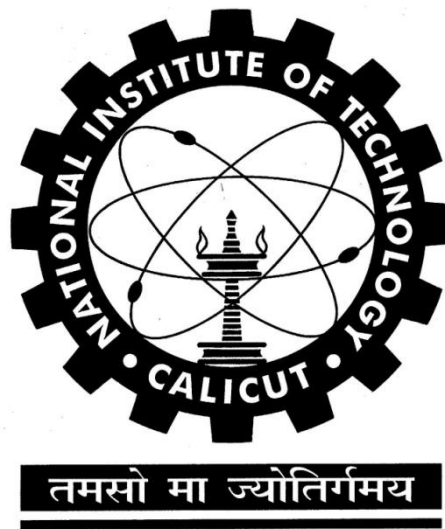# DESIGN DIAGRAMS

16th APRIL 2014

TEAM 02

IOU TRACKING WITH FRIENDS

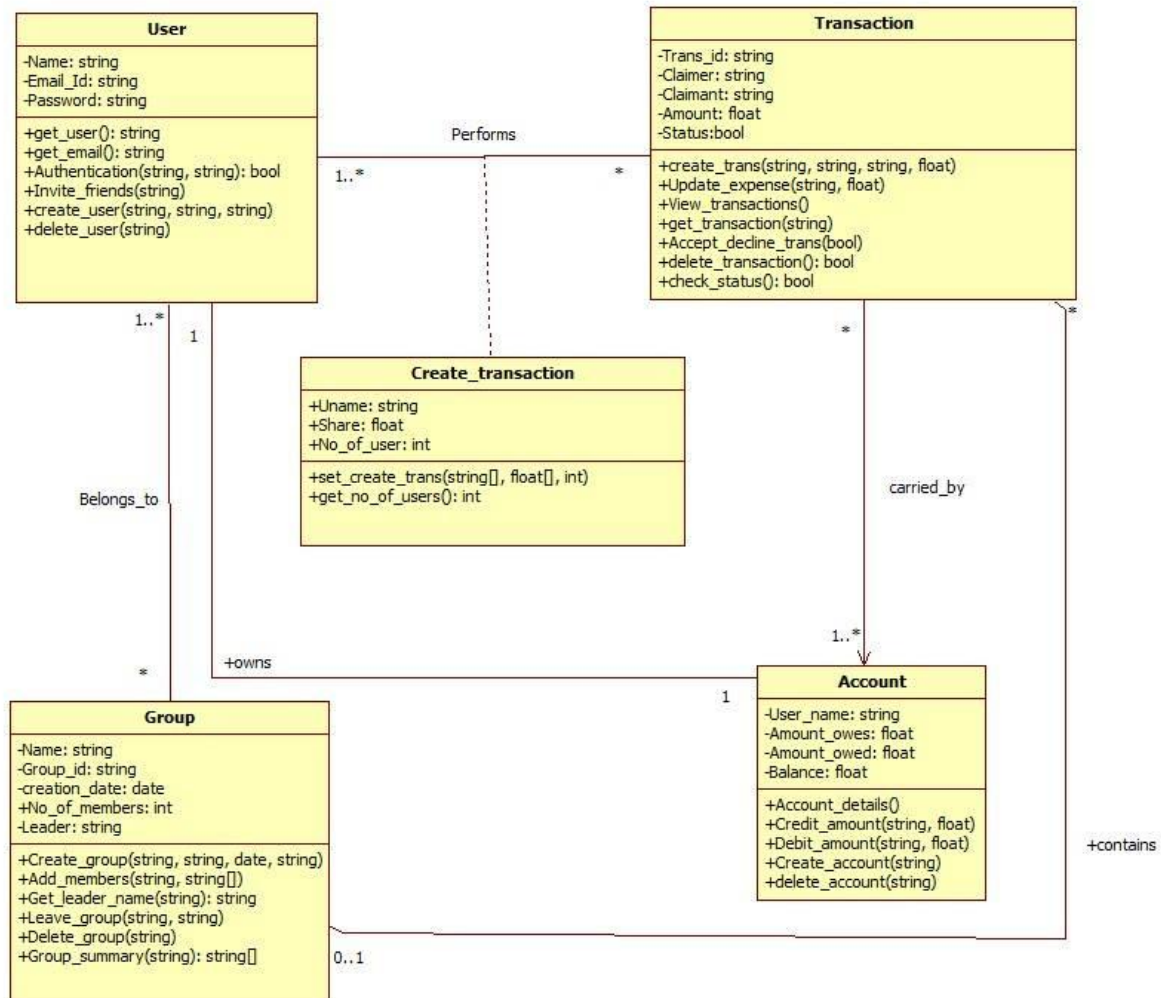## SUBMITTED BY,

Soumen Naskar(M120366CA) - Leader

Meenakshi Rani(M120392CA)
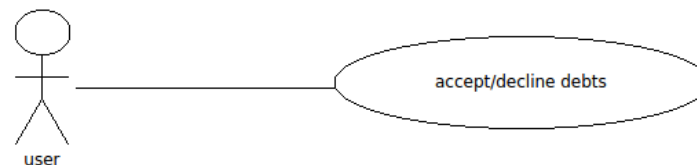
Nagendra Negi(M120540CA)

Puneetha N(M120396CA)

I CLASS DIAGRAM

User
-Name: string
-Email_Id: string
-Password: string

+get_user(): string
+get_email(): string
+Authentication(string, string): bool
+Invite_friends(string)
+create_user(string, string, string)
+delete_user(string)

Transaction
-Trans_id: string
-Claimer: string
-Claimant: string
-Amount: float
-Status:bool

+create_trans(string, string, string, float)
+Update_expense(string, float)
+View_transactions()
+get_transaction(string)
+Accept_decline_trans(bool)
+delete_transaction(): bool
+check_status(): bool

Create_transaction
+Uname: string
+Share: float
+No_of_user: int

+set_create_trans(string[], float[], int)
+get_no_of_users(): int

Account
-User_name: string
-Amount_owes: float
-Amount_owed: float
-Balance: float

+Account_details()
+Credit_amount(string, float)
+Debit_amount(string, float)
+Create_account(string)
+delete_account(string)

Group
-Name: string
-Group_id: string
-creation_date: date
-No_of_members: int
-Leader: string

+Create_group(string, string, date, string)
+Add_members(string, string[])
+Get_leader_name(string): string
+Leave_group(string, string)
+Delete_group(string)
+Group_summary(string): string[]

Performs, Belongs_to, carried_by, +owns, +contains

II USE CASES

USE CASE 1:

user

accept/decline debts

A. Name: Accept/decline

B. Actor: Users

C. Goals: After viewing the claim, user can accept or decline the claim.

D. Precondition: The claimer and claimant should be in each other's friend list.

E. Summary: When the claimer will claim against the user then a notification will come in the user's account. After viewing the claim, user can accept/decline the claim and settle up the claim (the amount will be added to his/her account)

F. Related Use case: Submitting the expense, View the amount owed/owes

G. Steps:

User Action	System Response
Accept the claim	When user accepts the claim then the amount will be added to the claimer's account and deducted from claimant's account
Decline the claim	The amount owed will be highlighted red.

H. Postcondition: If the user accepts the claim then the amount will get added into the claimer's account. Otherwise a rejection message will be sent to the claimer.

USE CASE 2:
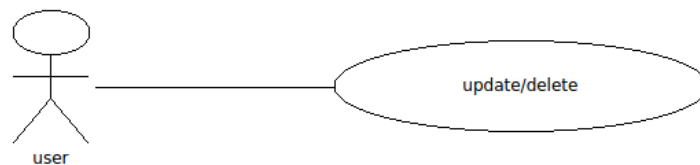
A. Name: Update/delete

B. Actor: User

C. Goals: Transaction management

D. Precondition: The user must be a claimer and the claim must be raised before the updation/deletion.

E. Summary: The user enters in to the group in which claim was raised. Then previously done transaction is selected and user can edit the amount and other detail or he/she can delete the transaction.

F. Related Use case: Submitting and splitting expense

G. Steps:

User Action	System Response
Update	The transactions will get updated in response to the user's request.
Delete	The amount where the delete request is taken will get deleted.

H. Postcondition: Whenever the user update or delete the transaction the funds will be debited or credited to the other member accordingly.

USE CASE 3:
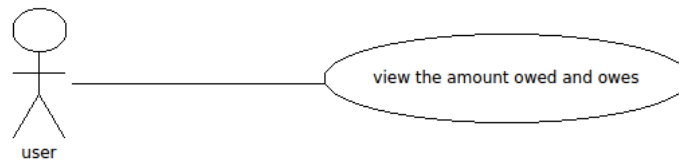
A. Name: View the amount owed/owes

B. Actor: User

C. Goals: The members of the group can view the amount owed from others and the amount they owe to others.

D. Precondition: The user should log in to his/her profile.

E. Summary: The user logs in to the system and go to the home or dashboard. All expenses option is selected and then the total amount he owes to others and the amount he owed from others is displayed.

F. Related Use case: Group summary

G. Steps:

User Action	System Response
View all expenses	The amount he/she owes to others and the amount he owed from others is displayed.

H. Postcondition: Individual's account summary will be shown.

III STATE DIAGRAMS

1.GROUP:
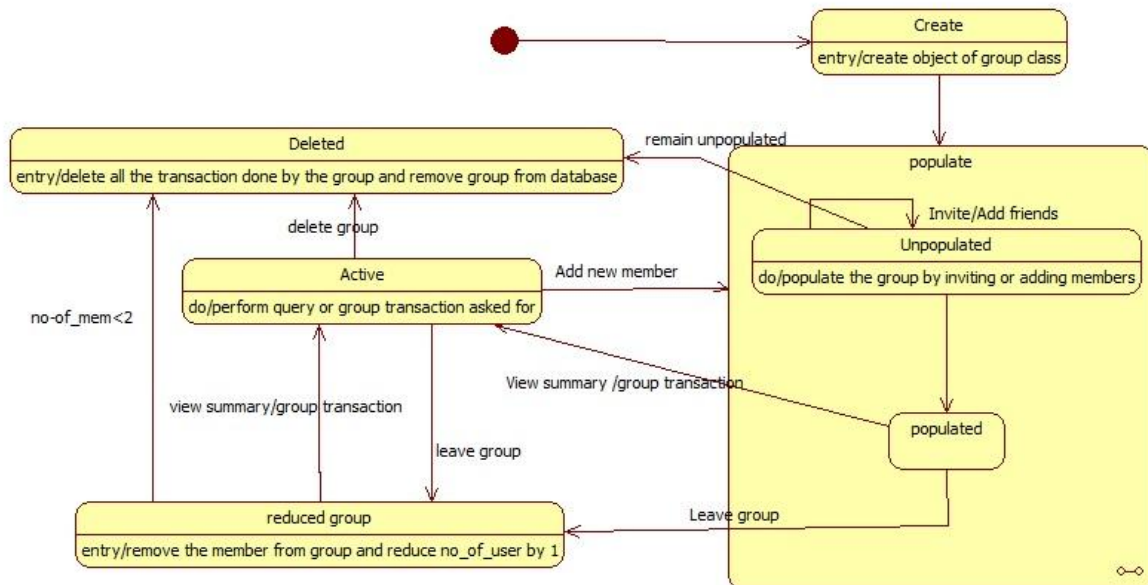
2.TRANSACTION:
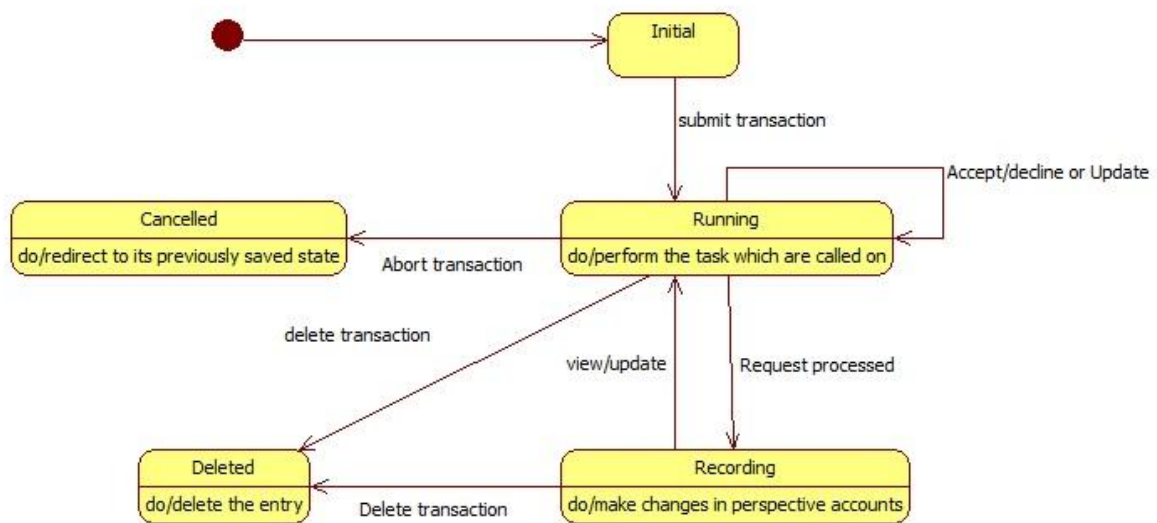
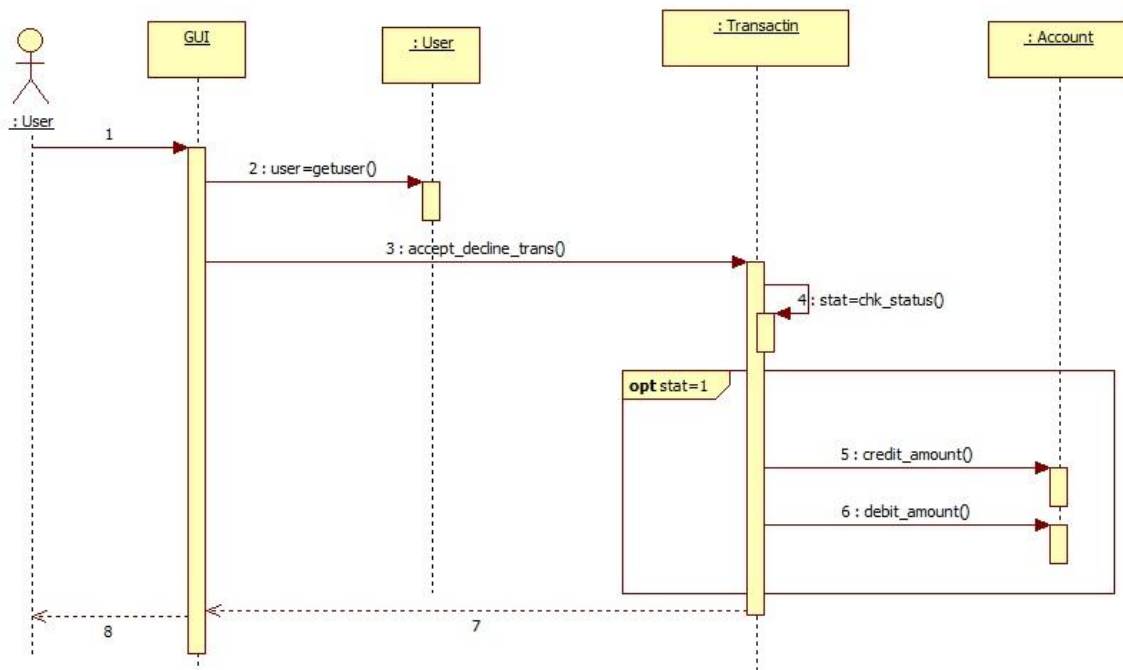# IV SEQUENCE DIAGRAMS

1. SUBMIT EXPENSE:

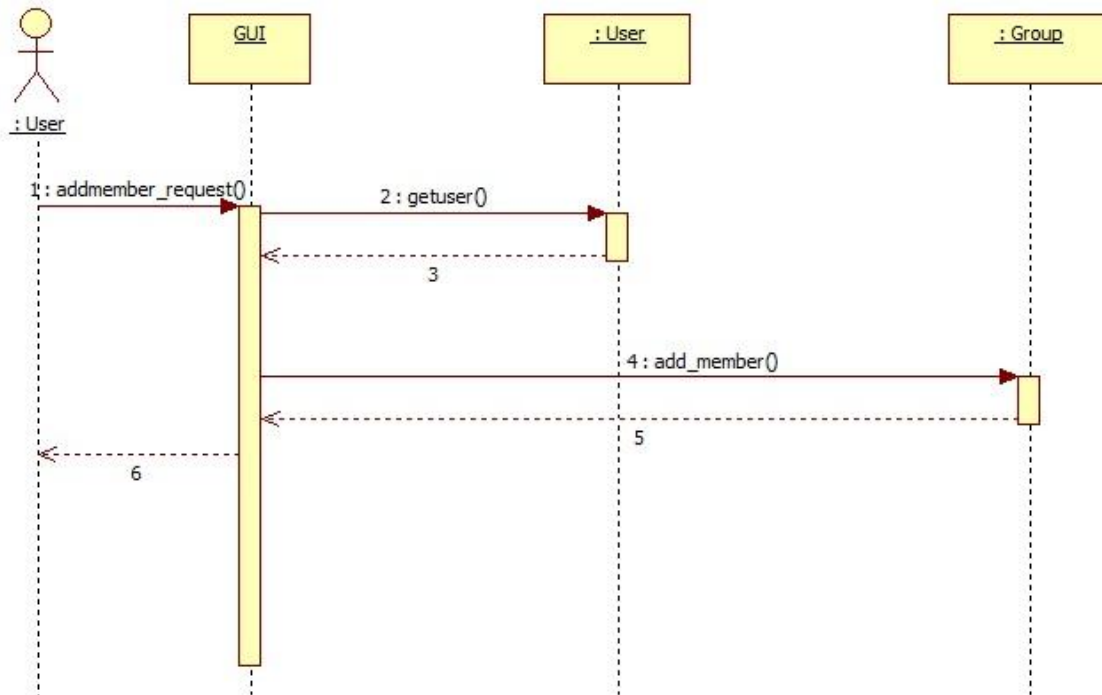XREF: SECTION 2.3.6 submit an expense
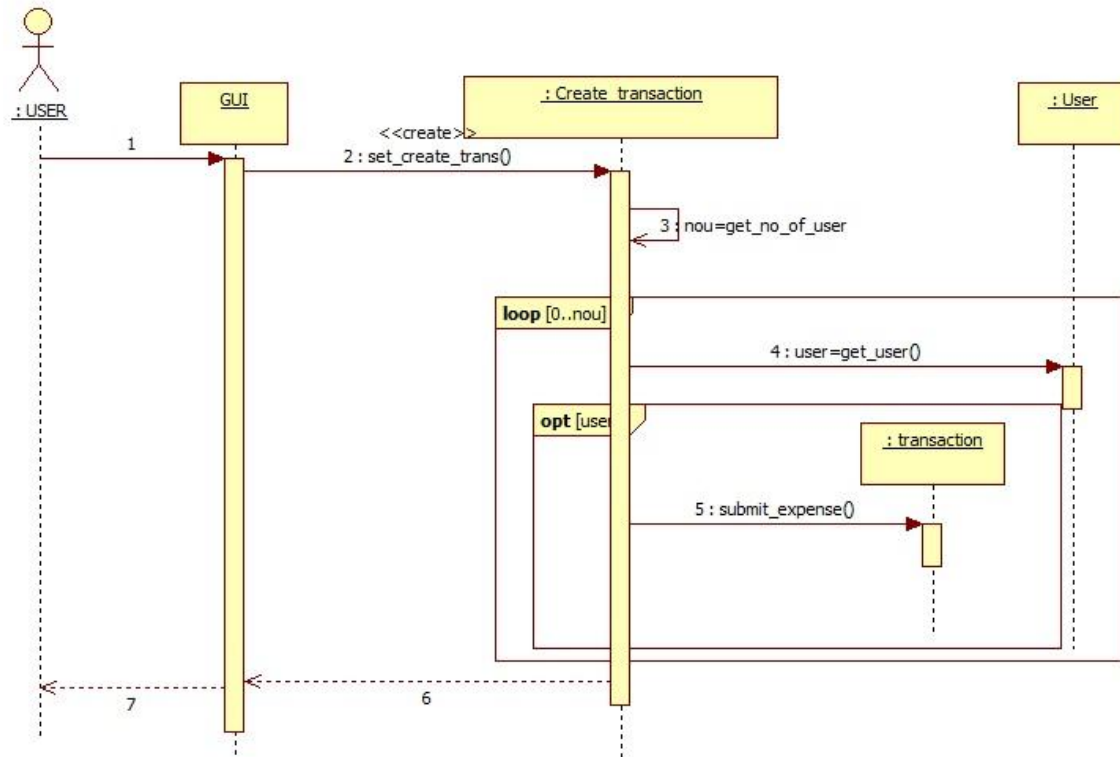
2. ACCEPT/DECLINE:

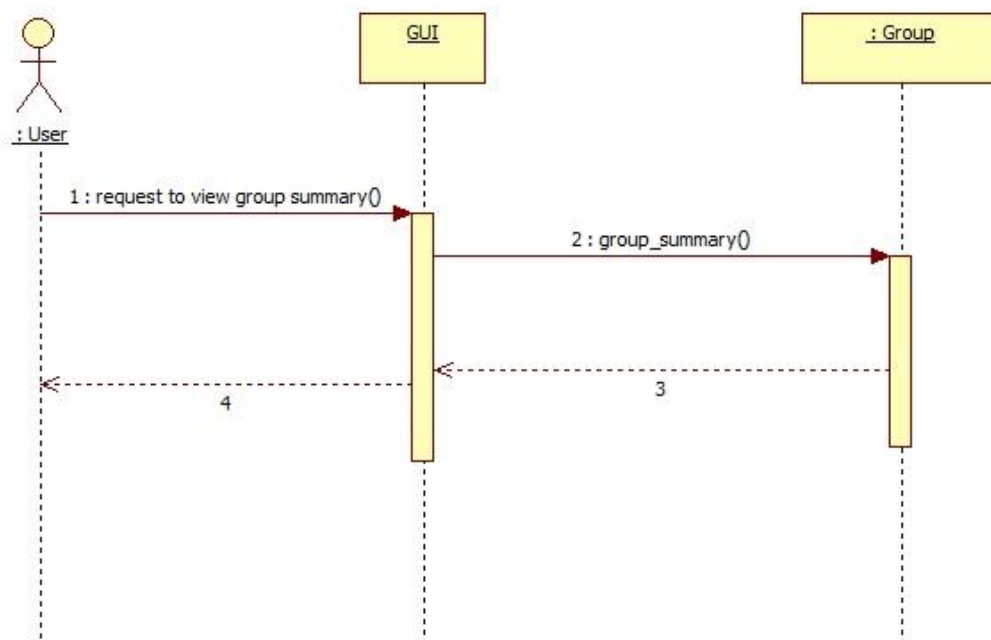XREF: SECTION 2.3.9 accept/decline

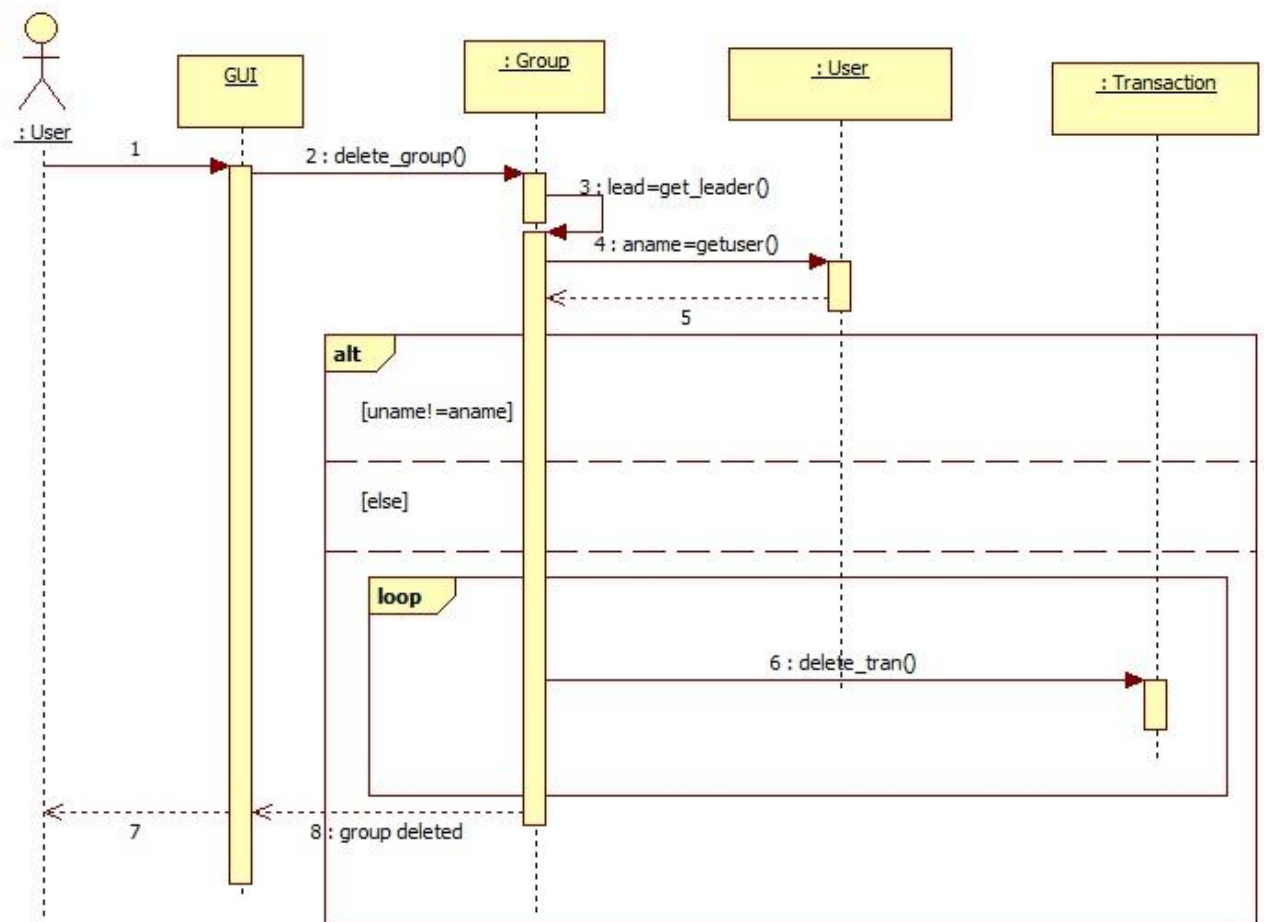## 3. ADD GROUP MEMBER:

XREF: SECTION 2.3.5 add friends

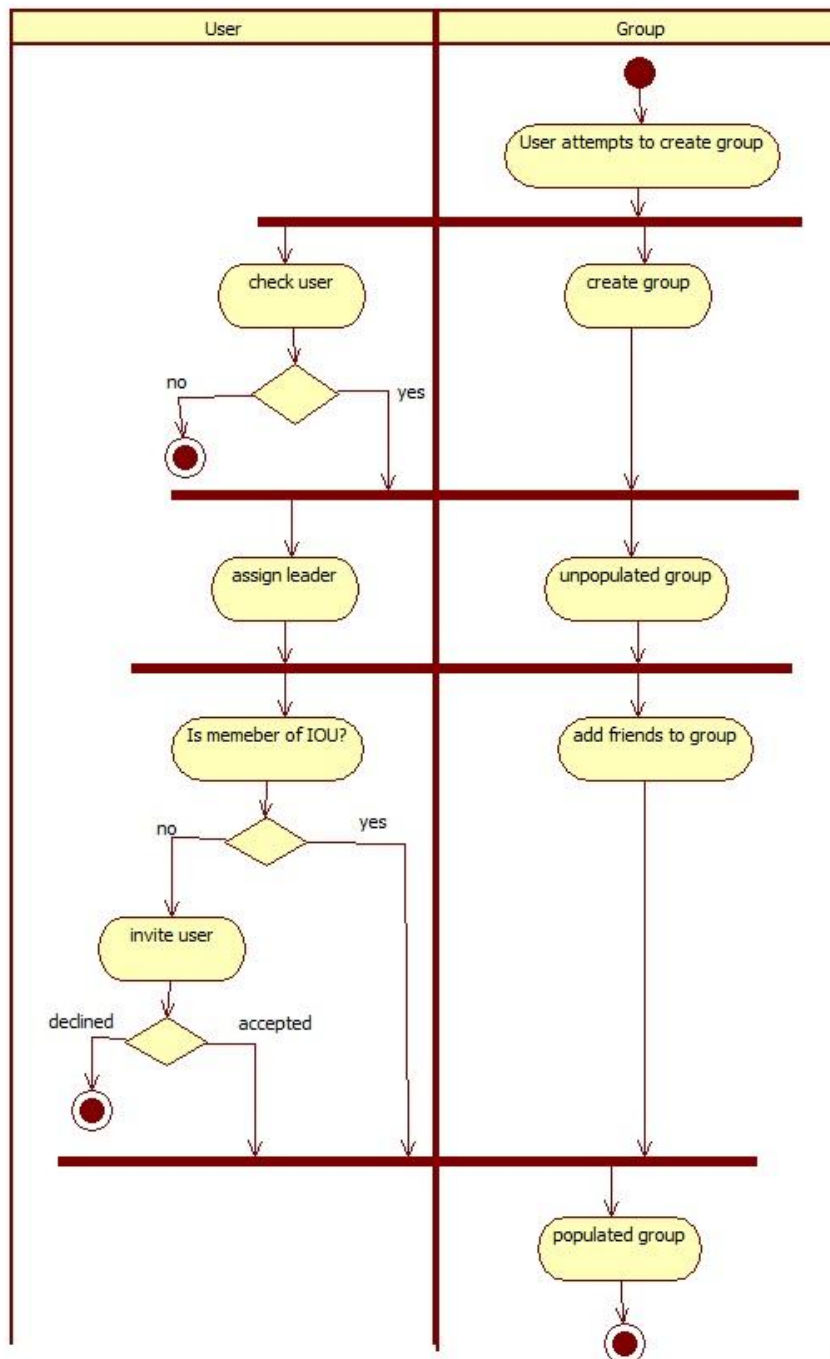4. GROUP SUMMARY:

XREF: SECTION 2.3.10 Group summary

5. DELETE GROUP:

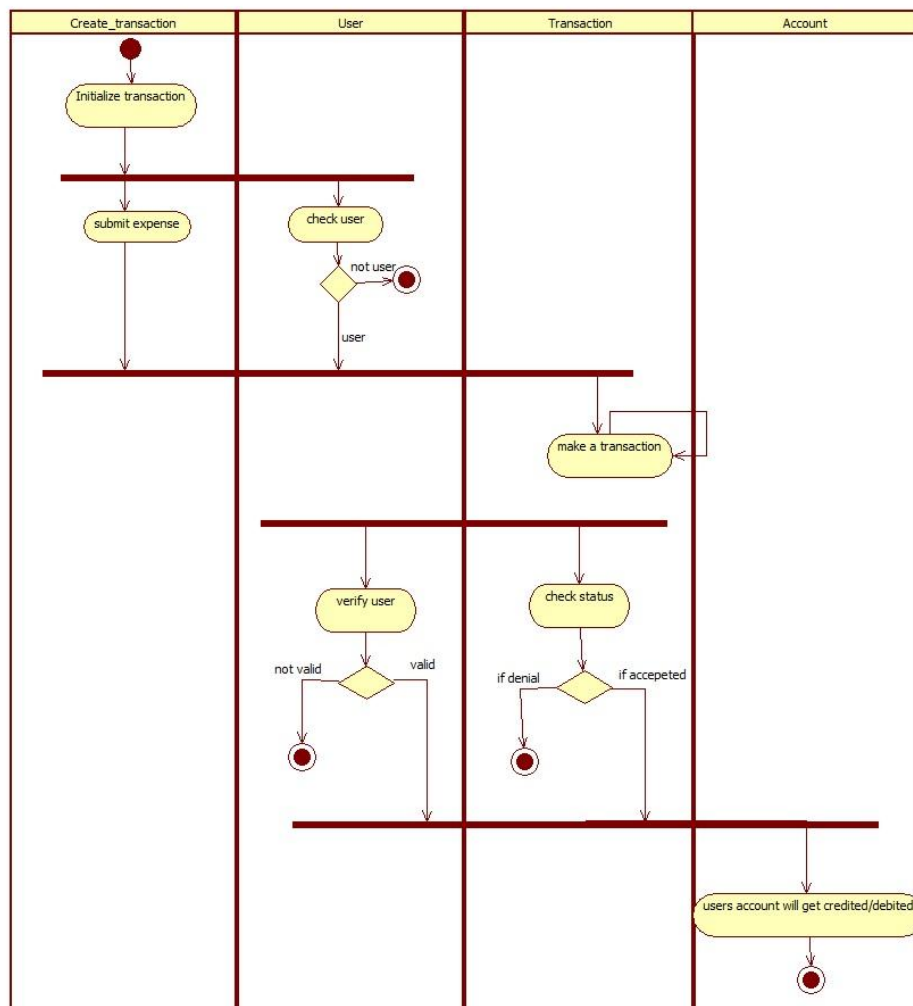XREF: SECTION 2.3.13 Deleting the group.

V ACTIVITY DIAGRAMS
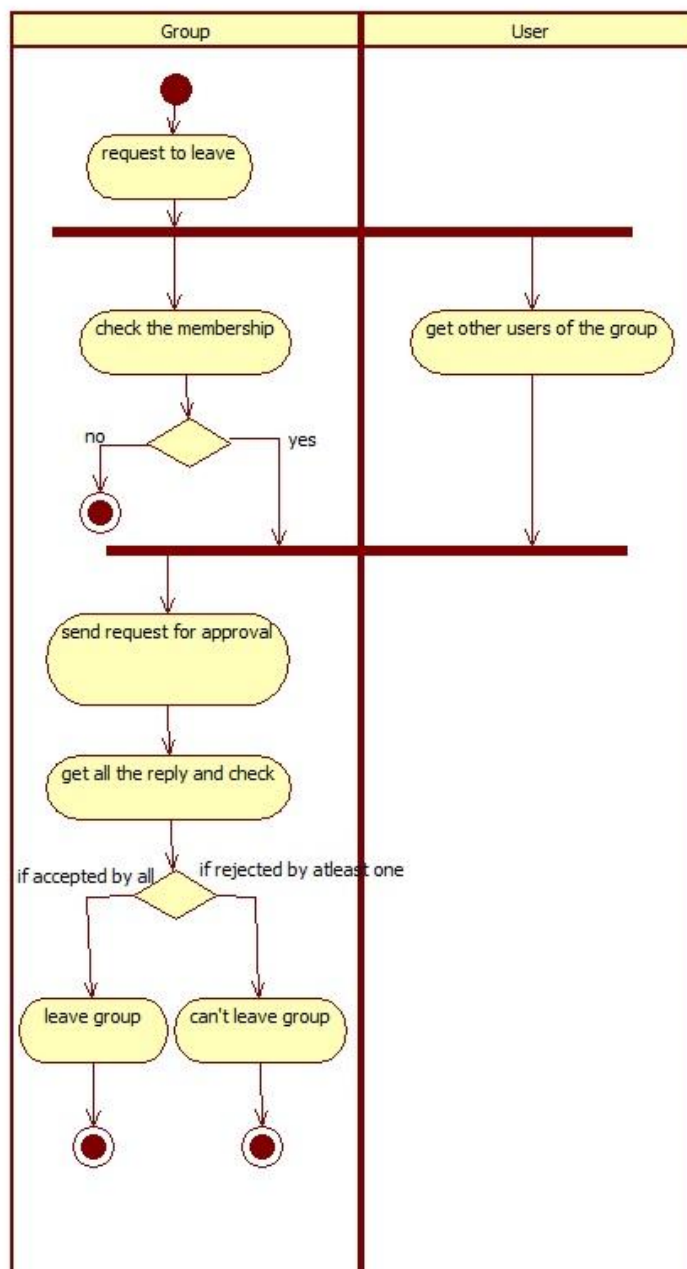
1.CREATE GROUP:

XREF : SECTION 2.3.3 Create Group

2.TRANSACTION:

XREF: SECTION 2.3.8,2.3.9 Update/Delete, Accept/Decline the debt.

3.LEAVE GROUP:

XREF: SECTION 2.3.12 Leave Group

4.DELETE GROUP:

XREF: SECTION 2.3.13 Deleting the group