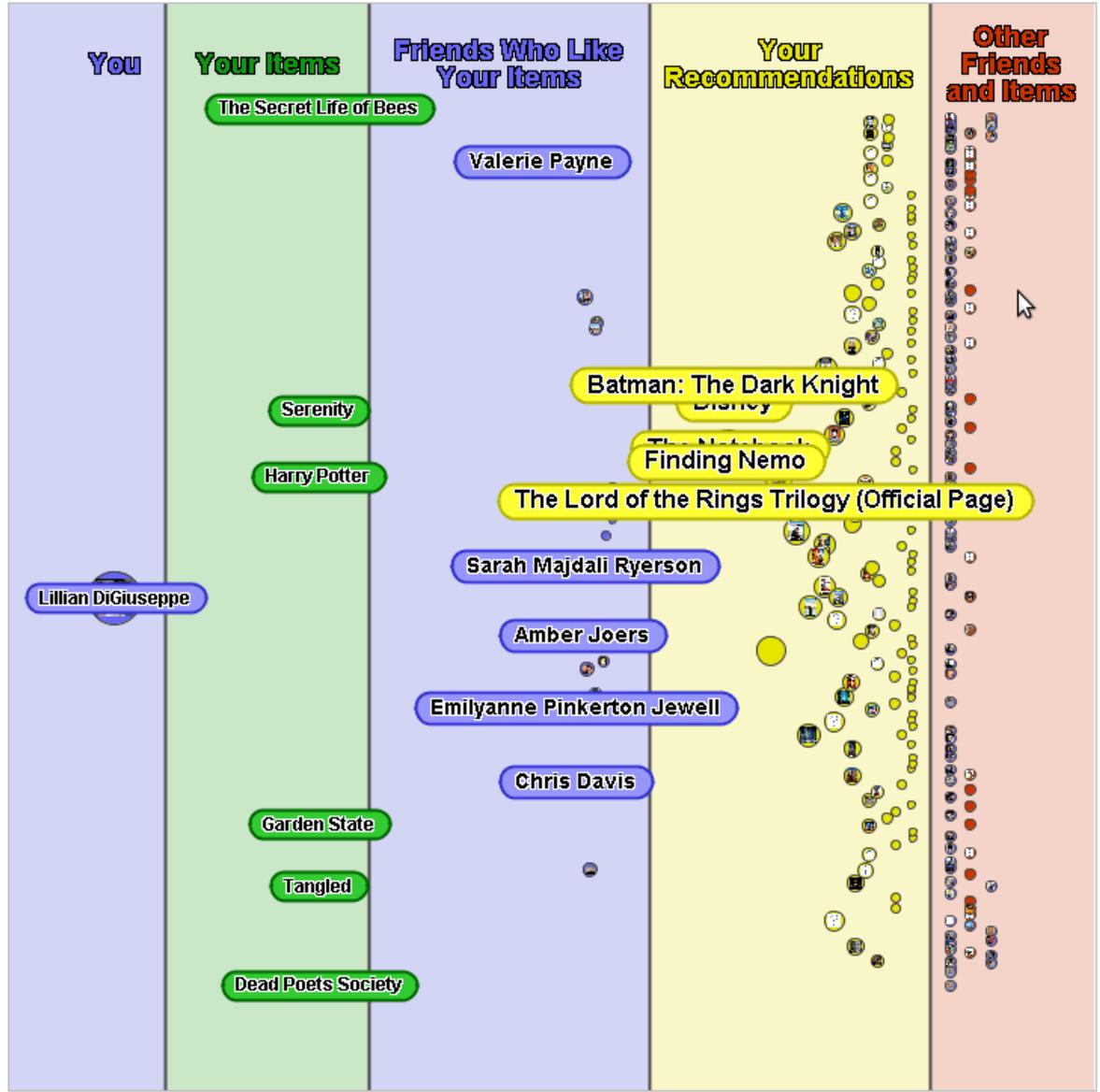


Usability and utility of SmallWorlds

Fang Deng, Nicholas DiGiuseppe, Naiyu Chen



Formal Experiment

- Evaluate Trust
 - trust of system
 - trust of visualization
 - impact of experience and real world data on trust

Formal Experiment: Get Real Trust Data

Friends Name	Trust score for friend in terms of movie recommender

Formal Experiments: Text Based System

Small Worlds: Visual Recomm... +

facebook Search

Help Settings

Recommendations List

Rank	Title	Type	Score
1	Finding Nemo	movie	0.65
2	The Notebook	movie	0.64
3	Batman: The Dark Knight	movie	0.628
4	Disney	movie	0.626
5	The Lord of the Rings Trilogy (Official Page)	movie	0.527
6	Pride and Prejudice	movie	0.514
7	Toy Story	movie	0.481
8	Dear John	movie	0.423
9	Dr. Horrible's Sing-Along Blog	movie	0.386
10	The Princess Bride	movie	0.383
11	The Lion King	movie	0.352
12	Disney Pixar	movie	0.334
12	Beauty and the Beast	movie	0.334
14	Despicable Me	movie	0.328
15	Fight Club	movie	0.304
16	Sense and Sensibility	movie	0.303
16	Stardust	movie	0.303
18	Pearl Harbor	movie	0.293
18	Buddy The Elf	movie	0.293
20	The Smurfs	movie	0.29
21	The Sound Of Music	movie	0.274
22	Avatar	movie	0.27
23	Tron	movie	0.27
24	Scott Pilgrim vs. the World	movie	0.25
25	Tommy Boy	movie	0.248
25	Inception	movie	0.248
27	Where the Wild Things Are	movie	0.247
28	Star Wars	movie	0.247
29	Iron Man	movie	0.245
29	Spirited Away	movie	0.245
29	Zombieland	movie	0.245
32	X-Men Movies	movie	0.241
33	Kung Fu Panda	movie	0.237
34	The Hunger Games	movie	0.236
34	Manba "Dance like a MAN"	movie	0.236
36	Star Trek	movie	0.217
37	Bridget Jones's Diary	movie	0.204
37	The American President	movie	0.204
39	The Incredibles	movie	0.199

Other Friends and Items

Lillian DiGiuseppe

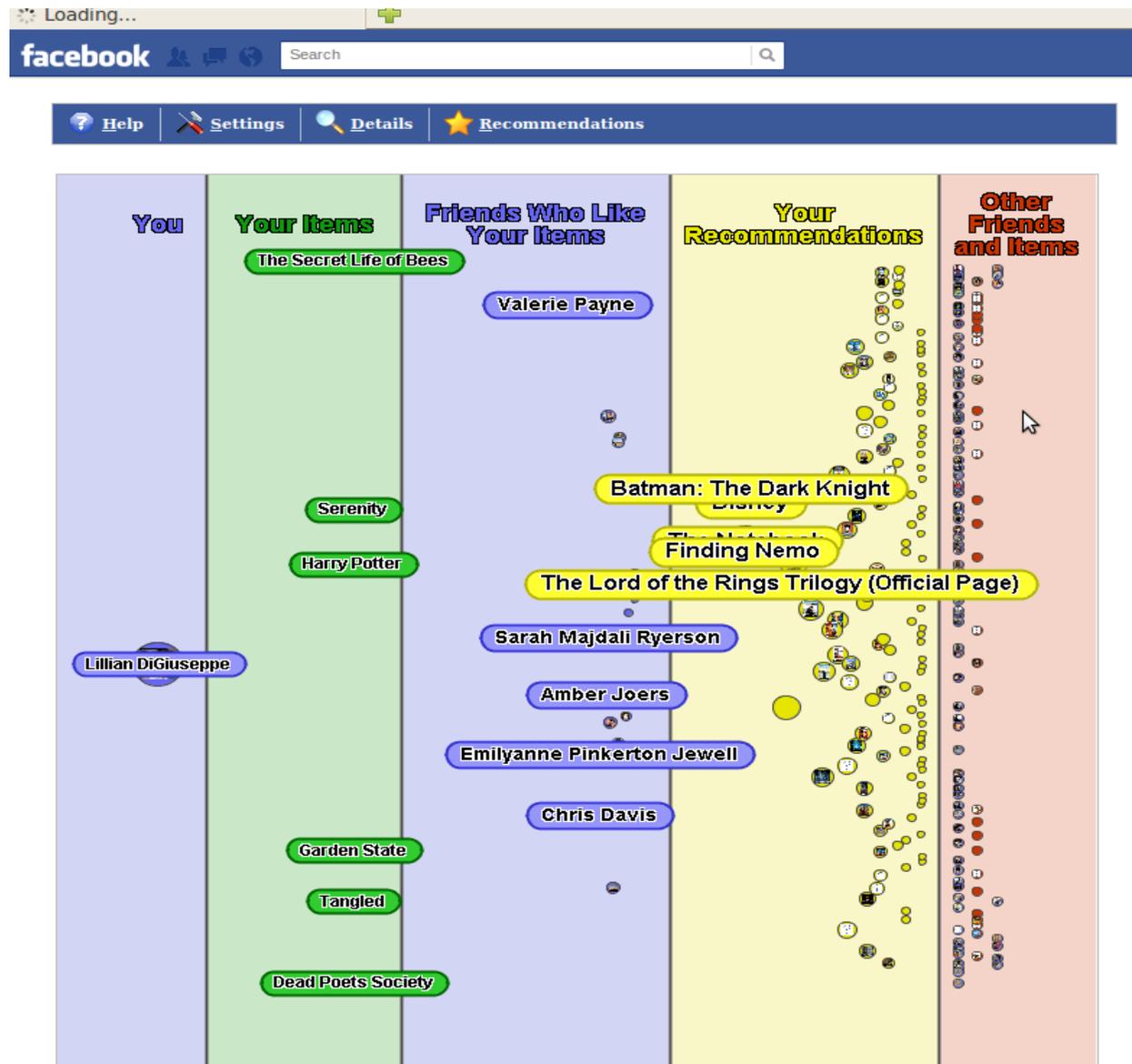
Official Page)

Like · 83, National Ch, Target, Like · Sal, Free Plastic, 67 people like Surgery App

Movie	1 very bad recommendation	2	3	4	5 very good recommendation	N/A
1st						
2nd						
3rd						
4th						
5th						

	1 Fully Mistrust System	2	3	4	5 Fully Trust System	N/A
Text Based System						

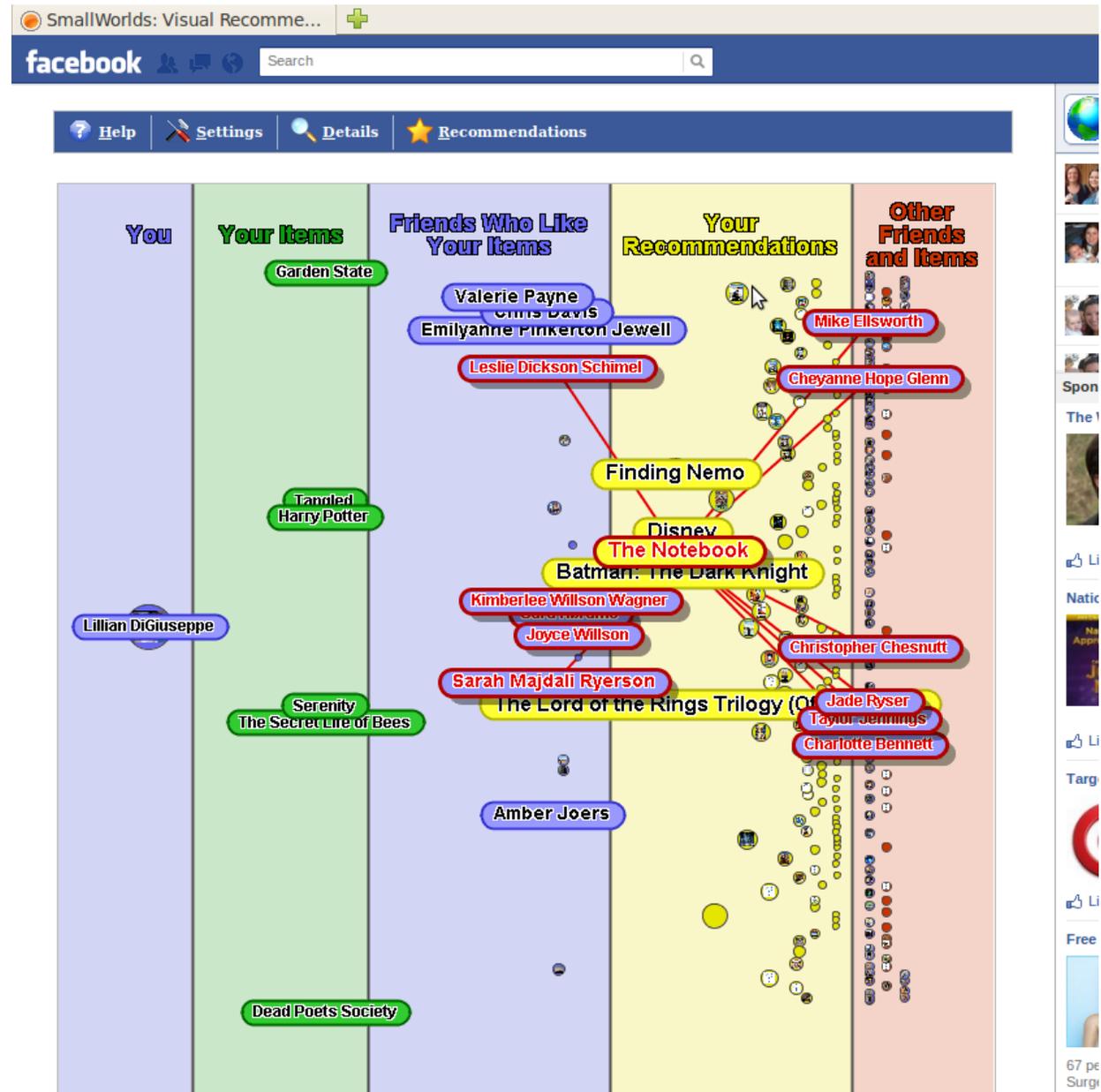
Formal Experiment: Visualization System



Movie	1 very bad recommendation	2	3	4	5 very good recommendation	N/A
1st						
2nd						
3rd						
4th						
5th						

	1 Fully Mistrust System	2	3	4	5 Fully Trust System	N/A
Text Based System						

Formal Experiment: Interaction with Visualization



Two Tasks

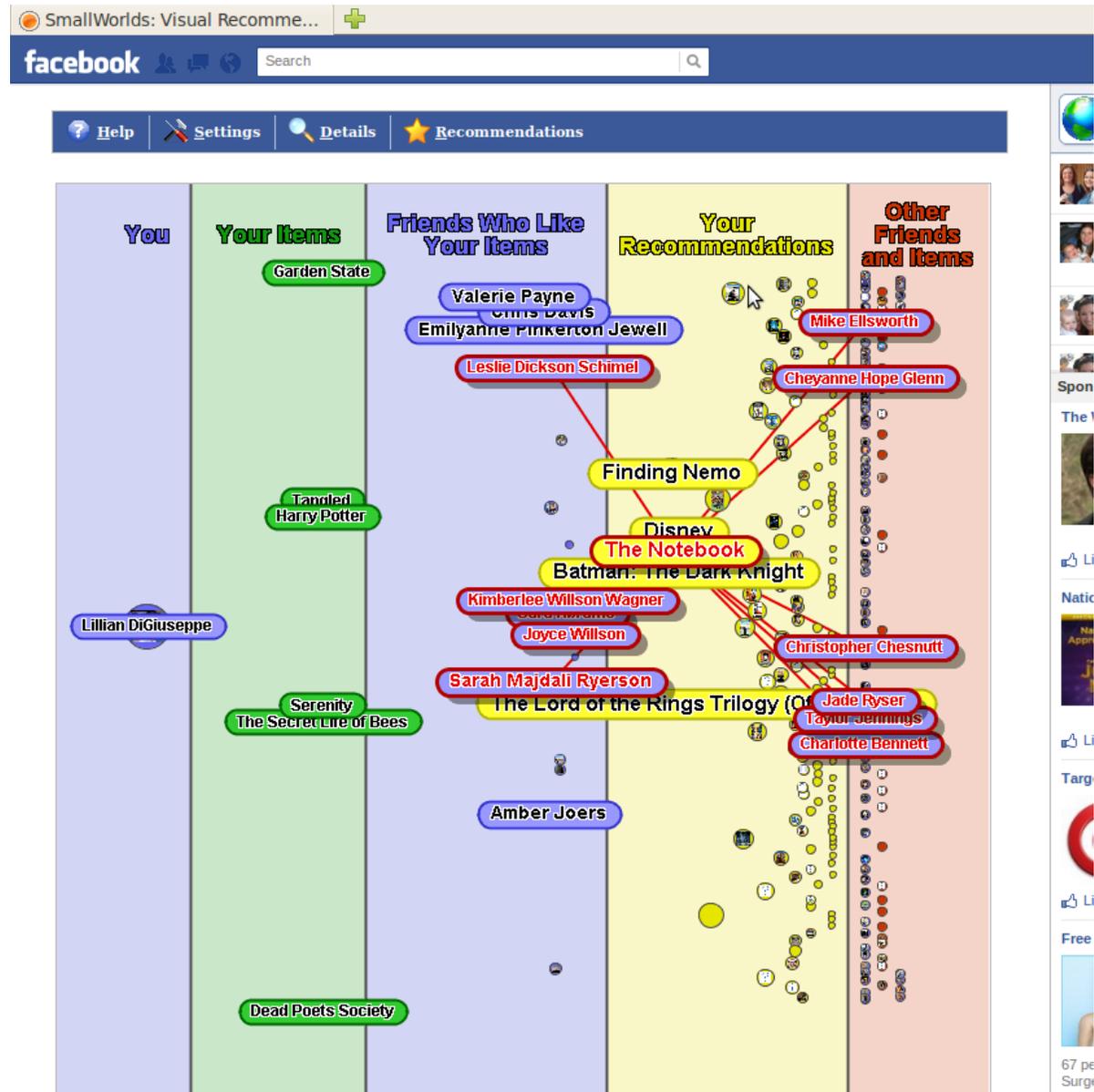
Task 1

- Increase two different friends trust scores

Task 2

- Change a movie from recommended, to liked

Formal Experiment: Use Real Trust Data



Movie	1 very bad recommendation	2	3	4	5 very good recommendation	N/A
1st						
2nd						
3rd						
4th						
5th						

	1 Fully Mistrust System	2	3	4	5 Fully Trust System	N/A
Text Based System						

Preliminary Results

- How much do they trust their friends?

data: (2,4,1,3,3) (5,2,2,2,4) (5,1,1,3,1), (4,3,3,1,1)

Mean (Average) = 2.55

Standard deviation = 1.35627

The average trust for their friends is not very high, while for some friends they highly trust, for some they merely trust.

Preliminary Results

- How good are the recommendations?
 - Trust with text view - slightly worse [avg 3.45]
 - Trust with visualization - in between [avg 3.471]
 - Trust with real world data - best [avg 3.813]
 - More and more N/A
- How much do they trust the systems:
 - Trust with text view - best [avg 2.75]
 - Trust with visualization - slightly worse [avg 2.25]
 - Trust with real world data - same [avg 2.25]
 - Some Specifics
 - 25% no trust at all (score 1)
 - 75% have little trust (score of 1-2)
 - 25% have some trust (score 4)

Comments from Subjects

- The text-based system:
 - "...clear ..."
 - "... it guessed movies [that] appeal to me..."
 - "I liked seeing the long list of movies to think about."
- visualization-based system:
 - Positive:
 - "...show the movies liked by my friends..."
 - "Seeing why it...used the friends it did."
 - Negative:
 - "...display so much information..."
 - "...it is really confusing..."
 - "ugly...messy... and it is using friends I don't talk to."

Comments from Subjects

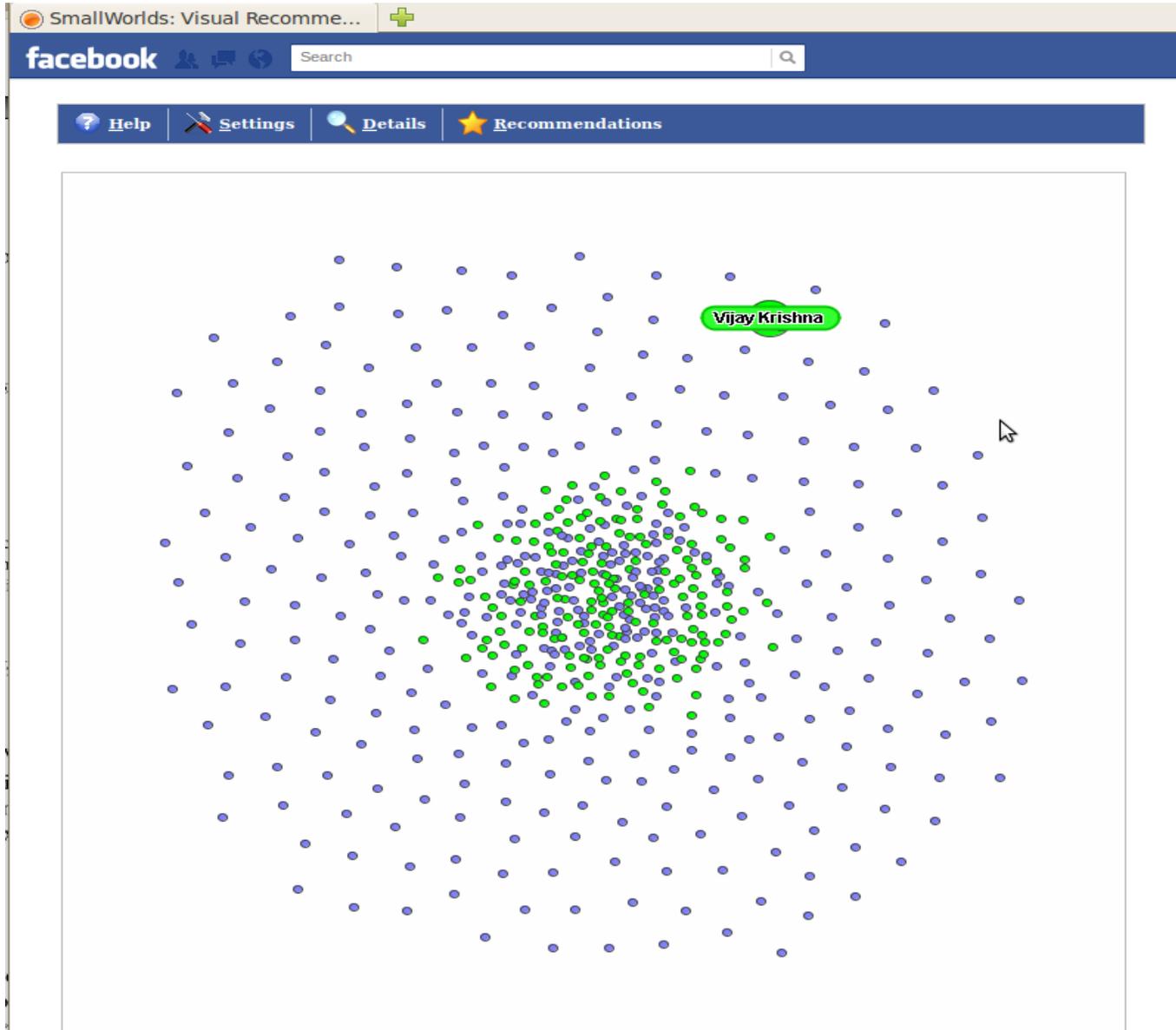
- Real world-data based Recommendation :
 - Negative:
 - "... not really any aspect [helped me to trust the recommendation]..."
 - "...information boxes are hiding each other..."
 - 0% could complete the first task
 - 50% could not complete second task
- Which system is best:
 - "...the text is clean but couldn't adjust from who you are getting recommendation from..."
 - "The text output only."

System Halting Problems

These things made it impossible to perform this study as outlined

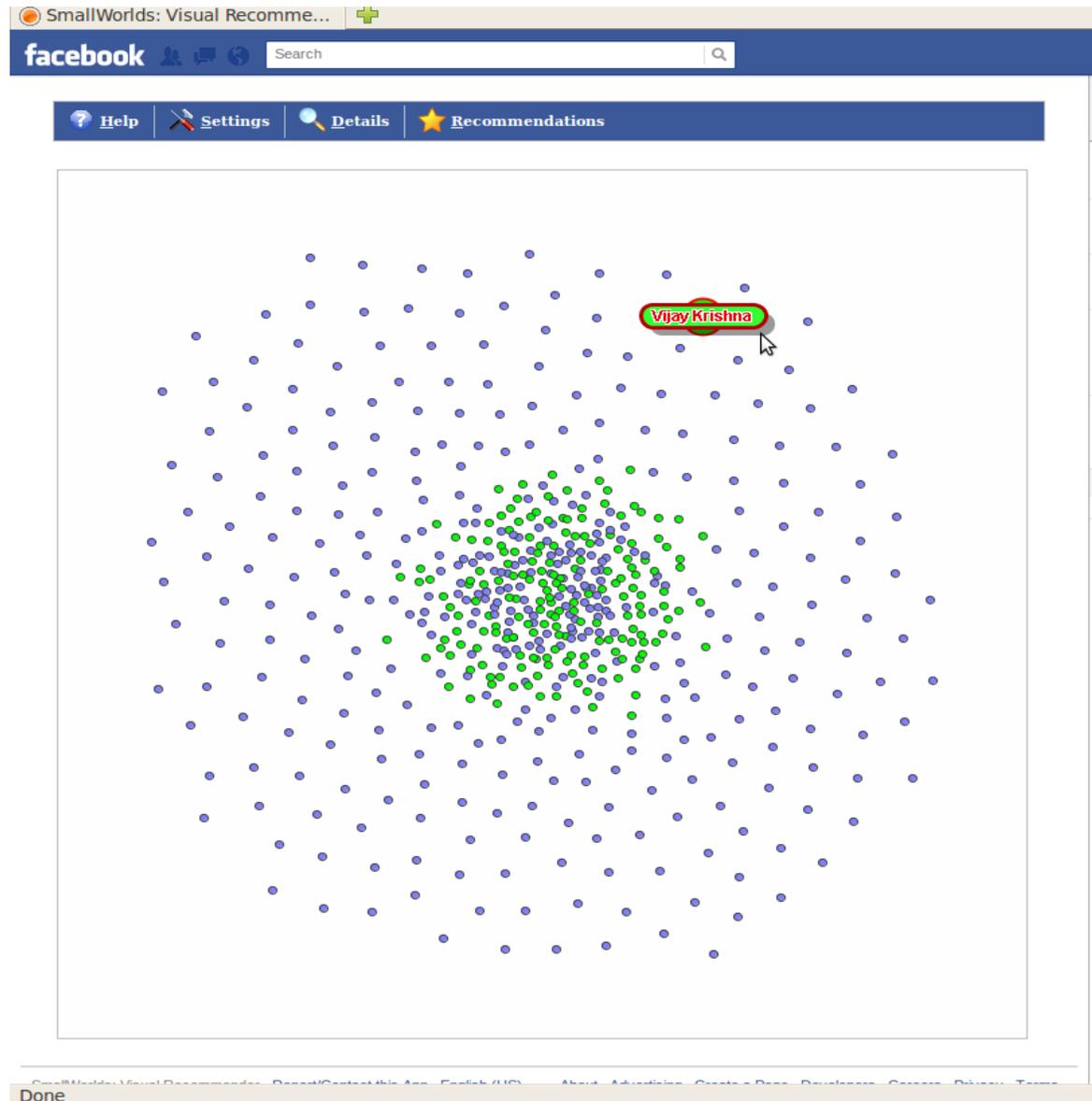
Things that went wrong

The visualization appears as a circle instead of columns



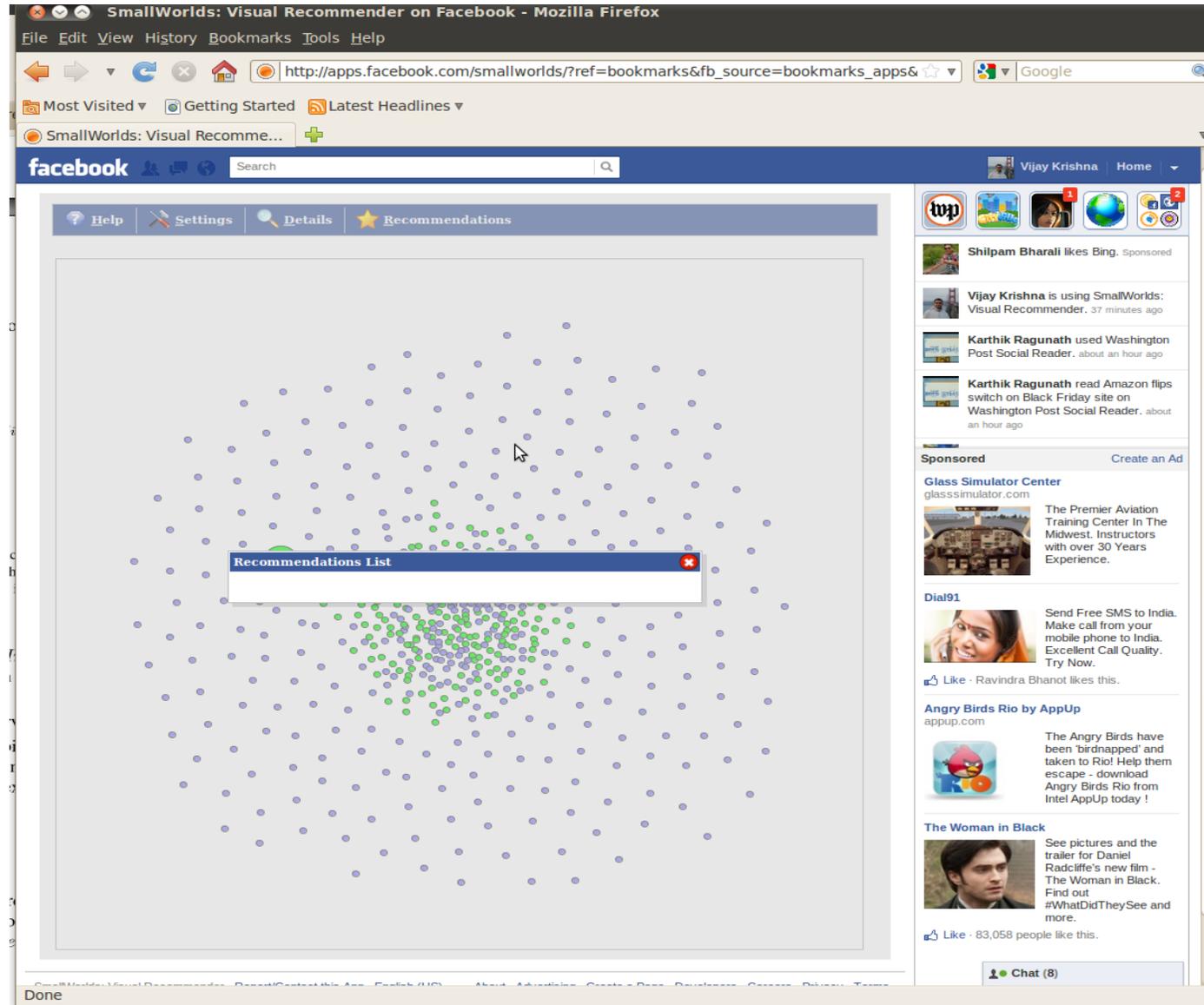
Things that went wrong

when clicked on the person, nothing would be correlated



Things that went wrong

The system would recommend nothing



Usability Problems

These problems made it difficult for the people to use the system, or made the system behave incorrectly

Things that went wrong

The reset function doesn't work

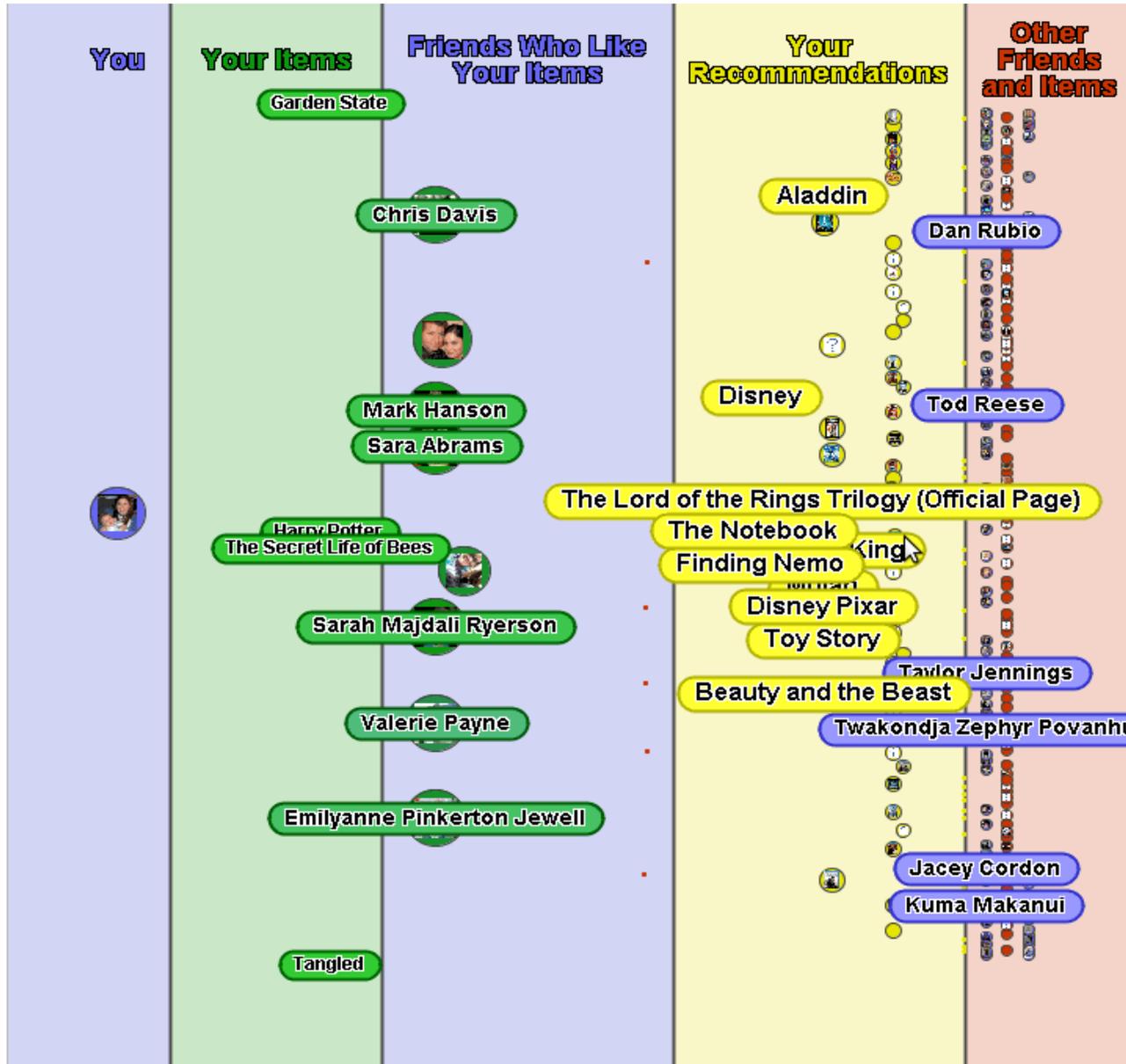
The screenshot shows a Facebook application window titled "SmallWorlds: Visual Recomm...". The interface is divided into several columns: "You", "Your Items", "Friends Who Like Your Items", "Your Recommendations", and "Other Friends and Items". The "Your Items" column lists items like "Tangled", "The Secret Life of Bees", "Batman: The Dark Knight", "The Notebook", "Finding Nemo", "Serenity", "Dead Poets Society", and "Garden State". The "Friends Who Like Your Items" column lists friends like "Valerie Payne", "Lillian DiGiuseppe", and "Leslie Dickson Schimmel". The "Your Recommendations" column lists items like "Toy Story" and "Philology (Official Page)".

Two dialog boxes are overlaid on the interface. The "SmallWorlds Settings" dialog box has a "Friends" field with a value of "1" and a "Reset all weights" button. The "Please Wait." dialog box contains the text: "SmallWorlds is retrieving information from Facebook. This may take a while. Please be patient. This window will close automatically when done."

At the bottom of the window, the status bar shows "Waiting for 128.111.28.111..."

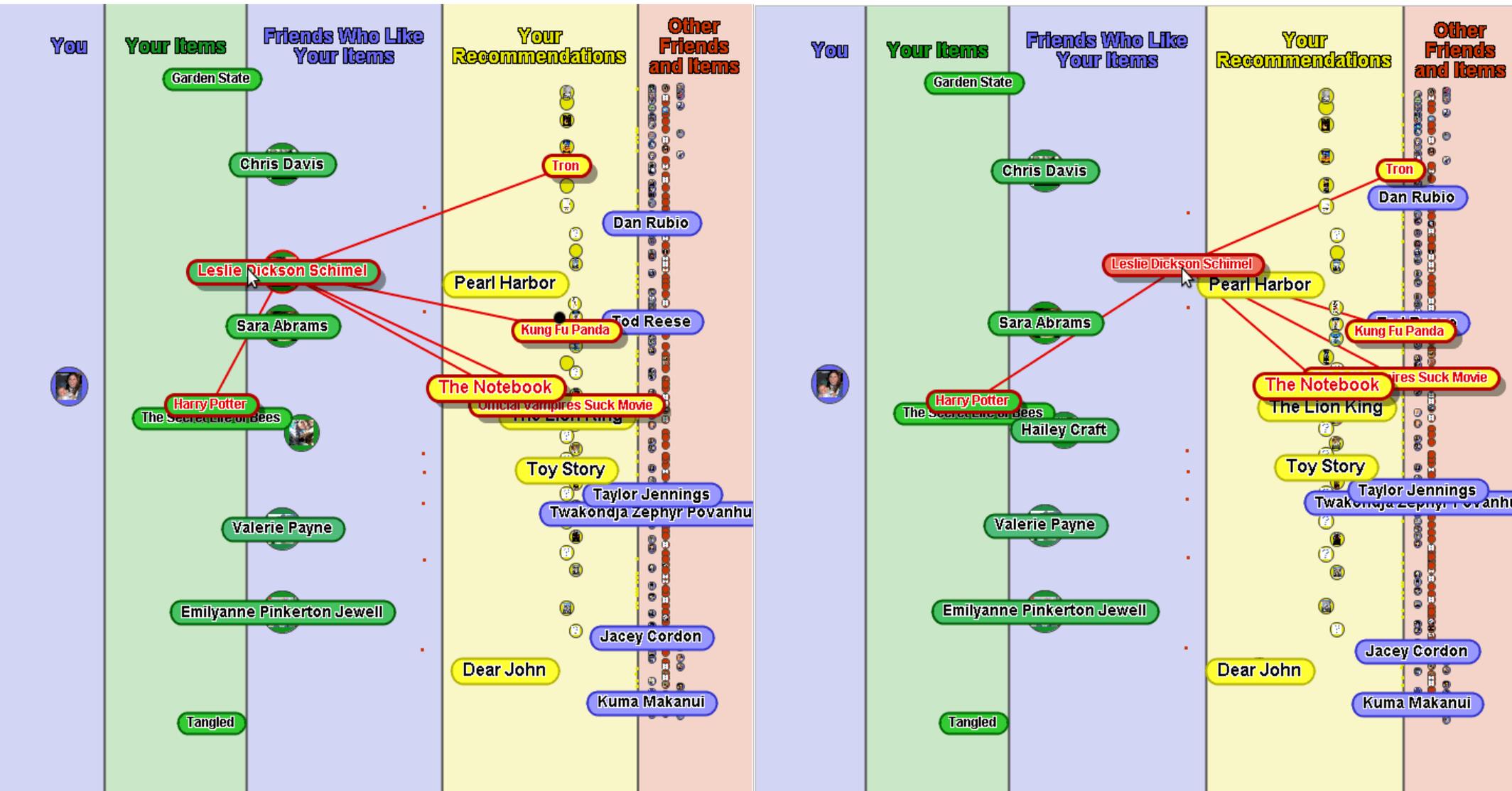
Things that went wrong

The items are overlapped



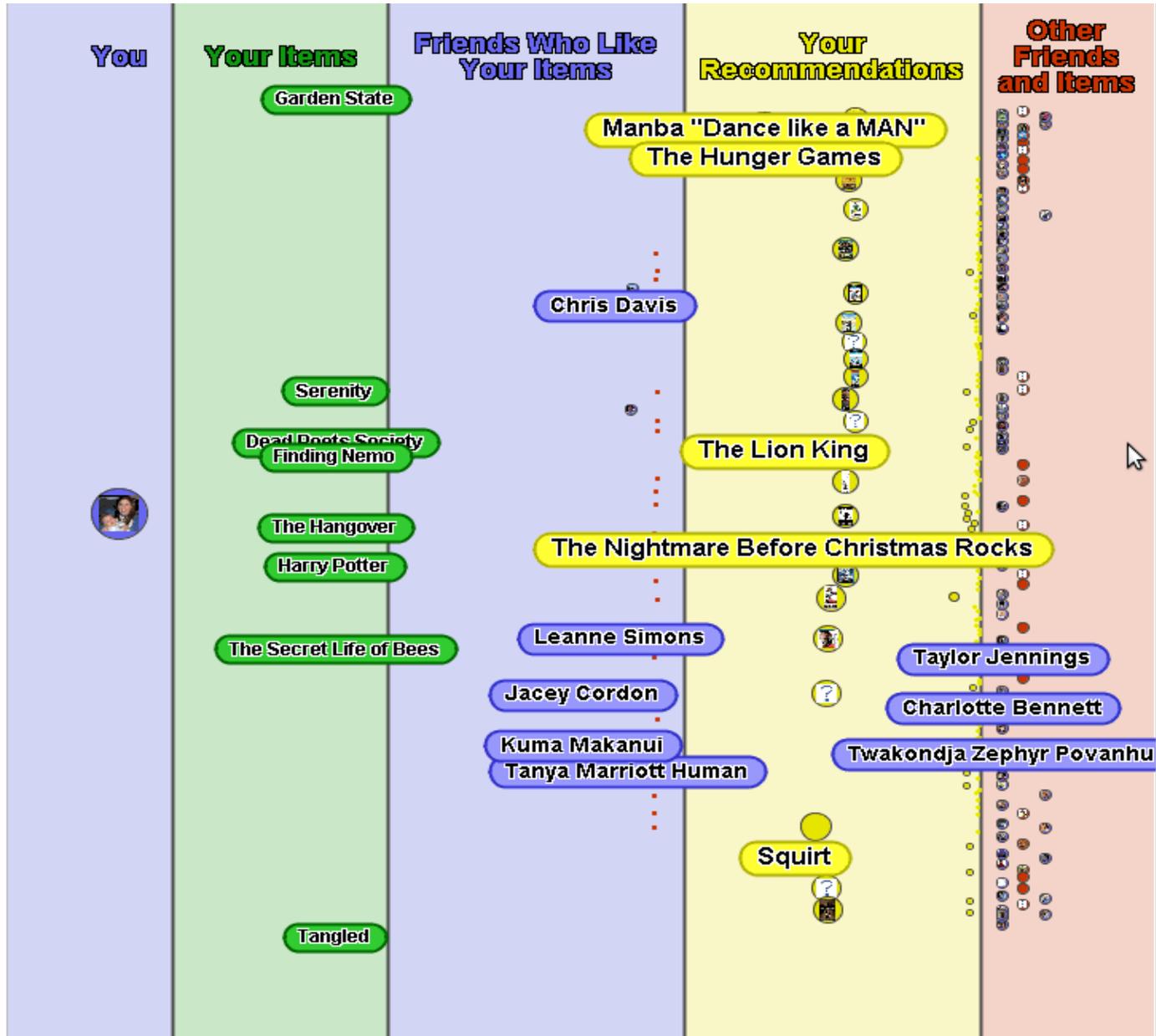
Things that went wrong

Users don't know the meaning of the layout or the moves



Things that went wrong

People are highlighted in the wrong column



Timeline

Week 8: Presentation, All

Week 9: Analysis of data, Fang/Naiyu

Writing Report, all

Week 10: Writing Report, all

Report:

- Problem: Fang
- Initial Steps/Methods: Fang, Naiyu
- Results: Naiyu
- Interpretation of results: Nicholas, Naiyu
- Recommendations for improvement: Fang, Nicholas
- Conclusion: Nicholas