**Entities**

1. User

* Uid
* Role
* Email Address
* Phone Number

1. Payment Method

* Pid
* Method

1. Categories

* Cid
* Category Name

1. Tag

* Tid
* Tag Name

1. User Expenses

* Eid
* Uid
* Date
* Amount
* Time
* Cid
* Description
* Pid

1. User group

* Gid
* Uid

1. Group expense

* Geid
* Debtor id - uid
* Date
* Amount
* Pid
* tag

1. Group

* Gid
* Date created
* Gname
* description

1. Split users

* Geid
* Uid
* Status
* Split

1. Expense tag

* Eid
* Tid

**Define Relations**

1. RelationName: **UserPaymentMethod**User <pays through> Payment Method, Attributes: Uid, Pid  
   Relationship: Many to Many
2. RelationName: **UserExpense**Between: User, Payment Method, and CategoriesAttributes: Uid, Eid, Date, Amount, Time, Cid, Description, Pid  
   Relationship: One to Many

Or (If expense is made as a separate entity)  
 RelationName: **UserExpense** User <made> Expense, Attributes: Uid, Eid  
 Relationship: One to Many  
  
 RelationName: **ExpenseCategory** Expense <belongs to> Category, Attributes: Eid, Cid  
 Relationship: One to Many  
  
 RelationName: **ExpensePaymentMethod** Expense <paid through> Payment Method, Attributes: Eid, Pid  
 Relationship: One to Many

1. RelationName: **ExpenseTag**Expense <made for> Tag, Attributes: Eid, Tid  
   Relationship: Many to Many
2. RelationName: **UserGroup**User <belongs to>Group, Attributes: Uid, Gid  
   Relationship: Many to Many
3. RelationName: **GroupExpenseTag**GroupExpense <made for> Tag, Attributes: Geid, Tid  
   Relationship: Many to Many
4. RelationName: **GroupExpensePaymentMethod**GroupExpense <paid through> Payment Method, Attributes: Geid, Pid  
   Relationship: One to Many
5. (Optional)  
   RelationName: **GroupExpenseCategory**GroupExpense <belongs to> Category, Attributes: Geid, Cid  
   Relationship: One to Many
6. RelationName: **SplitUsers**GroupExpense <split between> User, Attributes: Geid, Uid  
   Relationship: Many to Many