

Events Organizer on Social Networks



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Feb 6, 2013

Events Organizer: Overview

- Preferences ordering
- Facebook App
 - Event user
 - Event owner
- Real-time computation
- Issues due to partial information
- What's next?

Preferences ordering

Until now:

$$p_{ij} = 1 \text{ if participant } i \text{ plans to attend event } j$$
$$0 \text{ otherwise}$$

With preferences ordering, the value of p_{ij} is given by the relative order of preference among all events whose participant i would like to attend

$$1 \leq p_{ij} < 2 \text{ if participant } i \text{ plans to attend event } j$$
$$p_{ij} = 0 \text{ otherwise}$$

Preferences ordering

So the objective

Max number of attendees

$$\sum_i^n \sum_j^m s_{ij}$$

Becomes

Max overall preferences

$$\sum_i^n \sum_j^m s_{ij} p_{ij}$$

Facebook App: User

Pages seen from the user's point of view:


- Welcome page
- Events calendar
- Events ordering
- Preferences

Facebook App: User

Welcome page

eorganizer

Organize your events.



Going out twice this week!

I prefer this party overall.

Express anything.


Want to attend between two and five events this week? Just say it.

Attend what you really want.

EOrganizer picks for you the events attended by your close friends while meeting your preferences.

Tune up your events.

Set a maximal capacity, the sex ratio, the median age for your customized events.





Login with **facebook**

Facebook App: User

Events calendar

eorganizer

today



Feb 4 - 10, 2013

week

Mon 2/ 4

Tue 2/ 5

Wed 2/ 6

Thu 2/ 7

Fri 2/ 8

Sat 2/ 9

Sun 2/10

12am
Annif Nico

7pm
Table de conversation en
espagnol/ Mesa de
conversacion en espanol

8pm
Soirée CHIMAY

8pm
Pimp My Cruche @
Grande Casa

8pm
SOIREE
TOURNAISIENNE @
LUX

7pm
Tables de conversation
en néerlandais

6pm
Conférence
Reynders L
dEurope

7pm
CASTING :
RECHERCH
TALENTS p
CABARET le 28/02

8pm
Soirée Engh Où est
Charly? @ COQ

10pm
YEW @ ProPulse 2013 -
Botanique (Rotonde)



Conférence Didier Reynders Les Etats-Unis d'Europe
Auditoire Agora 11 Louvain-la-Neuve

Sorry, no one you know is going to this event.

■ Events to avoid ■ Events you are attending ■ Suggested events

Facebook App: User

Events ordering



Drag your events in order of preference (highest first)



Facebook App: User

Preferences

- Min events to attend (soft)
- Max events to attend

To which scale? By week?

=> “This week, I want to attend between two and five events.”

The scale defines the boundaries of subproblems: instead of optimizing all the events, optimize each week separately

Facebook App: User

This raises more questions concerning:

- Duration
 - What about long events (several days)?
Say an event starting on Sun of week i and ending on Mon of week $i + 1$
 - What should be the default duration? The max allowed?
- Overlapping
 - Limit to at most one event per day?
Some events are all-day long or the hour is not set

Need to define what an event actually is.

Facebook App: Owner

Pages seen from the owner's point of view:

- Welcome page
- Events settings
 - Min capacity for an event to actually occur
 - Max allowed capacity
 - Sex ratio
 - Required, average and max age of participants

Real-time computation

When launching a search?

- When a user logs in: retrieve events

If attendance has changed, start a small search whose incumbent is the one from last (current) search, made consistent (feasible)

What the user sees must be consistent w.r.t. its choices, even if found solution is poor

- Daily: “heavy” search (1 hour long)

In background

- 48 hours before an event starts: several “heavy” searches

Attendances are frozen at this point

Real-time computation

When launching a search?

- When a user updates its preferences
- When an owner changes the settings
 - Soft constraints (e.g. average age)
 - Hard constraints (e.g. max capacity)

Partial information

- Event max capacity
 - Issue #1: owner doesn't set the max capacity constraint
 - Everyone is allowed to attend: no need for searching
 - Maybe suggest events where most of close friends plan to attend (not our purpose)
 - Issue #2: all attendees don't use the Facebook app
 - Max capacity constraint may be consistent yet far more users plan to attend
 - Close friends may not use the app yet attend events
 - Owners “should” make the app mandatory for their guests, otherwise it's useless

What's next?

- Fixing the search inconsistencies

Aspiration criterion shouldn't take that long

More attempts should yield better results (*ceteris paribus*)

- Exploring different selection strategies, finding best values for parameters
- Finalizing Facebook App
- Tackling real-time computation
- Writing?