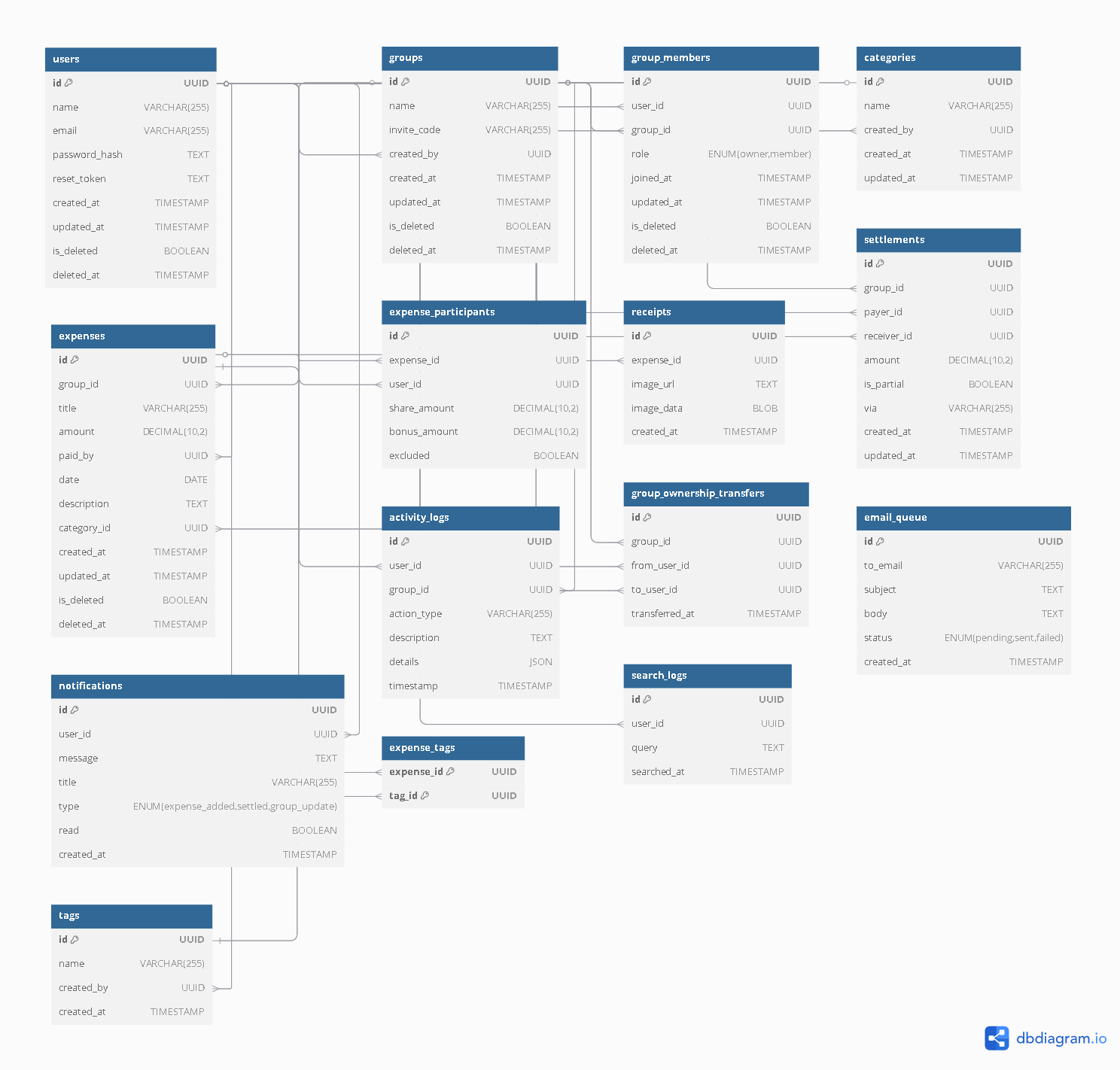
**💰 3. ADVANCED FEATURES (WOW FACTOR)**

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **As a/an...** | **I want to be able to...** | **So that...** |
| US25 | User | Upload a receipt image with an expense | I can reference the original bill later |
| US26 | User | View uploaded receipt in expense details | I can verify purchases |
| US27 | User | Mark a payment as settled | I can track cleared dues |
| US28 | User | Settle up with a group member | I can pay what I owe directly |
| US29 | User | Support partial settlements | I can pay in smaller chunks |
| US30 | User | Simulate payments using Razorpay mock | I can experience real-payment flow |
| US31 | User | Export group summary as PDF | I can share expense reports |
| US32 | User | Download expenses as CSV | I can analyze the data offline |
| US33 | User | Generate a visual monthly report | I get a clean summary for records |
| US34 | User | Filter expenses by date, person, or category | I can narrow down what I’m looking for |
| US35 | User | Search expenses by keyword/title | I can quickly find specific transactions |

**🔐 4. LOGS, ADMIN, SECURITY**

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **As a/an...** | **I want to be able to...** | **So that...** |
| US36 | Group Member | View who edited/deleted an expense | I know who made changes for transparency |
| US37 | Admin (Owner) | Remove members from group | I can control who’s part of the group |
| US38 | Admin (Owner) | Transfer group ownership | I can delegate responsibilities |
| US39 | Admin | Rename or delete the group | I can manage outdated or unwanted groups |
| US40 | Admin | View logs of all major actions | I can audit for fairness and accuracy |
| US41 | Admin | View the full group ledger | I can review all financial activity in one place |

**ER DIAGRAM**



Project BreakTheBill {

  database\_type: "MySQL"

}

Table users {

  id UUID [pk]

  name VARCHAR(255)

  email VARCHAR(255) [unique, note: "Indexed"]

  password\_hash TEXT

  reset\_token TEXT [note: "Nullable"]

  created\_at TIMESTAMP

  updated\_at TIMESTAMP

  is\_deleted BOOLEAN [default: false]

  deleted\_at TIMESTAMP [note: "Nullable"]

}

Table groups {

  id UUID [pk]

  name VARCHAR(255)

  invite\_code VARCHAR(255) [unique]

  created\_by UUID [ref: > users.id, note: "Indexed"]

  created\_at TIMESTAMP

  updated\_at TIMESTAMP

  is\_deleted BOOLEAN [default: false]

  deleted\_at TIMESTAMP [note: "Nullable"]

}

Table group\_members {

  id UUID [pk]

  user\_id UUID [ref: > users.id, note: "Indexed"]

  group\_id UUID [ref: > groups.id, note: "Indexed"]

  role ENUM('owner', 'member') [note: "Only one 'owner' per group allowed"]

  joined\_at TIMESTAMP

  updated\_at TIMESTAMP

  is\_deleted BOOLEAN [default: false]

  deleted\_at TIMESTAMP

}

Table categories {

  id UUID [pk]

  name VARCHAR(255)

  created\_by UUID [ref: > users.id, note: "Optional, Indexed"]

  created\_at TIMESTAMP

  updated\_at TIMESTAMP

}

Table expenses {

  id UUID [pk]

  group\_id UUID [ref: > groups.id, note: "Indexed"]

  title VARCHAR(255)

  amount DECIMAL(10,2)

  paid\_by UUID [ref: > users.id, note: "Indexed"]

  date DATE

  description TEXT

  category\_id UUID [ref: > categories.id, note: "Indexed"]

  created\_at TIMESTAMP

  updated\_at TIMESTAMP

  is\_deleted BOOLEAN [default: false]

  deleted\_at TIMESTAMP

}

Table expense\_participants {

  id UUID [pk]

  expense\_id UUID [ref: > expenses.id, note: "Indexed"]

  user\_id UUID [ref: > users.id, note: "Indexed"]

  share\_amount DECIMAL(10,2)

  bonus\_amount DECIMAL(10,2) [note: "Optional"]

  excluded BOOLEAN

}

Table receipts {

  id UUID [pk]

  expense\_id UUID [ref: > expenses.id, unique]

  image\_url TEXT [note: "Optional, if using cloud storage"]

  image\_data BLOB [note: "Optional, for storing image in DB"]

  created\_at TIMESTAMP

}

Table settlements {

  id UUID [pk]

  group\_id UUID [ref: > groups.id, note: "Indexed"]

  payer\_id UUID [ref: > users.id]

  receiver\_id UUID [ref: > users.id]

  amount DECIMAL(10,2)

  is\_partial BOOLEAN

  via VARCHAR(255) [note: "Manual / Razorpay (mock)"]

  created\_at TIMESTAMP

  updated\_at TIMESTAMP

}

Table notifications {

  id UUID [pk]

  user\_id UUID [ref: > users.id, note: "Indexed"]

  message TEXT

  title VARCHAR(255) [note: "Optional short title"]

  type ENUM('expense\_added', 'settled', 'group\_update')

  read BOOLEAN

  created\_at TIMESTAMP

}

Table activity\_logs {

  id UUID [pk]

  user\_id UUID [ref: > users.id, note: "Indexed"]

  group\_id UUID [ref: > groups.id, note: "Indexed"]

  action\_type VARCHAR(255)

  description TEXT [note: "Optional longer explanation"]

  details JSON

  timestamp TIMESTAMP

}

Table group\_ownership\_transfers {

  id UUID [pk]

  group\_id UUID [ref: > groups.id]

  from\_user\_id UUID [ref: > users.id]

  to\_user\_id UUID [ref: > users.id]

  transferred\_at TIMESTAMP

}

Table email\_queue {

  id UUID [pk]

  to\_email VARCHAR(255)

  subject TEXT

  body TEXT

  status ENUM('pending', 'sent', 'failed')

  created\_at TIMESTAMP

}

Table tags {

  id UUID [pk]

  name VARCHAR(255)

  created\_by UUID [ref: > users.id]

  created\_at TIMESTAMP

}

Table expense\_tags {

  expense\_id UUID [ref: > expenses.id]

  tag\_id UUID [ref: > tags.id]

  Note: "Composite Primary Key"

  Indexes {

    (expense\_id, tag\_id) [pk]

  }

}

Table search\_logs {

  id UUID [pk]

  user\_id UUID [ref: > users.id, note: "Indexed"]

  query TEXT

  searched\_at TIMESTAMP

}

**BOLT AI – TEXT TO FRONTEND**

**To create a react project with tailwind CSS:**

<https://v3.tailwindcss.com/docs/guides/create-react-app>

**For Sign Up and Login pages:**

Design two responsive pages: Sign Up and Login for a modern web app called "Break The Bill" – a smart group expense tracker.

**🎨 Theme:**

- Dark mode primary: deep black/dark gray background

- Accent: multiple shades of green (match the logo)

- Text: white and soft gray

- Font: sleek, rounded sans-serif (e.g., Poppins or Inter)

- Buttons: vibrant green with hover transitions

- Input fields: minimal design with green borders and focus transitions

- Include subtle box shadows for inputs and buttons

- Use Framer Motion or similar for smooth fade/slide transitions

**🖥 Layout:**

- Centered card layout

- Left section: Welcome message / logo or animated quote

- Right section: Form (email, password, confirm password for signup)

- Include social icons (Google, GitHub – optional)

- Links: “Already have an account?” and “Forgot password?”

**📱 Mobile First:**

- Mobile-first responsive design

- Stack layout on small screens

- Smooth transitions for inputs and modals

**🔐 Functionality:**

- Sign Up Form: name, email, password, confirm password, Sign Up button

- Login Form: email, password, Login button, Forgot password link

- Placeholder animations or floating labels

**🎨 Color Palette (hex):**

- Background: #0D0D0D or #111111

- Accent Green (primary): #00FF84 or #00C97F

- Secondary Green: #1DBE6A

- White: #FFFFFF

- Gray Text: #CCCCCC or #888888

- Button Hover: gradient or brighter green

Include animation on form load, button hover, and input focus. Ensure consistency with the overall web app’s identity: modern, smart, and trustworthy.

**Home Page**

Create a \*\*hyper-aesthetic, fully responsive\*\* landing page for the web app “Break The Bill” – a smart group expense manager. It should feel elegant, futuristic, and clean — appealing to students, flatmates, and travel groups.

**📌 Visual Style:**

- ✨ Futuristic Dark Theme (Tech-inspired with glowing highlights)

- Rounded, minimal cards and sections

- Smooth \*\*Framer Motion-style scroll animations\*\* (fade-in-up, slide-ins, parallax)

- Micro-interactions on buttons and icons

- Text sizing: modern, accessible, but not oversized

- Layout optimized for mobile-first and fluid scaling

🎨 \*\*Color Palette (Match logo + brand)\*\*:

- Background: #0D0D0D (Jet Black)

- Text: #FFFFFF (Primary), #CCCCCC (Secondary)

- Accent Green:

- #00FF84 (Primary action green)

- #00C97F / #1DBE6A (Secondary accents)

- Button Hover: #00FFB2 or animated gradient transitions

- Soft shadows: glowing green/white inner glows for buttons/cards

**🔝 1️⃣ Hero Section**

- Background: black with \*\*dynamic blurred green-glow blob\*\* or \*\*animated gradient mesh\*\*

- Add floating SVG shapes or 3D glassmorphism blobs

- Headline:

“Effortless Bill Splitting for Friends, Families & Flatmates”

\*(Elegant font, weight 700, font-size around 3.5vw on desktop, responsive on mobile)\*

- Subheadline:

“Split bills fairly, track expenses smartly, and settle instantly.”

- Buttons:

- Primary: “Get Started Free” (green glow, subtle hover pop)

- Secondary: “Try Demo” (outlined green, underline on hover)

- Right Side: Add \*\*floating app mockup\*\* (can be tilted mobile + desktop screenshots)

- Optional: floating currency icons or animation (INR, $, €, etc.)

🔄 2️⃣ **"How It Works" Section** (Step-Based Timeline Animation)\*\*

- Title: “How It Works” (centered, fade-in)

- Vertical or horizontal \*\*animated steps\*\* with \*\*interactive hover reveals\*\*

- Three steps:

1. 👥 \*\*Create Group\*\* – “Start by joining or creating a group with a unique code”

2. 💸 \*\*Add Bills & Split Fairly\*\* – “Add shared expenses & let the app handle fair splits”

3. ✅ \*\*View Balances & Settle\*\* – “Get real-time balance insights and settle anytime”

- Add motion effects: reveal steps as user scrolls

- Each step in a glowing card (hover = soft lift, icon wiggle)

**💚 3️⃣ Why Choose Break The Bill**

- Background: Gradient overlay (dark to slightly lighter black)

- Add \*\*interactive feature cards\*\* (flip-on-hover or gentle tilt)

- Grid layout: 3 columns (desktop), 1 column (mobile)

- Features:

- ✨ Clean & Minimal UI (hover = UI image pops up)

- 🔔 Real-Time Notifications

- 📊 Smart Expense Visualization (donut chart thumbnail)

- 🔐 Private & Secure (lock icon + explanation)

- 📱 Mobile Ready (add animated phone mockup)

- 🧠 Intelligent Debt Resolution

**💬 4️⃣ Testimonials Section (Slider Style)**

- Background: Dimmed dark with light green waves/blur

- Use \*\*auto-slide carousel\*\* with fade animation

- Cards:

- User name + fake avatar

- “This app saved our trip to Manali!”

- Star ratings (static icons)

- Floating quote icons on sides

**🔗5️⃣ Footer**

- Background: #000000 (solid)

- Elegant, 2-column layout with:

- About Us | Contact | Privacy Policy | Terms

- Social media icons (LinkedIn, GitHub, Insta) — line icons with hover green glow

- Add a mini logo or wordmark at bottom

💡 \*\*Bonus UX Animations / Effects:\*\*

- Parallax movement on scroll for images and background elements

- Button ripple on click

- Soft particle animation (optional) behind hero

- Icons animate subtly on hover (bounce, rotate slightly)

- Lazy loading with reveal animation

**📱 Mobile Optimization:**

- Collapse grid layouts

- Ensure buttons/text scale smoothly

- Use swipe gestures for testimonials section

**🎯 Fonts:**

- Use \*\*"Poppins" or "Inter"\*\*

- Use 1.1rem–1.25rem body text for mobile, 2.5vw–3.5vw headings for desktop

- Avoid overcrowding

**Groups Page**

✅ My Groups Page Specification (/groups)

🔹 Purpose:

Central hub to view, create, or join groups the user is part of.

**📌 Page Structure:**

Header (persistent):

App logo

Navigation links: Dashboard | Groups | Reports | Profile | Logout

Notifications icon (with badge)

**📍 Main Section:**

1. Your Groups List

Card layout (grid for desktop, list for mobile)

Each group card includes:

Group Name

Group Balance: “You Owe ₹X” / “You’re Owed ₹Y”

Member Count (avatar cluster + total count)

Role badge: Owner / Member

Last Activity Timestamp (e.g., “Updated 2h ago”)

CTA Buttons:

[Open Group] → navigates to /groups/:groupId

[Leave Group] (if not owner, with confirmation modal)

2. Actions Section (Top or Floating FAB)

**🎯 Create Group**

Button opens Create Group Modal

Fields: Group Name

On success: redirect to /groups/:groupId

**➕ Join Group**

Button opens Join Group Modal

Field: Invite Code

On success: group added to list

**🔍 Filters & Search (optional)**

Search bar to find group by name

Dropdown filter by role: All | Owner | Member

**🎨 UI Notes:**

Responsive layout: cards stack on mobile

Framer Motion transitions when groups are added/removed

Hover effect on cards for desktop

Empty state message: “You’re not part of any group yet. Create or join one now!”

**Group Overview Page**

**📌 Header (Persistent)**

* Group Name
* Current Group Balance (You owe / You're owed)
* Tabs: Expenses | Members | Summary | Admin (if owner)
* Back to My Groups (/groups)

**1. Expenses Tab**

**Purpose**: View and manage all group expenses.

* **List of Expenses**:
  + Each item:
    - Title
    - Amount
    - Paid By
    - Split Between (number or names)
    - Category
    - Date
    - “View Details” button → opens modal
* **Controls**:
  + + Add Expense button → opens Add Expense Modal
  + **Filters**:
    - By Date, Category, Member
  + **Search Bar**
* **Expense Detail Modal**:
  + Description
  + Receipt preview (if uploaded)
  + Full breakdown: shares per person, who paid, who owes

**2. Members Tab**

**Purpose**: Manage group members and their roles.

* **Member List**:
  + Profile avatar + name
  + Role badge: *Owner* or *Member*
  + Total balance in group (net)
* **Invite Options**:
  + Invite by Email
  + Copy Invite Code
* **Owner Actions** (visible only to owner):
  + Kick member
  + Transfer ownership

**3. Summary Tab**

**Purpose**: Show who owes whom and group statistics.

* **Debt Matrix** / “You owe X to Y” list
  + Each row: user → user → amount
* **Charts**:
  + Pie Chart: Spending by Category
  + Line/Bar Graph: Spending Over Time
* **Export Options**:
  + Download as PDF
  + Download as CSV
* **Settle Up** button:
  + Opens modal:
    - Payer & Receiver (auto-filled)
    - Amount
    - Payment method (Manual / Mock)

**4. Admin Tab *(Visible only to Owner)***

**Purpose**: Manage core group settings and logs.

* **Group Settings**:
  + Rename Group
  + Delete Group (with confirmation)
* **Logs**:
  + View full **Ledger**: Chronological list of all actions and expenses
  + View **Activity Logs**: Who added what and when

**🧩 Supporting Modals & Features**

* **Add Expense Modal**
  + Title, Amount, Paid By, Date
  + Participants + custom splits
  + Category, Description
  + Receipt upload
  + CTA: Submit
* **Settle Up Modal**
  + Payer & Receiver
  + Amount + optional partial payment
  + Payment method: Manual or mock Razorpay

**🔔 Other Integrated Components**

* **Notifications Dropdown**
  + Shows events related to this group
* **Toasts**
  + On add expense, settle up, kick user, etc.
* **Responsive Layout**
  + Tabs collapse into a menu on mobile
* **Framer Motion**
  + Tab switch animation, modal transitions

**Expense Details Page**

**🔹 1. Header Section**

* **Expense Title**
* **Amount Spent** (bold, prominent)
* **Category Icon** (e.g., Food, Travel, etc.)
* **Date of Expense**
* **Back to Group Button**

**🔹 2. Expense Info Card**

* **Paid By**: Member name with avatar
* **Split Summary**:
  + **Shared With**: List of users and how much each owes
  + **Split Method**: Equal / Custom Amount / Percentage
* **Bonus Given** (if applicable): Highlighted section
* **Excluded Members**: Greyed out or listed separately
* **Total Number of Participants**

**🔹 3. Description & Notes**

* Any **additional notes** or **context** provided by the creator

**🔹 4. Receipt Section**

* **Uploaded Receipt Image** (if any)
  + Zoomable modal on click
  + Option to download
  + Placeholder if not uploaded

**🔹 5. Action Buttons**

*(Visible only to creator or group admin)*

* 🖊️ **Edit Expense**
* 🗑️ **Delete Expense** (with confirmation modal)

**🔹 6. Audit Trail (Optional Enhancement)**

* **Created by [User] on [Date/Time]**
* **Last Edited by [User] on [Date/Time]**

**🔹 7. UI/UX Enhancements**

* Framer Motion animation on load
* Responsive design
* Hover effects for shared-with list (show amount on hover)

**✨ Additional Notes**

* Maintain **consistency in card styling** (as used in dashboard/expense list)
* Use **badges** to denote roles (e.g., "Paid By", "Excluded")
* Use **tooltips** for detailed info (e.g., show exact percentages on hover)

**Add/Edit Expense Modal**

**✅ 1. Basic Expense Details**

|  |  |  |
| --- | --- | --- |
| **Field** | **Type** | **Notes** |
| **Title** | Text Input | Required. Expense title (e.g., "Dinner at Olive’s") |
| **Amount** | Numeric Input | Required. Total amount of expense |
| **Date** | Date Picker | Defaults to today’s date |
| **Category** | Dropdown + Option to Add New | E.g., Food, Travel, Bills. Custom category allowed |
| **Description** | Textarea | Optional. Notes about the expense |

**✅ 2. Payer & Participants**

|  |  |  |
| --- | --- | --- |
| **Field** | **Type** | **Notes** |
| **Paid By** | Dropdown | Required. List of group members |
| **Shared With** | Checkbox List | Required. Select one or more members |
| **Exclude Toggle per Member** | Switch | To exclude certain members from sharing this expense |
| **Bonus Toggle per Member** | Switch + Amount Input | To give an extra share (e.g., tip, special treat) |

**✅ 3. Split Options**

|  |  |  |
| --- | --- | --- |
| **Field** | **Type** | **Notes** |
| **Split Type** | Radio Buttons or Tabs | Options: Equal / Custom Amount / Percentage |
| If **Custom Amount** selected | Input fields per selected member | User must manually enter amount |
| If **Percentage** selected | Input fields per selected member | Must total to 100% |
| Auto-validation | – | Ensure total equals amount (or 100% for %) |

**✅ 4. Receipt Upload**

|  |  |  |
| --- | --- | --- |
| **Field** | **Type** | **Notes** |
| **Upload Receipt** | File Input (image only) | Accepts JPG/PNG. Optional |
| **Preview Area** | Thumbnail | Show preview of selected image |
| **Remove Option** | Icon/button | To clear uploaded receipt |

**✅ 5. Buttons**

|  |  |  |
| --- | --- | --- |
| **Button** | **Type** | **Behavior** |
| **Save** | Primary | Validates form and saves to DB |
| **Cancel** | Secondary | Closes modal without saving |
| **Delete** (only in Edit mode) | Danger | Visible to creator/admin only |

**✅ 6. UX Behaviors & Enhancements**

* Animated open/close using **Framer Motion**
* **Toasts** on Save/Cancel/Delete with success/error feedback
* Form **validation** for required fields
* **Auto-fill** support when editing existing expense
* Focus trap and **keyboard accessibility** (Esc to close, Tab navigation)
* **Responsive** layout for mobile (FAB compatibility)

**✅ Conditional UI Logic**

* **Disable Save** until all required fields are valid
* **Show/Hide fields** based on selected Split Type
* If **editing** an existing expense:
  + Pre-fill all fields
  + Show “Delete” button (if user is creator/admin)

**Settle Up Modal**

**📌 Modal Header**

* Title: Settle Up
* Close (✖️) button

**🧭 Tabs**

**1. Manual Entry**

* **Payer**: Dropdown (select from group members)
* **Receiver**: Dropdown (select from group members, excluding payer)
* **Amount**: Numeric input (with currency symbol)
* **Date**: Date picker (defaults to today)
* **Note (Optional)**: Text input (e.g., “Cash given during trip”)
* **Partial Payment Toggle**: Checkbox with label “Partial Payment?”
* **Mark as Paid Button**: Primary CTA (only enabled when valid entries are made)

**2. Razorpay Mock Flow**

* Razorpay logo (visual branding)
* Dummy card input fields: Card Number, Expiry, CVV (simulated only)
* Amount Auto-filled (from prior input or selection)
* Pay Now (CTA)
* On “payment”, show success animation (Framer Motion)
* Redirects user back to group overview with toast “Payment Settled”

**🧮 Payment Summary Box (Right-side / Bottom for Mobile)**

* Displays:
  + Total due to user
  + Total owed by user
  + Recent settlements (mini-log)
* Option to filter debts (e.g., show only what I owe / what others owe me)

**🕹️ UX Details**

* Framer Motion animation for transitions between tabs
* Toast after “Mark as Paid” or Razorpay flow
* Validation on payer ≠ receiver, positive amount
* Error if payer has no due with receiver

**🧩 Contextual Integration**

* Auto-prefill payer as current user
* Auto-suggest receiver if a specific member is owed money
* Debts update immediately post-settlement

**🛡️ Permissions**

* Only group members can access modal
* Admin can record settlements on behalf of others
* All settlements logged in Activity Logs + Notification Panel

**💬 Notifications Triggered**

* “You settled ₹X with [Member Name]”
* “[Member] marked ₹X as paid to you”

**Notification Panel**

**📍 Access Location**

* Icon on top-right of Dashboard and Group pages
* Bell icon with **badge count** for unread notifications
* Click opens a **slide-in panel** from the right (with Framer Motion animation)

**🧩 Structure**

1. **Panel Header**
   * Title: **Notifications**
   * Actions:
     + [Mark All as Read] button (top-right)
     + [Close Panel] (X icon or click outside)
2. **Notification List**  
   Each notification item includes:
   * **Icon** (based on type: expense, settlement, update)
   * **Message Text**
     + Dynamic, user-readable message
     + Example: *“Ananya added a new expense in ‘Goa Trip’”*
   * **Timestamp** (e.g., *5 mins ago*, *Yesterday 8:45 PM*)
   * **Read Indicator**
     + Unread notifications have a light background/bold text
   * [✓] **Mark as Read** (inline button or swipe-to-read on mobile)

**📋 Notification Types**

1. **💸 Expense Actions**
   * *X added a new expense in Group Y*
   * *You were included in an expense: "Dinner at Café"*
   * *Expense updated: "Cab Fare" was modified*
   * *Expense deleted by Admin*
2. **🧾 Settlement Actions**
   * *Y settled ₹500 with Z in Group Y*
   * *You received a payment from X*
   * *Partial settlement recorded between A and B*
3. **👥 Group/Member Activities**
   * *You joined Group "Trip to Manali"*
   * *X invited you to a group*
   * *User Y left the group "Flatmates"*
   * *Role changed: You're now an Admin in Group X*
4. **🔧 Settings & Updates**
   * *Your profile was updated*
   * *Password changed successfully*
   * *New feature released: Check out "Reports" tab!*
5. **🚨 Alerts (Optional for Future Enhancements)**
   * *Reminder: Settle pending dues in "Goa Trip"*
   * *Expense overdue: Check your contributions in Group Y*

**🧠 Smart Features (Optional but recommended)**

* **Grouping by Day**: “Today”, “Yesterday”, “This Week”, “Earlier”
* **Search Bar**: Filter by group/user/type
* **Filter Toggle**: Show only unread / only expense / only settlements
* **Badge Count Sync**: Clears automatically when panel opened or marked as read

**🎨 Design Guidelines**

* Light/dark mode support
* Animated entry for each notification (slide/fade in)
* Use of icons (e.g., 🧾, ✅, 👤, 📢)
* Toast notification triggers from same logic

**Reports & Exports Page**

**🔍 Filters (Sticky Header)**

Allow users to customize the report view using:

* **Group Selector** (dropdown)
* **Date Range Picker** (calendar)
* **Person Selector** (multi-select dropdown)
* **Category Filter** (multi-select or tag-based input)
* **Search Bar** (optional – keyword-based)

**📊 Reports Section**

**1. Summary Report (Card View)**

Display:

* **Total Spent**
* **Total Owed**
* **Total Settled**
* **Group Member Breakdown**
  + Name | Spent | Owes | Gets Back

**2. Visualizations**

* **Pie Chart** (Category-wise Expense Breakdown)
* **Bar Graph** (Monthly or Weekly Trends)
* **Line Chart** (Time-series of expenses)
* **Debt Matrix** (Tabular or network graph showing who owes whom and how much)

**📄 Detailed Report Table**

An interactive table of expenses:

* Columns: Date | Title | Category | Amount | Paid By | Shared With | Split Type
* Features:
  + Sortable columns
  + Pagination
  + Expand row for full details (notes, receipt thumbnail, bonuses, exclusions)

**📥 Export Options**

Buttons or dropdown menu:

* **PDF Summary Export**
  + Styled report with logo, group name, date range, charts, and key numbers
* **CSV Export**
  + Raw data of all filtered expenses
* **Visual Report (PDF)**
  + Combines charts + tables for monthly or selected timeframe
* **Send to Email** (optional)
  + Prompt to enter recipient email for report delivery

**📌 Sticky Notes or Reminders**

* Option to **Add Notes** (text area) to be appended to exported PDFs (e.g., explanations, goals, observations)
* Display pending settlements or unresolved dues for the selected group

**🧑‍💼 Access Control (Optional Enhancements)**

* Only group members can view respective group reports
* Only admins can generate full group-level exports
* Non-members get a limited message or redirect

**💡 UX Enhancements**

* Framer Motion animations for transitions & filter changes
* Toasts for export/download success/failure
* Loading shimmer while generating exports
* Mobile responsiveness with collapsible filter panel

**Admin Panel Overview**

**Route**: /admin/:groupId  
**Access**: **Only visible to the Group Owner**  
**Purpose**: Manage group-level administrative tasks — members, settings, logs.

**🔒 Access Control**

* Accessible only by the **group owner**
* Directly navigable via Group Overview Page → Admin Panel button

**🧩 Admin Panel Tabs & Features**

**1. Members Tab**

* **List of all group members** with:
  + Name
  + Email (optional)
  + Role Badge: Owner / Member
  + Total Contributed
  + Outstanding Balance
* Actions:
  + [Remove Member] (with confirmation)
  + Owner cannot remove self

**2. Transfer Ownership Tab**

* Dropdown to **select a new group owner** (from existing members)
* Button: [Transfer]
* Confirmation Modal:
  + Warns that current owner will lose admin privileges

**3. Rename Group Tab**

* Input Field: Current Group Name (editable)
* Button: [Save Changes]
* Shows toast/notification after success

**4. Delete Group Tab**

* Danger Zone
* Button: [Delete Group Permanently]
* **Confirmation Modal** with double-confirm (type group name)
* On deletion:
  + Group and all associated data are removed
  + All users redirected to /dashboard

**5. Activity Logs Tab**

* Table of all major actions within the group:
  + Expense Created/Edited/Deleted
  + Settlement Added
  + Member Added/Removed
  + Group Renamed
  + Ownership Transferred
* Columns:
  + Timestamp
  + User
  + Action Description
* Optional: Filter by date range or user

**🧠 Additional Ideas (Optional Enhancements)**

* **Archived Members**: Show past members with exit history
* **Group Avatar Change**: Upload/update group icon
* **Export Group Settings/Logs**: JSON or PDF download of group metadata and logs

**📱 Mobile View**

* Tabs shown in scrollable pill menu or bottom navigation
* Actions wrapped in collapsible accordions or modals

**🧭 Navigation Entry Point**

* From /group/:groupId → top-right [Admin Panel] button (only if user is owner)
* Redirects to /admin/:groupId

**Profile Settings Page**

**Route**: /profile  
**Access**: All authenticated users  
**Purpose**: Manage personal account settings — name, email, password, account deletion, and group membership view.

**🧾 Sections & Features**

**1. Basic Profile Info**

* Editable fields:
  + Name (text input)
  + Email (disabled if using social login, editable otherwise)
* Profile Picture (optional):
  + Upload or change avatar (with preview)
* Button: [Save Changes]
* Toast on successful update

**2. Password Management**

* Section Title: **Change Password**
* Fields:
  + Current Password
  + New Password
  + Confirm New Password
  + Password visibility toggles
* Validation: Min 6 characters, match confirm field
* Button: [Update Password]
* Success/Failure messages via toast

**3. Joined Groups List**

* Section Title: **My Groups**
* Display all groups user is part of:
  + Group Name
  + Role Badge (Owner / Member)
  + Total Contributions / Balance Summary (optional)
* [Go to Group] button for each (navigates to /group/:groupId)
* Empty state: “You haven't joined any groups yet.”

**4. Danger Zone: Delete Account**

* Section Title: **Danger Zone**
* Button: [Delete My Account]
* Confirmation Modal:
  + Warns user this action is **irreversible**
  + Requires typing “DELETE” to confirm
* After deletion:
  + User is logged out and redirected to /

**5. Account Metadata (Optional/Advanced)**

* Section Title: **Account Info**
* Display-only:
  + Account creation date
  + Last login
  + Auth provider (Email, Google, etc.)

**🧭 Navigation Entry Point**

* Sidebar → [Settings] (navigates to /profile)

**📱 Mobile Responsiveness**

* Sections shown in collapsible accordions or stacked cards
* FAB-style [Save] and [Delete] actions at bottom

**🧩 Reusable Components**

* Form Inputs (used in Sign Up/Login)
* Avatar Upload Preview
* Group Card (from Dashboard)

**🔐 Security Considerations**

* Require password re-entry before:
  + Changing email
  + Deleting account
* All fields validated client + server side

**Dashboard Page**

**Route**: /dashboard  
**Access**: Authenticated users only  
**Purpose**: Act as the central control panel for users — quick group access, financial overview, activity feed, and entry points for creating/joining groups.

**🧭 Dashboard Layout Structure**

**🔹 1. Sidebar (Persistent)**

* Profile Picture + Username
* Navigation Links:
  + [Dashboard]
  + [Groups] *(optional standalone page if needed)*
  + [Reports]
  + [Settings]
  + [Logout]
* Responsive behavior: collapses into hamburger menu on mobile

**🔸 2. Top Bar (Global Header)**

* **Notifications Bell** icon (with badge count)
* On click: slides open the Notification Panel from the right

**🧩 3. Main Dashboard Content**

**📊 A. Financial Summary Cards**

* 3 Key Metric Cards:
  1. **You Owe** – Amount user owes to others across groups
  2. **You Are Owed** – Amount others owe to the user
  3. **Total Spent** – User's total contributions across groups
* Each card has:
  1. Icon
  2. Amount
  3. Tooltip on hover (e.g., breakdown across groups)

**🔁 B. Recent Activity Feed**

* Scrollable list of latest updates:
  + “You added an expense in *Trip to Goa*”
  + “John settled ₹500 with you in *Flatmates*”
  + “You joined *Weekend Trek* group”
* Each item includes:
  + Avatar
  + Timestamp
  + Clickable link to relevant group/expense
* Empty state: “No recent activity yet.”

**👥 C. Groups Section**

* Display user’s **joined groups** using **Group Cards**
  + Group Name
  + Total members
  + Your balance (net amount)
  + Role badge (Owner/Member)
  + Button: [Go to Group]
* Optional Tabs or Toggle:
  + All | Owned | Joined
* Empty state:
  + Message: “You haven’t joined any groups yet.”
  + Suggest actions: [Create Group] / [Join Group]

**➕ D. Create & Join Group**

* Prominent buttons:
  + [+ Create Group]
  + [Join Group via Invite Code]
* Open modals with input fields:
  + Create: Group Name
  + Join: Invite Code

**🧱 Reusable Components Used**

* Group Card
* Activity Item
* Summary Card
* Toasts on action (group created, joined, etc.)
* Notification Panel (shared globally)

**📱 Mobile Optimization**

* Sidebar collapses
* Cards stack vertically
* FAB for [+ Create Group]

**🧠 Optional Enhancements**

* Search bar to filter groups
* Inline charts (spending trend across groups)
* Upcoming dues/reminders carousel

**🔐 Forgot Password Page**

**Route:** /forgot-password  
**Purpose:** Allow users to reset their password securely via email.

**📄 Page Content Structure**

**🔹 1. Page Header / Branding**

* App Logo or Title (BreakTheBill)
* Optional tagline: *“We’ll help you get back in.”*

**🧾 2. Reset Request Form**

**✅ Form Fields:**

* **Email Address**
  + Input with validation
  + Placeholder: "Enter your registered email"
  + Required field
* **Submit Button**
  + Label: Send Reset Link
  + Disabled until valid input is detected
* Optional: reCAPTCHA or rate-limiting mechanism

**🔁 Behavior on Submit:**

* Call backend API to send reset link to email
* Show loading state (spinner or animation)
* On success: show toast/snackbar
  + "Reset link sent! Please check your inbox."
* On failure: show error toast
  + "Email not found" or appropriate server error

**✉️ 3. Post-Submit Confirmation Message (Conditional)**

Once reset link is sent:

* Hide form
* Show confirmation card:
  + **Title**: Check your email
  + **Description**: "We’ve sent a password reset link to [user@example.com]. Please check your inbox and follow the instructions."
  + Option to Resend after X seconds

**🔁 4. Navigation Options**

Below the form/confirmation:

* [Back to Login]
* [Create Account] *(if user doesn’t have one)*

**🎨 UI/UX Enhancements**

* Use **Framer Motion** for entry/exit animations
* Input Validation Feedback (✔ / ❌ icons)
* Error messages below field (e.g., “Invalid email format”)
* Keyboard Enter key triggers submit
* Fully responsive layout (mobile-first)

**🧱 Components Used**

* Shared: InputField, Button, Toast, Loader
* Optional: FormWrapper, AuthLayout

**🛡️ Security Considerations**

* Never expose whether an email exists — generic response like:  
  *“If an account with this email exists, a reset link will be sent.”*
* Reset links expire after set time (e.g., 15 mins)
* Token validation handled on backend

**✨ Optional Add-ons**

* Animated email icon or paper plane animation after submit
* Light/Dark mode compatibility
* Accessibility labels for screen readers