



Formerly DA-IICT

## Groups - 28

### SYSTEM TESTING – GROUPS SECTION

Testers: Kirtan Chauhan and Ruchir Joshi

#### 1. Introduction

This document presents the **system testing** of the **Groups module**, which includes the Groups listing page and the Group Details page.

#### 2. BlackBox Testing — Groups

##### 2.1 Groups Test

###### UI Constraints

###### Create Group – Group Name

- Group Name cannot be empty.
- Must contain at least one non-space character.

###### Search Groups

- Any text input is valid
- If search box is empty , all groups are shown.

### **Delete Group**

- Clicking the delete (trash) icon opens a confirmation dialog.
- “Cancel” → closes dialog and does not remove the group.
- “Delete” → removes that group from the list.

### **Navigation Buttons**

- “View Details” → opens Group Detail page for that group.
- “Add Expense” → opens Add Expense page for that specific group.

## **2.2 Equivalence Class Partitioning (ECP) – Create Group**

<b>Equivalence Class</b>	<b>Group Name Input</b>	<b>Result</b>
E1	Valid text (e.g. "Trip")	success
E2	Empty string	error
E3	Only spaces (" ")	error

## **2.3 Boundary Value Analysis (BVA) – Groups Page**

Group Name	Search Term	Delete Choice	Output	Reason
""	<i>none</i>	—	Group not created, error shown	Name cannot be empty
" "	<i>none</i>	—	Group not created, error shown	Only spaces not allowed
"A"	<i>none</i>	—	Group created and listed	Minimum valid name
"Weekend Trip"	""	—	New group listed, all groups visible	Empty search → no filter
"Trip"	"tri"	—	Only groups containing "tri" are shown	Case-insensitive search
any existing name	<i>any</i>	<b>Cancel</b>	Group remains visible in list	Delete cancelled
any existing name	<i>any</i>	<b>Delete</b>	Group removed from list after confirmation	Successful delete

### 3. BlackBox Testing — Group Details

#### 3.1 Group Detail Test

##### Field & UI Constraints

##### General

- Page shows summary cards: Total Expenses, Members, Expenses count, Last Activity.
- Tabs: **Expenses, Balances, Members.**

- “Add Expense” button opens Add Expense page for that group.

### **Expenses Tab**

- If no expenses → shows “No expenses yet” message and button “Add First Expense”.
- Each expense card shows: title, description, category, date, paid by, total amount, and per-person share (if split among members).

### **Balances Tab**

- **Settlements** section:
  - Shows lines like “X owes Y amount .
  - “Settle Up” button is shown only for the user who owes in that line.
  - If there are no settlements → shows “All balances are settled!”.
- **Individual Balances** section:
  - Shows each member with name, email and balance.
  - Positive balance → user is owed money.
  - Negative balance → user owes money.
  - Zero balance → “settled”.

### **Members Tab**

- Shows list of group members: avatar, name, email, and current balance text.
- “Add Member” button opens the Add Member dialog.

### **Add Member Dialog**

- Full Name: cannot be empty.
- Email Address: cannot be empty.
- Email must look like a valid email (example: test@example.com).
- On valid input → A Group Invitation Notification is sent to the invited user.

## **3.2 Equivalence Class Partitioning (ECP) – Add Member**

Equivalence Class	Full Name	Email	Result
M1	valid	valid format	success
M2	empty	valid format	error
M3	valid	empty	error
M4	valid	invalid format	error

### 3.3 Boundary Value Analysis (BVA) – Group Detail (Including add expense , add member)

Full Name	Email	Tab	Output	Reason
""	friend@example.com	Members	Member not added, error shown	Name required
"J"	friend@example.com	Members	Invitation is sent successfully. Notification appears for invited user.	Minimum non-empty name
"John Doe"	""	Members	Member not added, error shown	Email required
"John Doe"	"friend@"	Members	Member not added, error shown	Invalid email format
–	–	Balances	No settlements → "All balances are settled!"	Empty settlements list
–	–	Balances	Member with positive balance shown as +\$X.XX	Positive means "is owed"
–	–	Balances	Member with negative balance shown as -\$X.XX	Negative means "owes"

## 4. Acceptance Testing — Groups

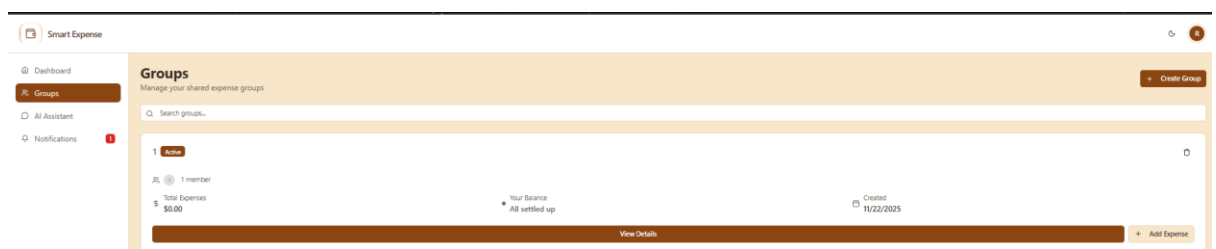
### Test 1 – Create Group Successfully

#### Input:

- Click **Create Group**.
- Enter Group Name: 1.
- Click **Create Group**.

#### Result:

- A new group card with name 1 appears in the groups list.



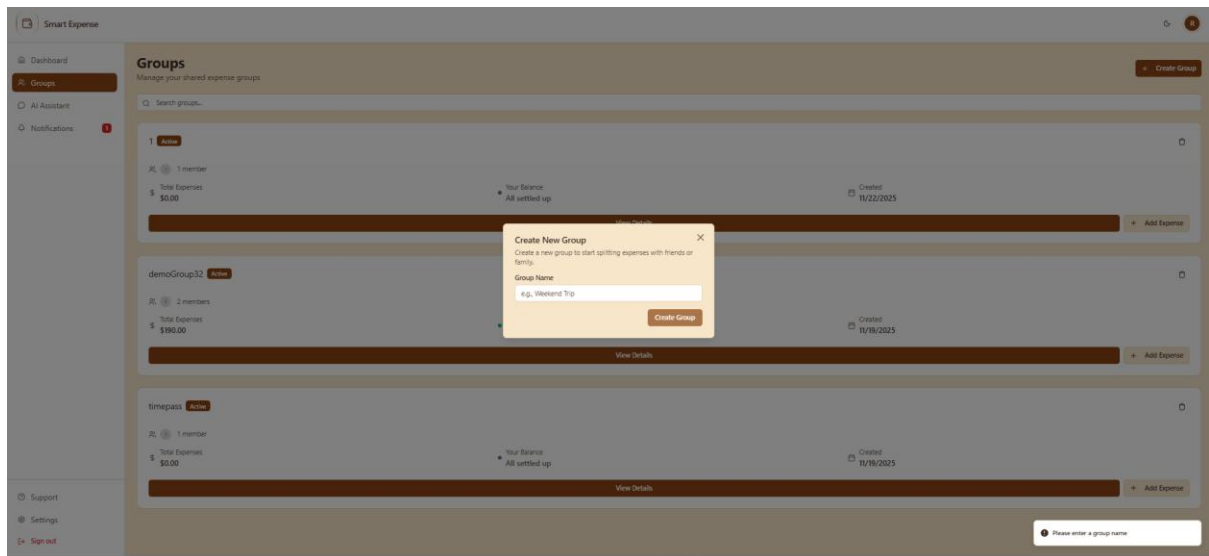
### Test 2 – Create Group With Empty Name

#### Steps / Input:

- Click **Create Group**.
- Leave Group Name empty.
- Click **Create Group**.

#### Result:

- Group is not created.
- An error message is shown asking to enter a group name.



## Test 3 – Search Groups

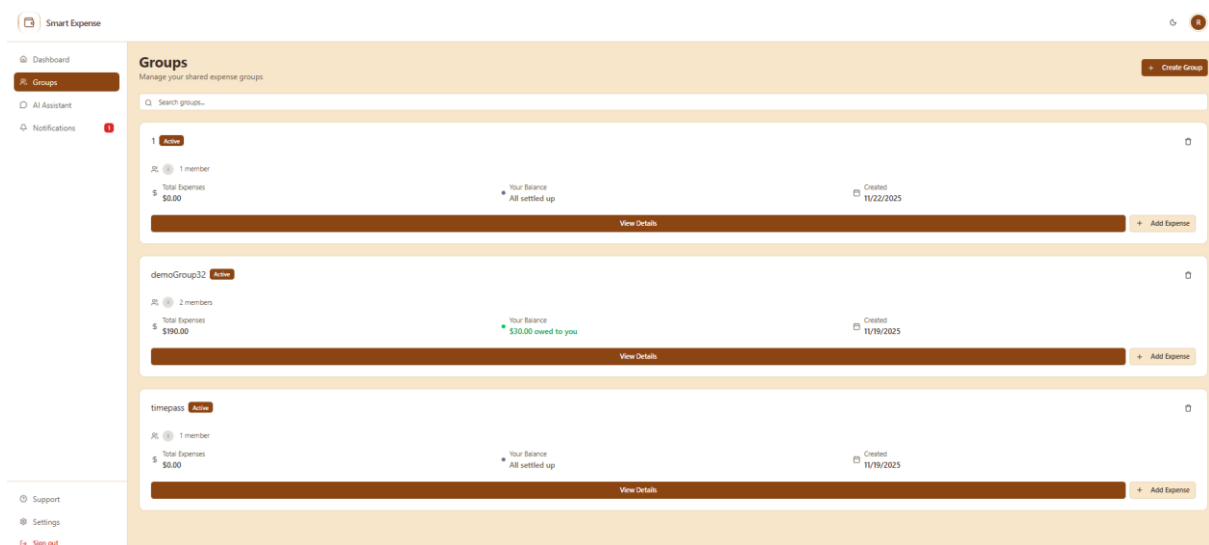
**Precondition:** Multiple groups exist, e.g. demoGroup32 and timepass.

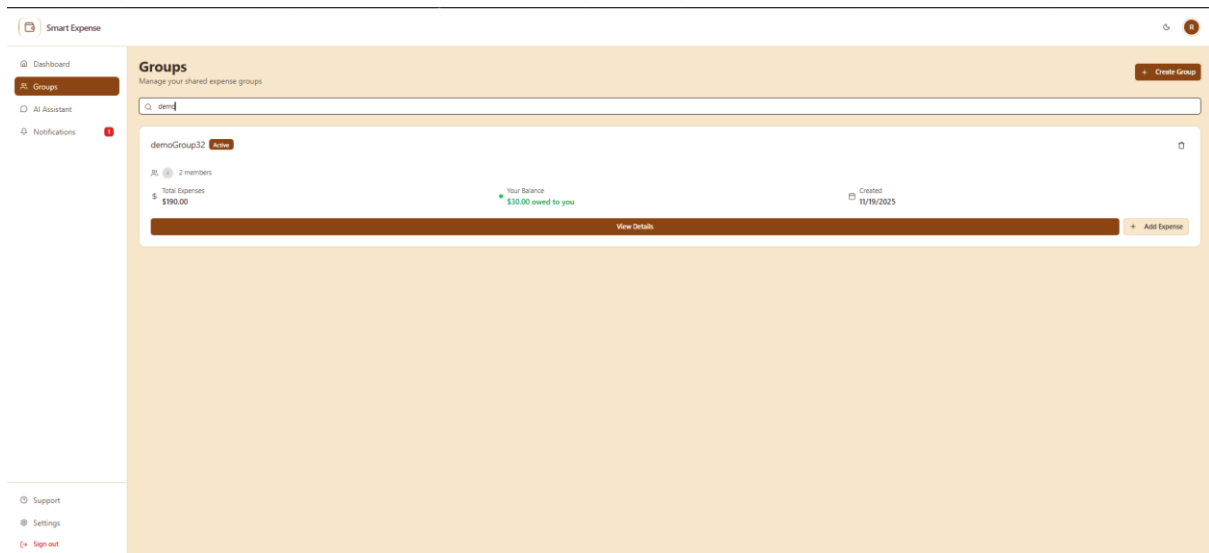
### Steps / Input:

- Type demo in the **Search group** box.

### Expected Result:

- Only groups whose names contain “demo” (like demoGroup32) are shown.
- Other groups (e.g. timepass) are hidden





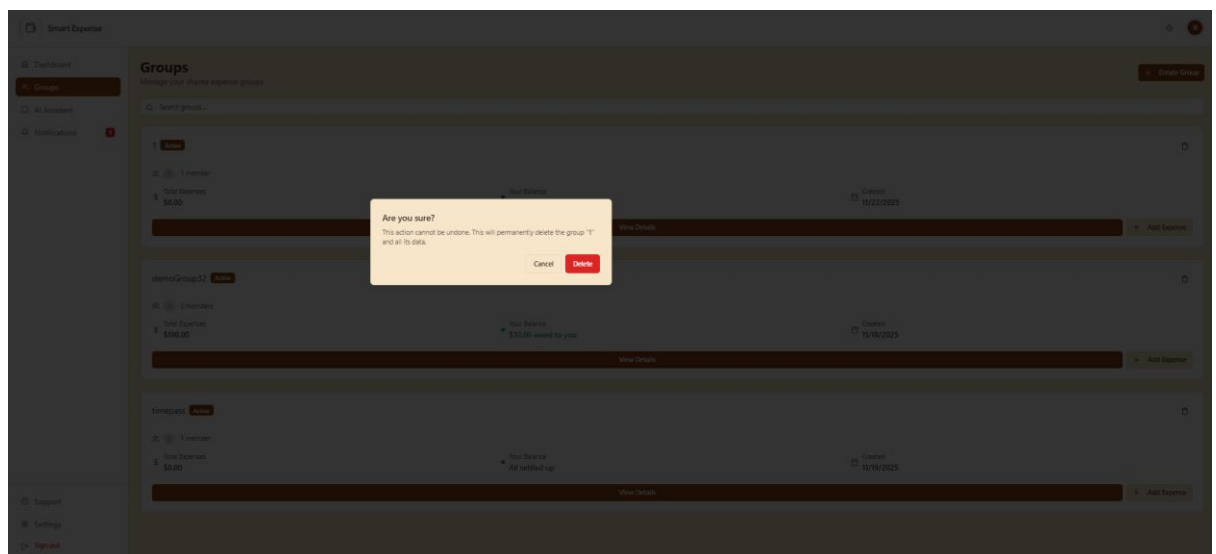
## Test 4 – Delete Group

### Steps / Input:

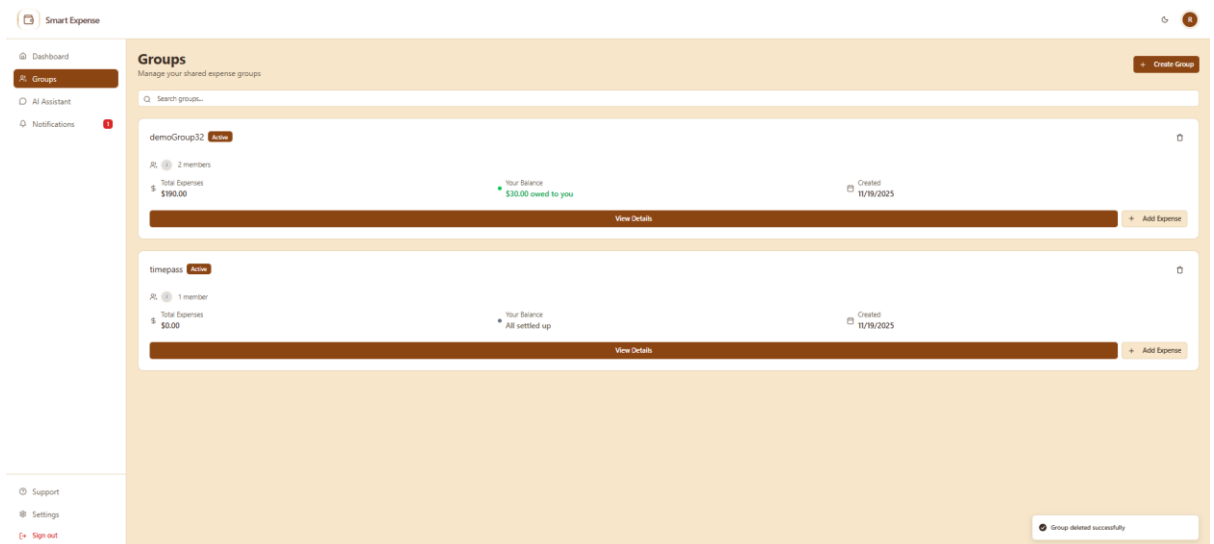
- Choose a test group (e.g. 1).
- Click the **trash** icon on that group.
- In confirmation dialog, click **Delete**.

### Result:

- The selected group card is removed from the groups list.







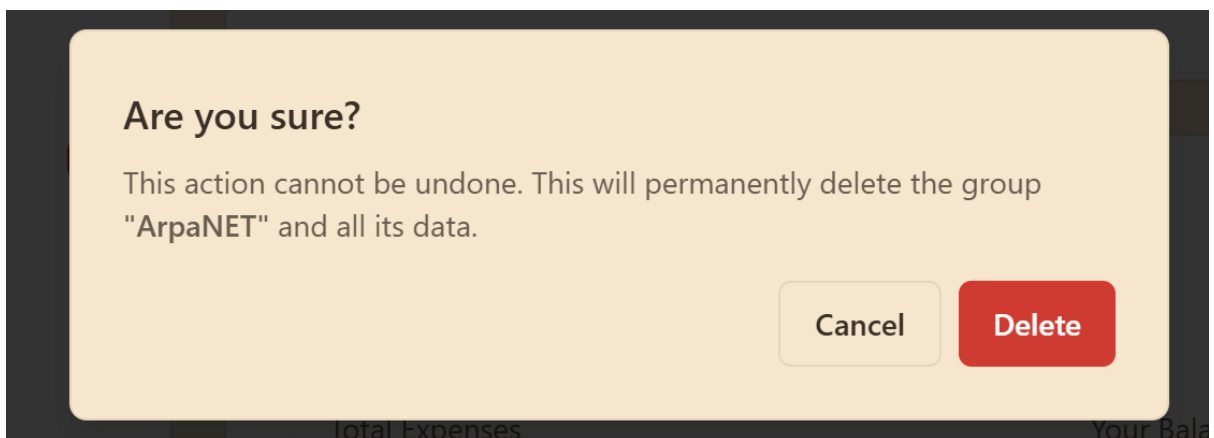
## Test 4.1 – Delete Group Abort (cancel action )

### Steps / Input:

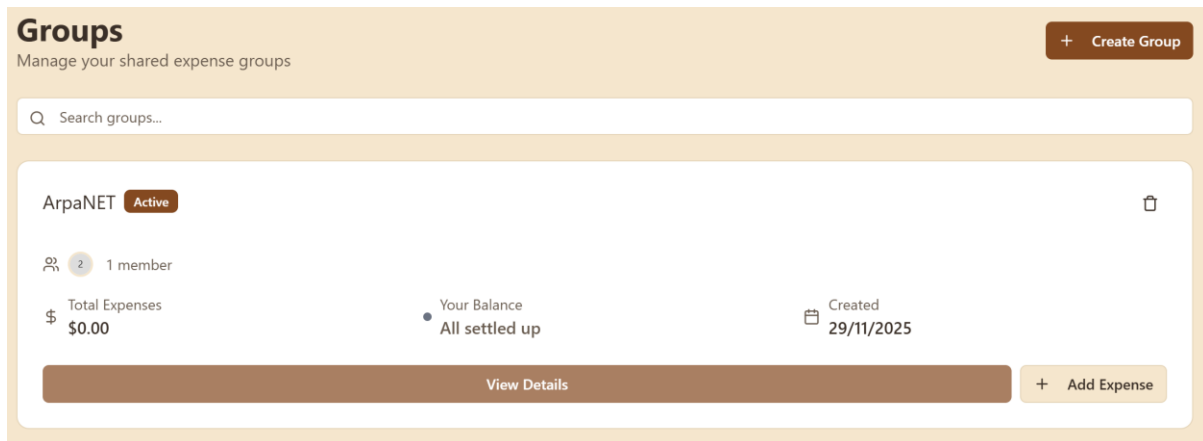
- Choose a test group (e.g. 1).
- Click the **trash** icon on that group.
- In confirmation dialog, click Cancel.

### Result:

Display Group page



Clicking Cancel



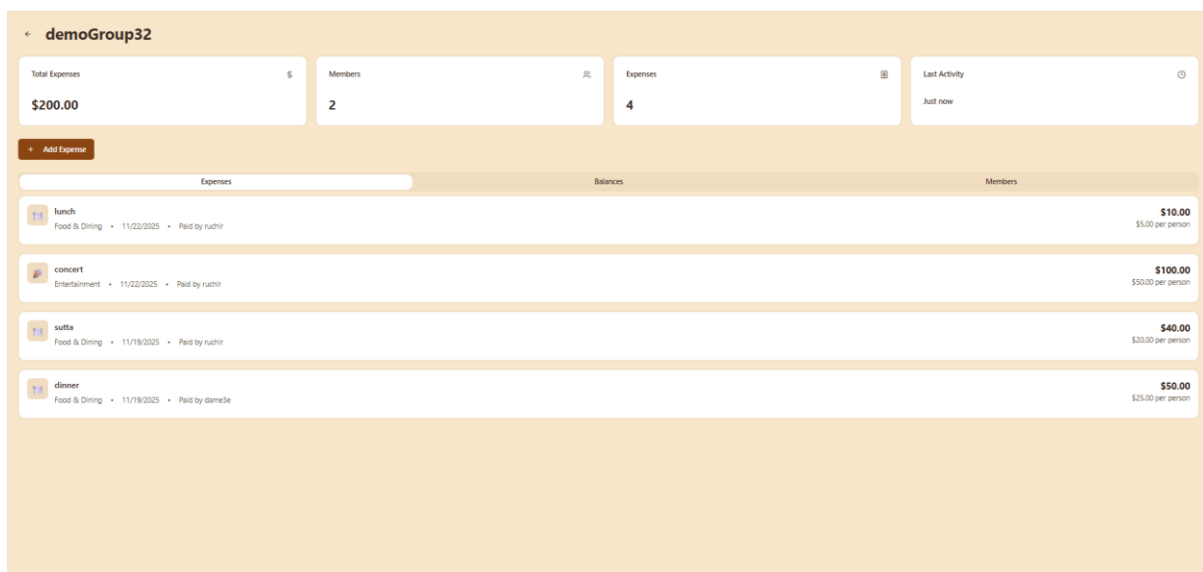
## Test 5 – View Group Details and Expenses Tab

### Steps / Input:

- On Groups page, click **View Details** for a group
- On the Group Detail page, stay on the **Expenses** tab.

### Expected Result:

- Summary cards are visible (Total Expenses, Members, Expenses, Last Activity).
- If there are no expenses → “No expenses yet” message and “Add First Expense” button.
- If there are expenses → list of expense cards with title, category, date, paid by and amount.



## Test 6 – Add Member

**Page:** Group Detail → Members tab

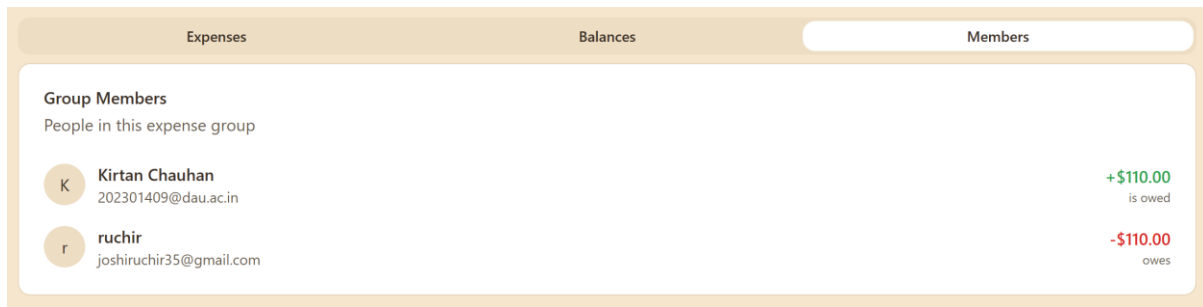
### Steps / Input:

- Click **Members** tab.
- Click **Add Member**.
- Full Name: ruchir.
- Email Address: joshiruchir35@gmail.com.
- Confirm/Add.

### Expected Result:

- A **group invitation** is created.
- The invited user sees a **notification** under their Notifications page.
- **Member does NOT appear** in the group until the invitation is accepted.





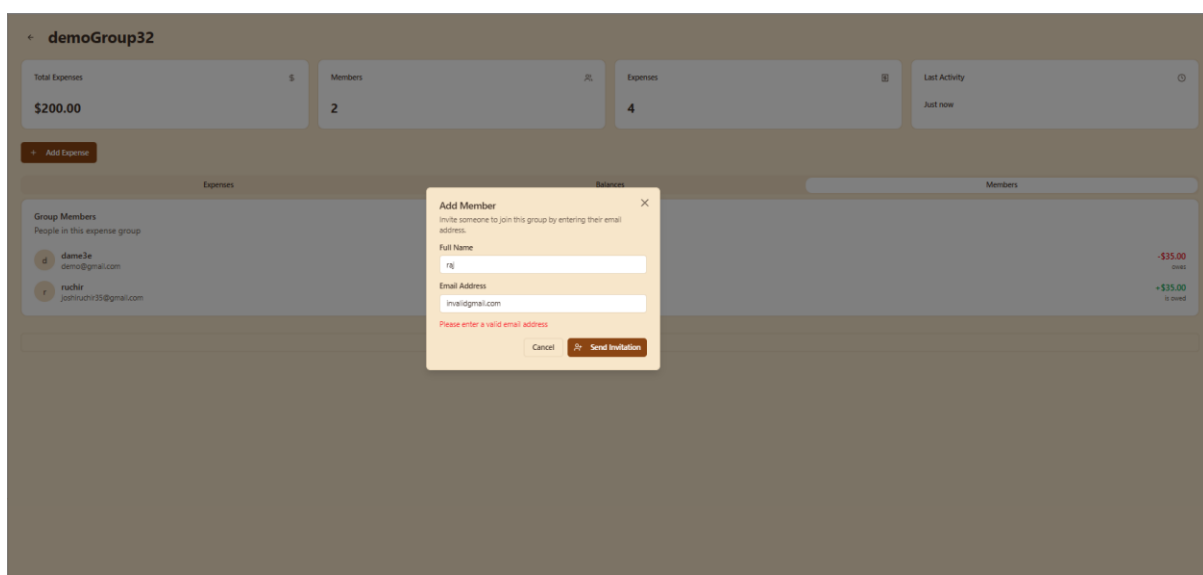
## Test 7: Add Member with Invalid Email Format

### Steps / Input:

1. Open the **Group Details** page.
2. Go to **Members** tab.
3. Click **Add Member**.
4. Enter:
  - **Full Name:** raj
  - **Email:** invalidgmail.com (no "@" )
5. Click **Add / Send Invitation**.

### Expected Result:

- Member invitation is **NOT** sent.
- An error message appears:  
**"Invalid email format"**



## Test 8: Add Member who is not registered within the App (no account)

### Steps / Input:

6. Open the **Group Details** page.
7. Go to **Members** tab.
8. Click **Add Member**.
9. Enter:
  - **Full Name:** raj
  - **Email:** notregistered123@gmail.com
10. Click **Add / Send Invitation**.

### Expected Result:

- 

### Test Case Name: View Balances When Group Has Unsettled Amounts

### Steps / Input:

1. Open the **Group Details** page for a group that has unsettled expenses.
2. Click on the **Balances** tab.

### Expected Result:

- Under **Settlements**, at least one row appears showing:  
**"X owes Y \$Amount"**
- Each settlement row shows two users and the amount owed.
- The **"Settle Up" button** should appear **only** for the logged-in user *if they are the one who owes (X)*.
- If the logged-in user is **not the debtor**, the "Settle Up" button should **not** appear.
- The **Individual Balances** section should show:
  - Positive amounts → labeled as "is owed"
  - Negative amounts → labeled as "owes"
  - Zero amounts → "settled"

Smart Expense

Dashboard

Groups

AI Assistant

Notifications

demoGroup32

Total Expenses

\$

\$200.00

Members2

Expenses4

Last Activity

Just now

Add Expense

Expenses

Balances

Members

Settlements

The simplest way to settle all debts

d

dame3e owes ruchir

\$35.00

Individual Balances

Each member's net balance in this group

d

dame3e

-\$35.00

r

ruchir

+\$35.00

Support

Settings

Sign out