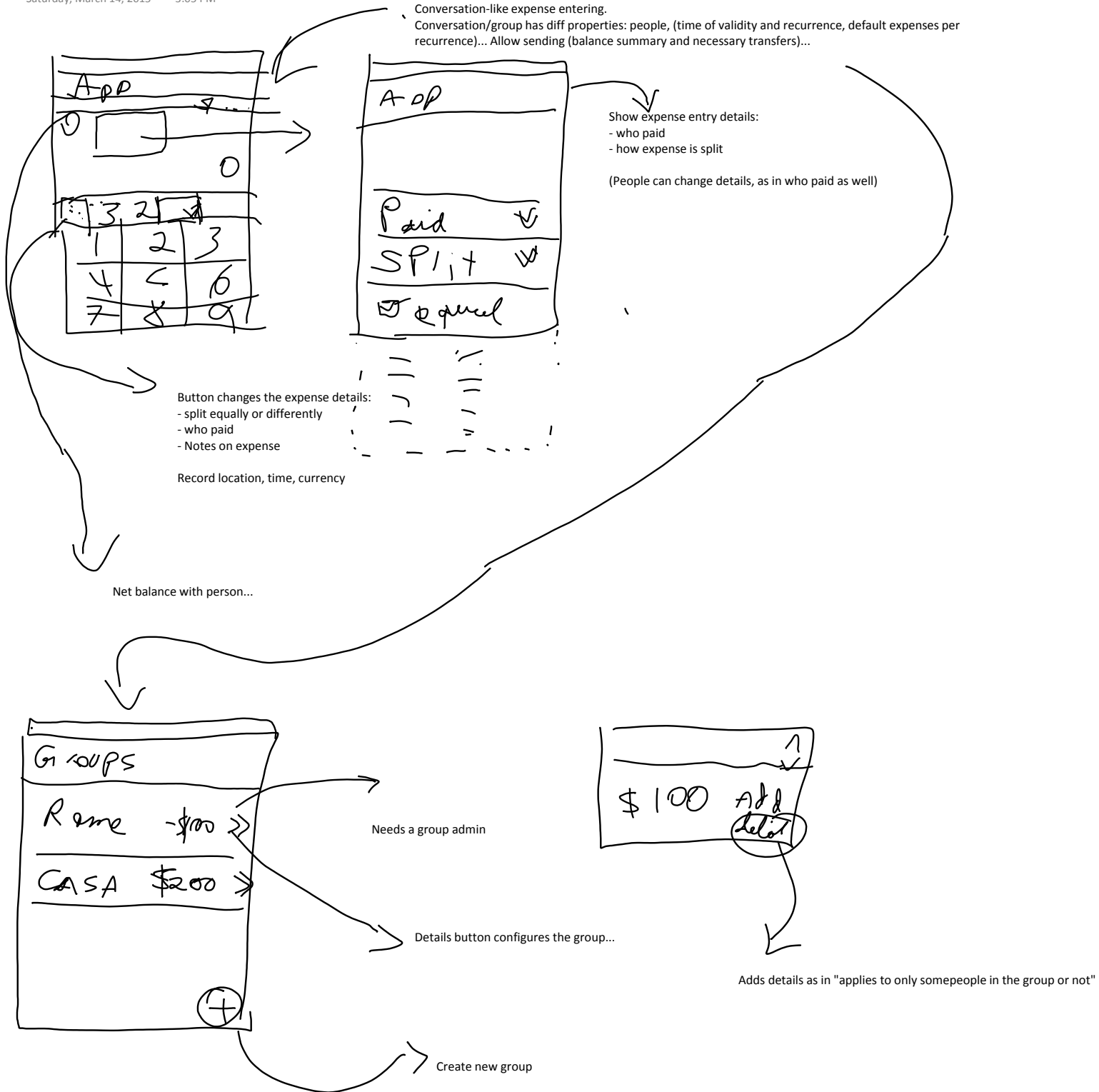


Entering Expenses

Saturday, March 14, 2015 3:05 PM



Expense conversation

Saturday, March 28, 2015 11:00 AM

Handwritten notes and a grid:

○ X x x : \$500

○ Jul : \$50

○ we

ME: \$40

(-\$30)

...	1	2	3
...	4	5	6
○	7	8	9

Function

Friday, May 22, 2015

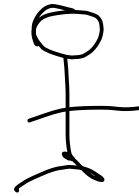
9:04 PM

Send expense

See expens



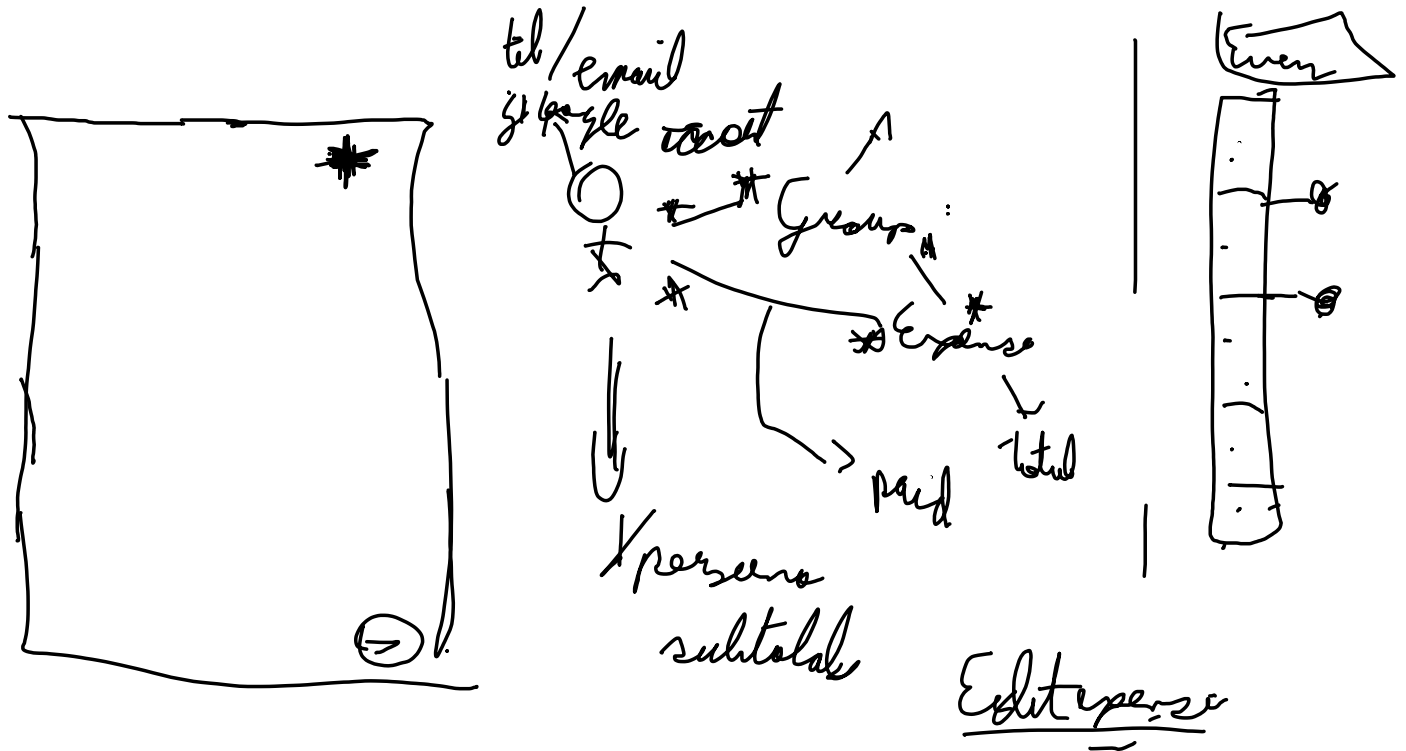
Group Owner



Member

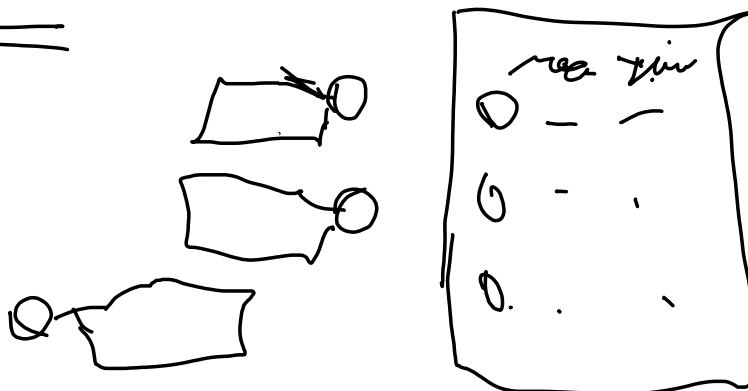
Wireframe

Friday, May 22, 2015 9:06 PM



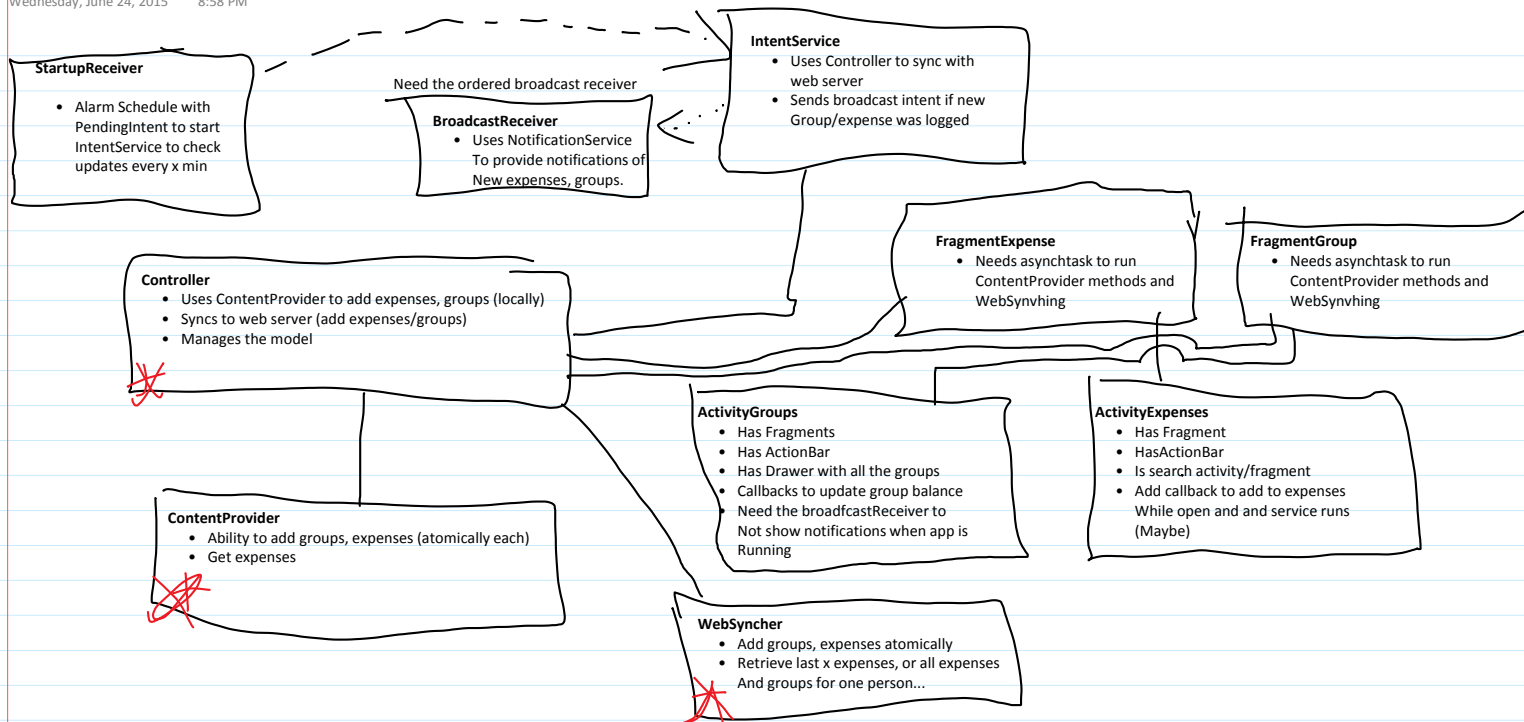
groups → who are mod expenses
from anybody.

my view

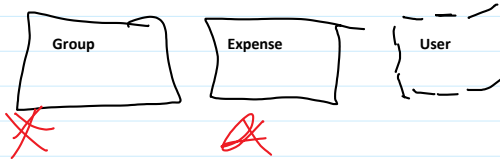


Backend of App: Control

Wednesday, June 24, 2015 8:58 PM



A person can leave a group; therefore, a group may not have such person. A member should have a property to indicate if the person is still active or not In the expense group.

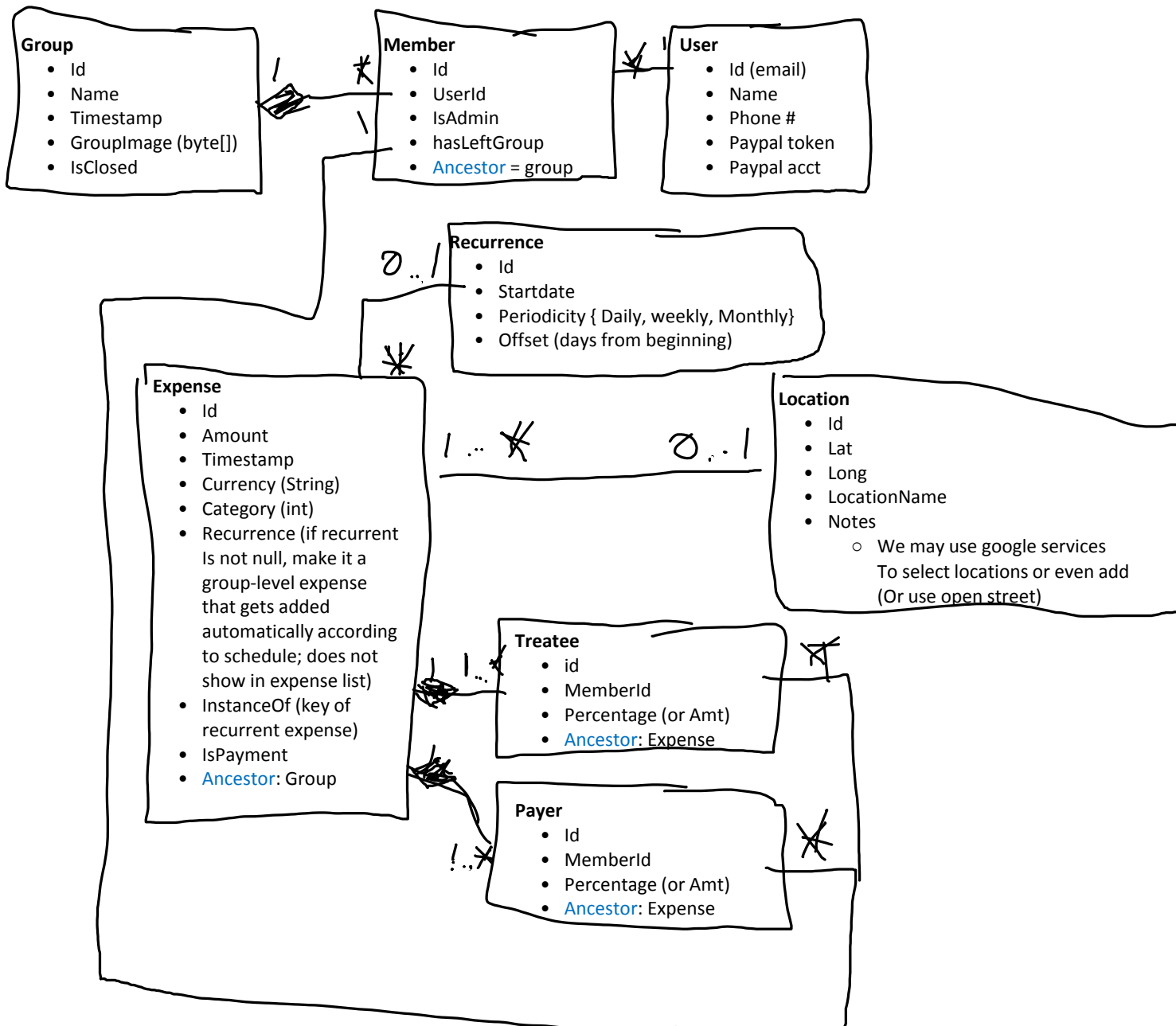


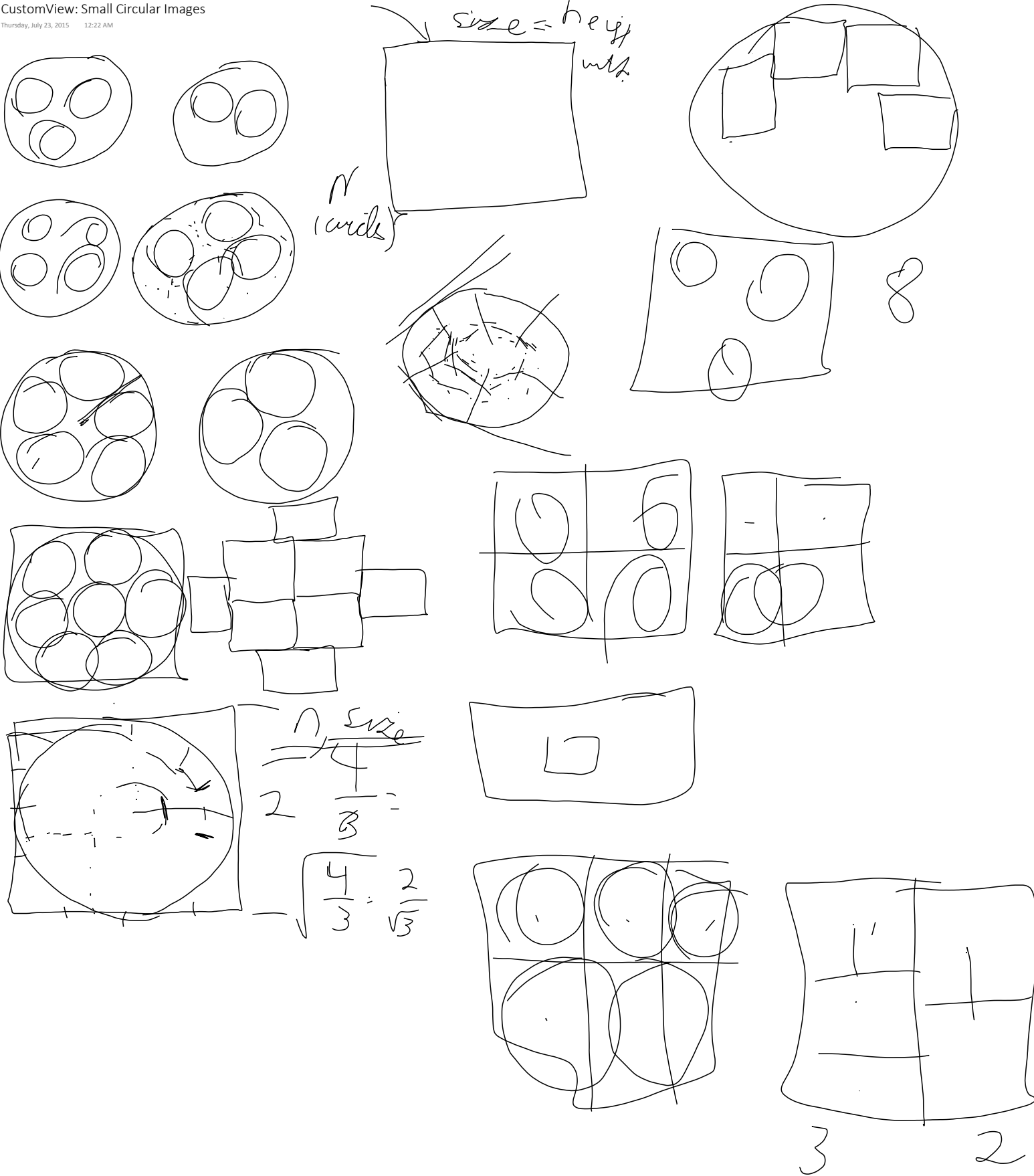
Backend: Model

Friday, June 26, 2015 3:57 PM

Initial assumptions:

- Client will have the totality of the expenses per group
- Transfers are calculated in client, not server

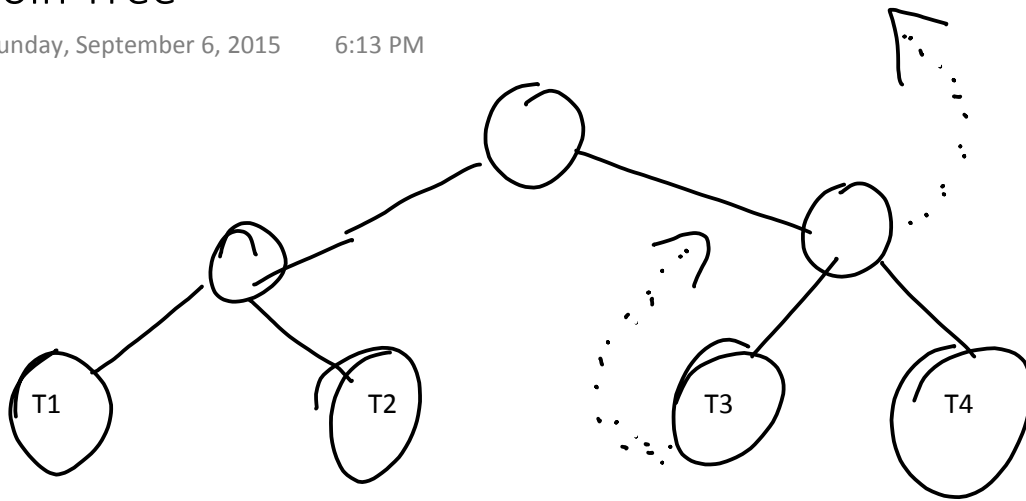




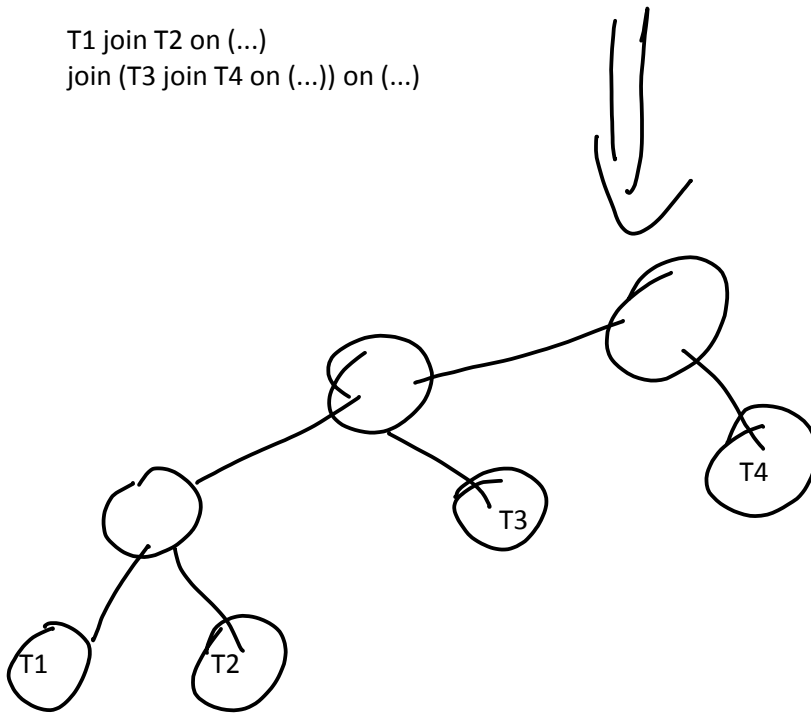
Join Tree

Sunday, September 6, 2015

6:13 PM



T1 join T2 on (...)
join (T3 join T4 on (...)) on (...)



Minimum Viable Product

Sunday, November 15, 2015 7:15 PM

Top 3 Problems

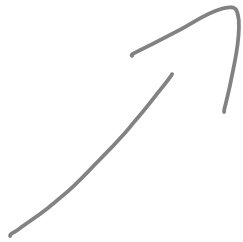
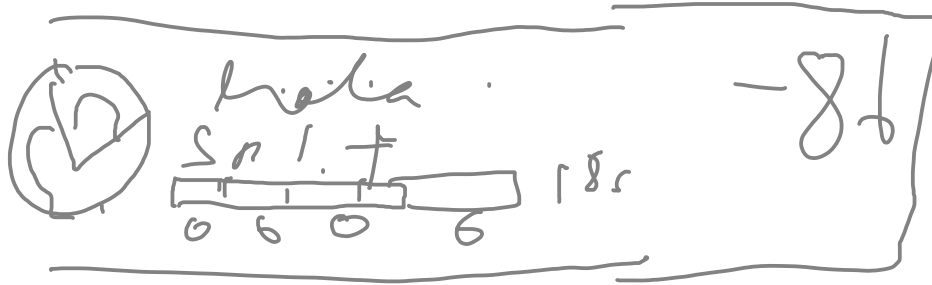
- It is difficult to track shared expenses when traveling
- People may forget they need to pay for what others paid for
- Entry of expenses takes long time to enter and generally by one person; otherwise, completion of expenses becomes difficult

Solution:

- Group expense chat:
 - Create a group with people in their phone
 - Allow entering expenses offline, but synchronized across users
 - Allow people to enter expenses they paid for, and for whom: description and category are optional
 - Allow choosing currency

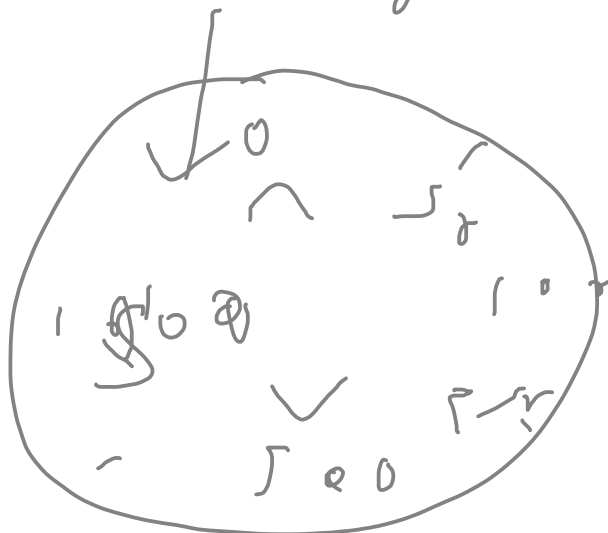
Wireframe: Add expense

Monday, November 16, 2015 10:50 AM



expense

5082

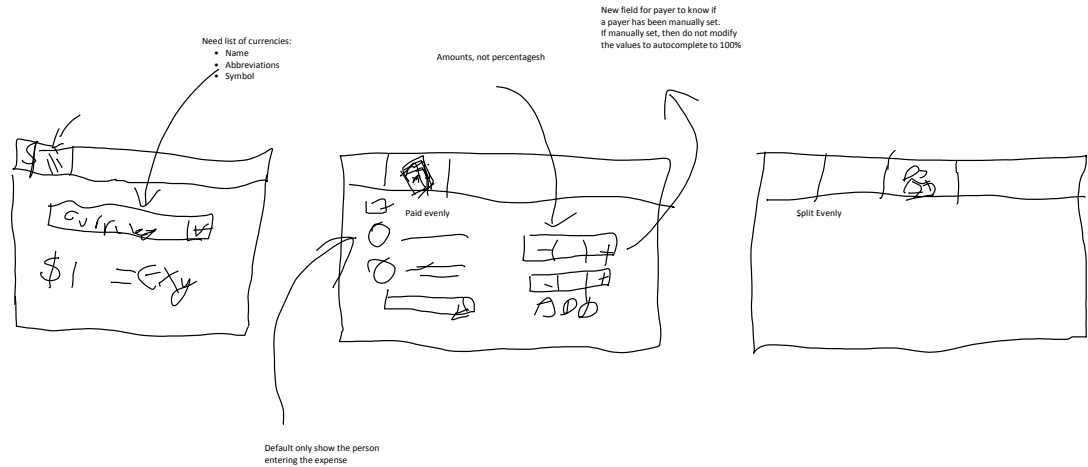


Smart...

Smart
watch

Add Expense

Monday, November 16, 2015 10:50 AM

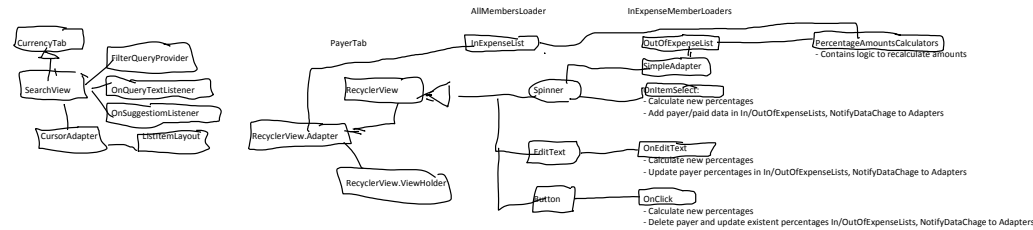


Summary of things to do:

- (Done) Creation of currency table:
 - New table: Currency
 - Gather list of currencies
 - Add data from files:
 - create file with list of currencies
 - in DB Helper, where we create tables, insert data as well from Resource file
- User-level settings:
 - Is there a way to store preferences into tables, so they are synchronized as well?
 - New table: User_Preferences (just id, and the full set of app preferences)
 - Hard-coded app preferences (later create preferences options):
 - Default/home currency set to USD
 - Later, we can update base currency based on current user's location/phone number, or ask for base currency when logging in... part of the configuration.
- (Will not do) Group-level settings:
 - Hard-coded group settings
 - Group-Currency entity:
- KeyboardManager:
 - (Done) Convert keyboard into a fragment; more easily reused in different Activities.
 - Include EditTexts
 - Include show/hide logic of the custom logic
 - (Done) Cosmetic/usability changes:
 - Remove the currency text. Maybe later, Convert the currency symbol into an edit text with symbol set as hint; remove margin to the right. All appear as a single edit text.
 - Keep track of the latest currency (this could be a metric or retrieved from the list of expenses) so people do not have to re-set currencies.
 - Define interfaces between keyboard:
 - Activity implements methods from keyboard interface:
 - OnExpenseSubmitted(Expense, Payers) -> NOTifies ExpenseList to update list
 - OnExpenseChange(Expense, Payers) -> NOTifies ExpenseList to update list >> prob not needed, use the first one.
 - ExpenseShowingFragment will have to have methods for
 - OnExpenseEditIntent(Expense) -> Initializes Keyboard Fragment
- Synchronization work; phases:
 - Synchronization: trigger at each expense submission...
 - Level of synch: per group?
 - Message binding
 - Both; when available, do binding; else, synch

ExpenseFragment (or separate into different fragment; it may be easier to handle edit of existent expenses):

- Create Adapters with no data for Paid/Payers RecyclerViews
- Set adapter and listeners for Currency SearchView
- OnCreate (with no expense added):
 - Start MemberLoader; when finished, create possibly two Arrays (with data references, not copied data) for data for SimpleAdapters for payers/paid



Create Expenses

Tuesday, March 1, 2016 1:11 AM

To do:

- ☐ Add payers: popup window instead of drawer; allow multi-select
- ☐ Editing amounts refreshes other amounts
- ☐ Decide on one way to add payers: button or row?
- ☐ Change entry of expenses:
 - ☐ Move "details" button to next to amount
 - ☐ By default hide amount and keep desc. (Try this out - maybe not definite)

Desirable Changes:

- ☐ Add mutiple payers at once: make "add payer" a popup; allow multiple adding people as payers

Expense Display

Tuesday, March 1, 2016 1:18 AM

- ☐ Allow showing different type of expenses: expenses I paid for, others I did not paybfor, but should pay for
- ☐ Adapter changes:
 - ☐ New type of entries: I-paid-expenses and others expenses I should pay for, and normal conversations.
 - ☐ New layout for my side of conversation.
 - ☐
- ☐

Expense Comments (Not a priority)

Tuesday, March 1, 2016 1:20 AM

- ☐ Tap expense: enter conversation mode, meaning show expense conversations; users can add new chat entries.
 - ☐ Tap expense: insert conversation entries...
 - ☐ Adapter supports new types of entries: conversations
 - ☐ When in conv mode, allow entering only conversations (hide amount and button)

Not sure I want this... I may allow people to just chat...

Currency

Tuesday, March 1, 2016

1:56 AM

- ☐ Support per-expense currency (not priority)
- ☐ Create group-level currency conversion rate
 - ☐ Create menu item from the expense currency tab
 - ☐ Create layout
 - ☐ Create fragment and activity
 - ☐ Create adapter

Edit group

Tuesday, March 1, 2016 2:11 AM

Menu options:

- ☐ Currency rates...
- ☐ Add person

To modify:

- ☐ Allow adding any person to the conversation. This automatically creates a user for that contact (maybe send SMSs to people)
- ☐

Contacts Synch

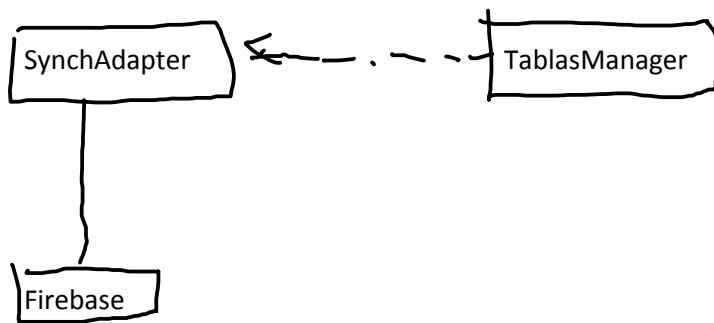
Tuesday, March 1, 2016 2:21 AM

Group Synch

Tuesday, March 1, 2016 2:21 AM

General Architecture

Tuesday, April 12, 2016 10:30 PM



Entity:

- Timestamp (automatically updated)
- Flag: New | Update | Delete,

Firebase Schema

Tuesday, April 12, 2016 10:32 PM

User

- Foreign:
 - Group

Group

- Foreign:
 - User
 - Expense

Expense

- Foreign:
 - Group
 - Payment

Payment

- Foreign:
 - Expense

Google Datastore

Thursday, April 14, 2016 12:57 AM

