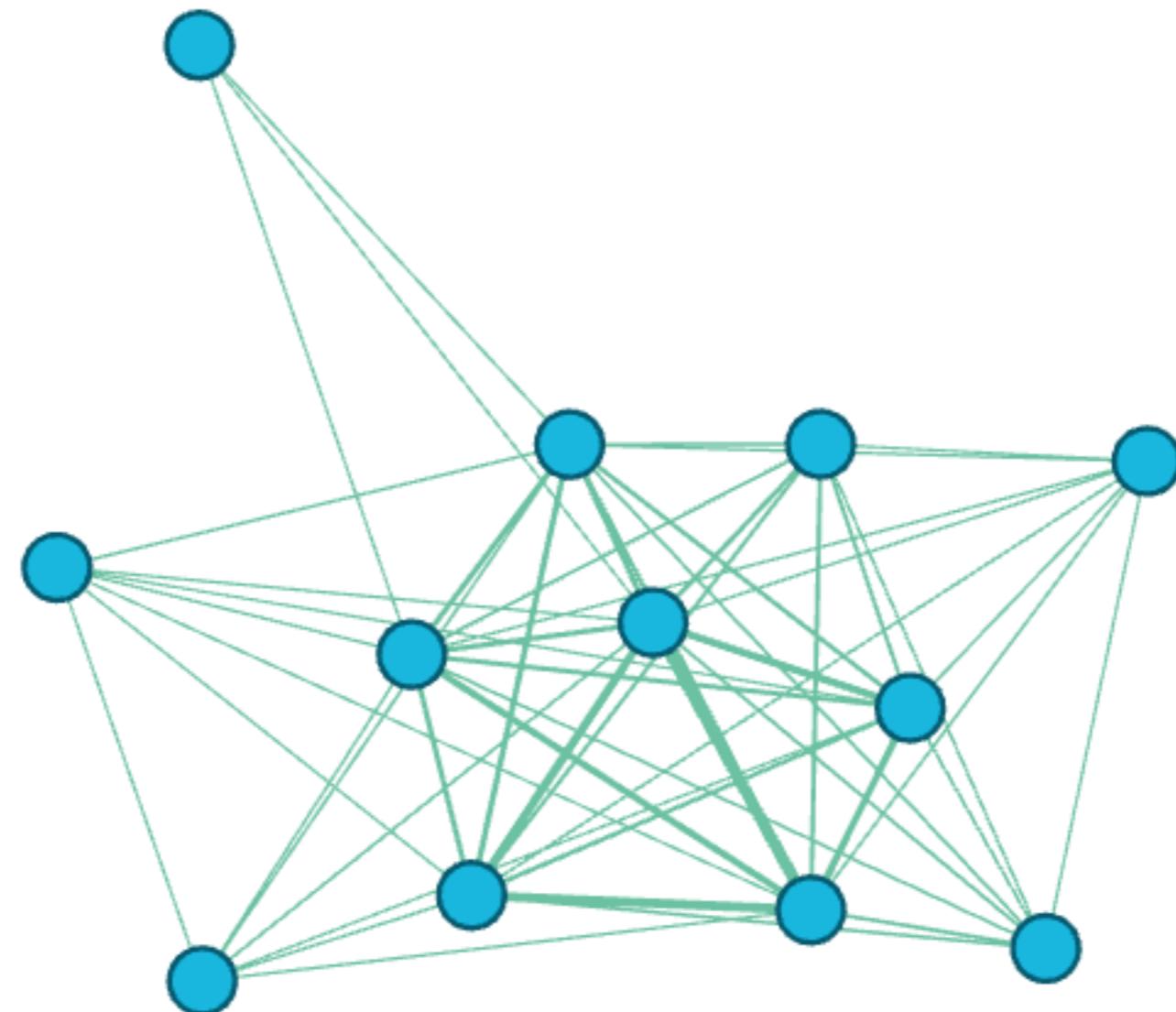


# Community Detection on Meetup.Com

*Filip Machi*  
*galvanize@fil.fmachi.net*  
*<https://github.com/nitecascade/solid-funicular>*

*A Social Network represents relationships or information flows between people, groups, organizations or other entities.*

*Often visualized as a Graph of Nodes and Edges.*



# Why Study Community In Social Networks?

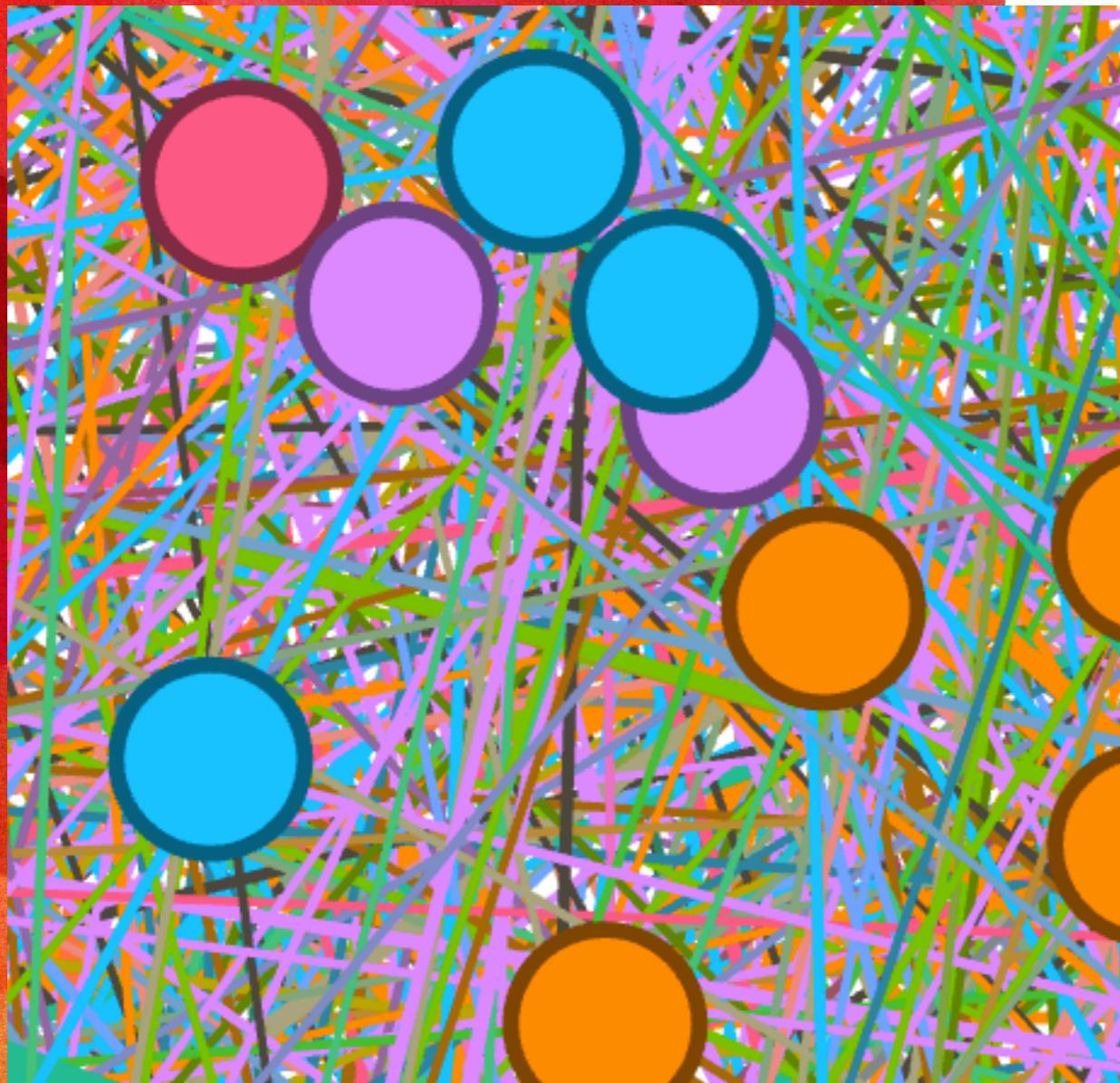
- Social networks are not random, they have **structure**, like **community** (common interests among people)
- There are **surprises** waiting to be uncovered

# Where Did The Data Come From?

- *meetup.com API*
- *Python & bash*
- *5+ GB of JSON*
- *8200+ Groups*
- *7.3+ million Edges*

# METHODOLOGY

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- Build a big graph
- Nodes are Meetup groups
- Edges between groups mean groups have common members
- Look for dense areas in graph, these are the communities

# What could go wrong?

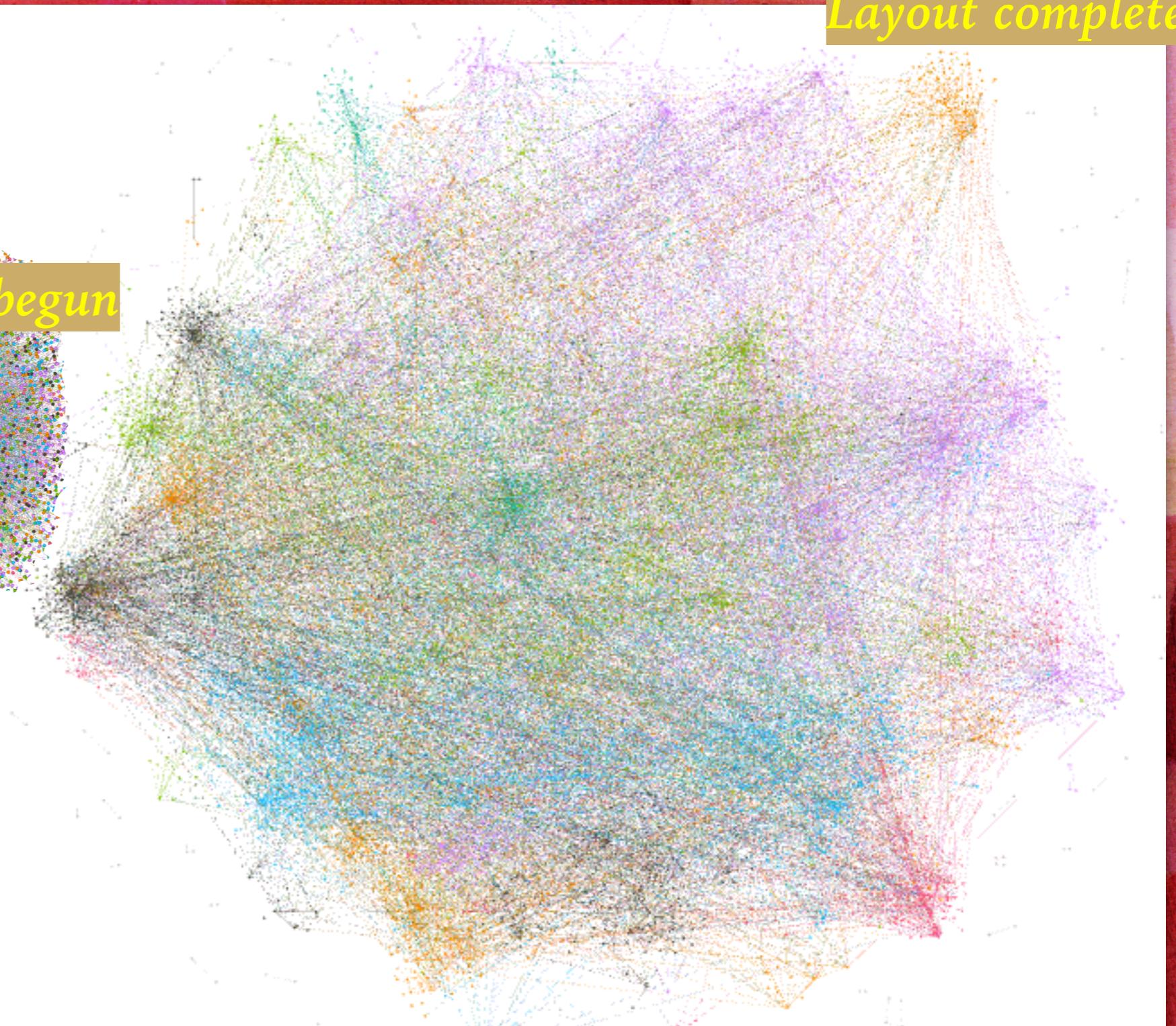
- Downloading 5+ GB of JSON data takes a long time
  - Use a large AWS EC2 instance
- Graph is too big!!!
  - Use a faster algorithm (**Louvain Community Detection**)
- Visualization (Graph is too big again!!!)
  - Gephi** visualization software brings laptop to its knees
  - Prune some edges, work on pieces of the graph separately

*Initial graph*

*Layout complete*

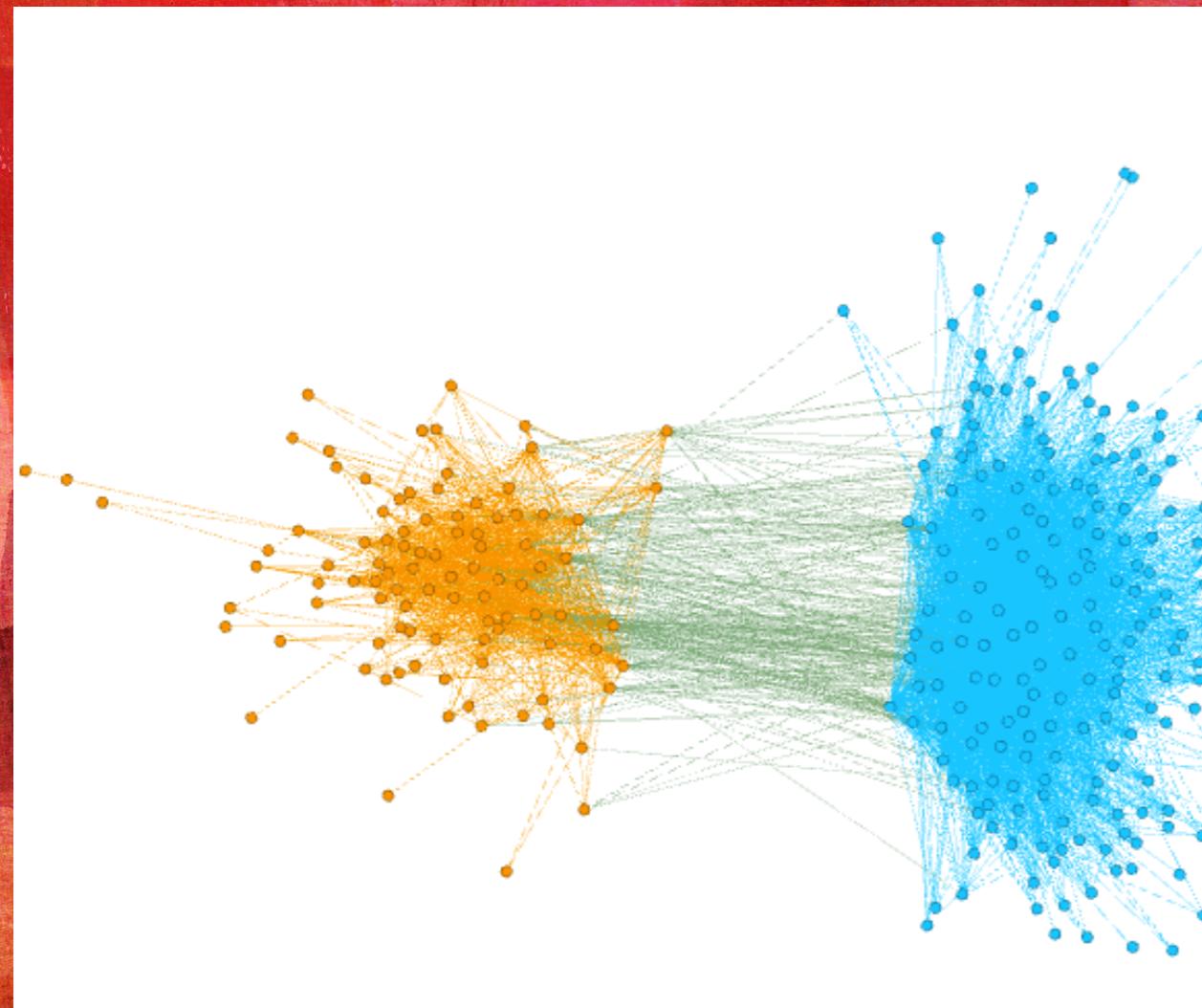
*Communities*

*Layout begun*

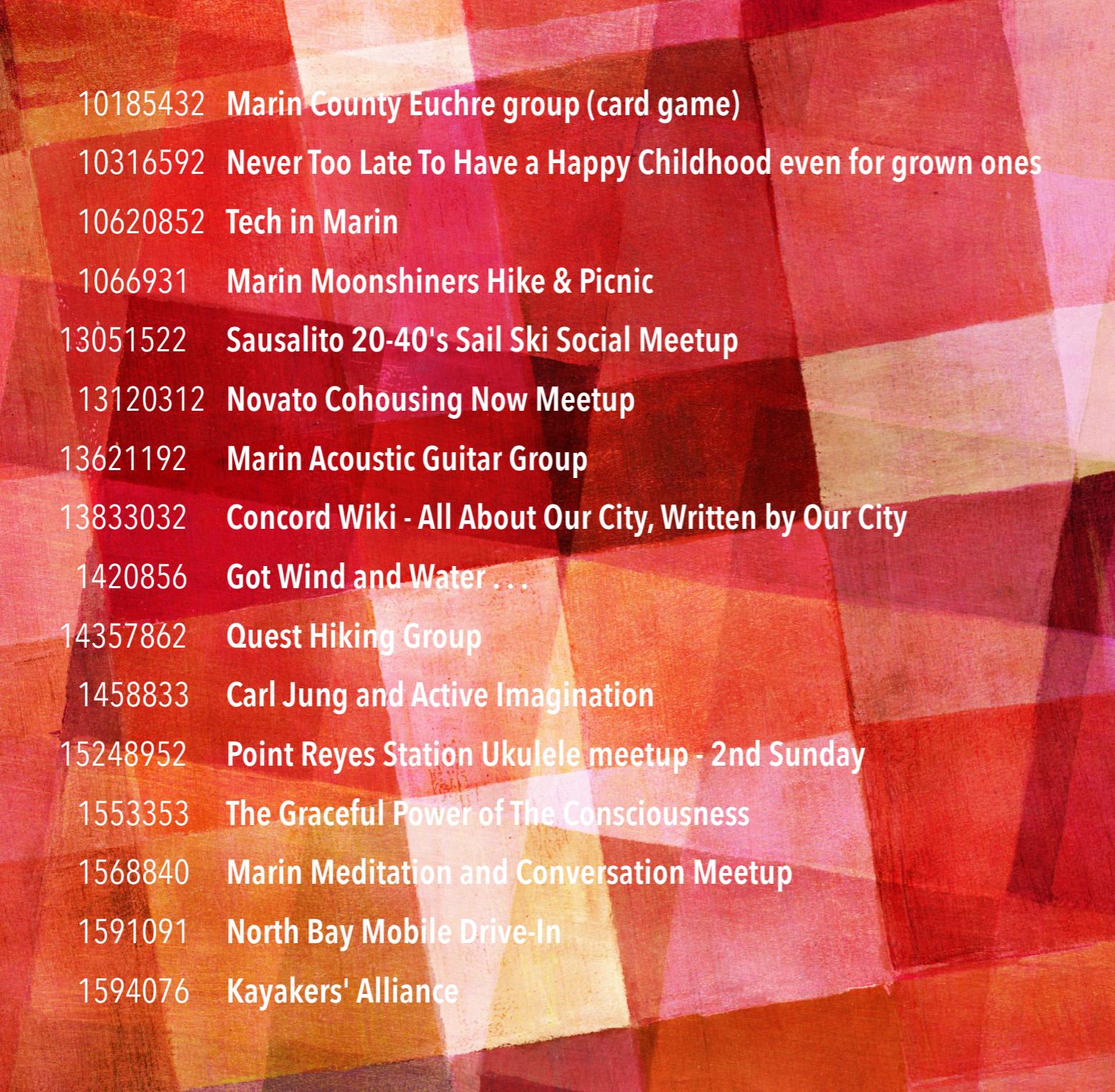


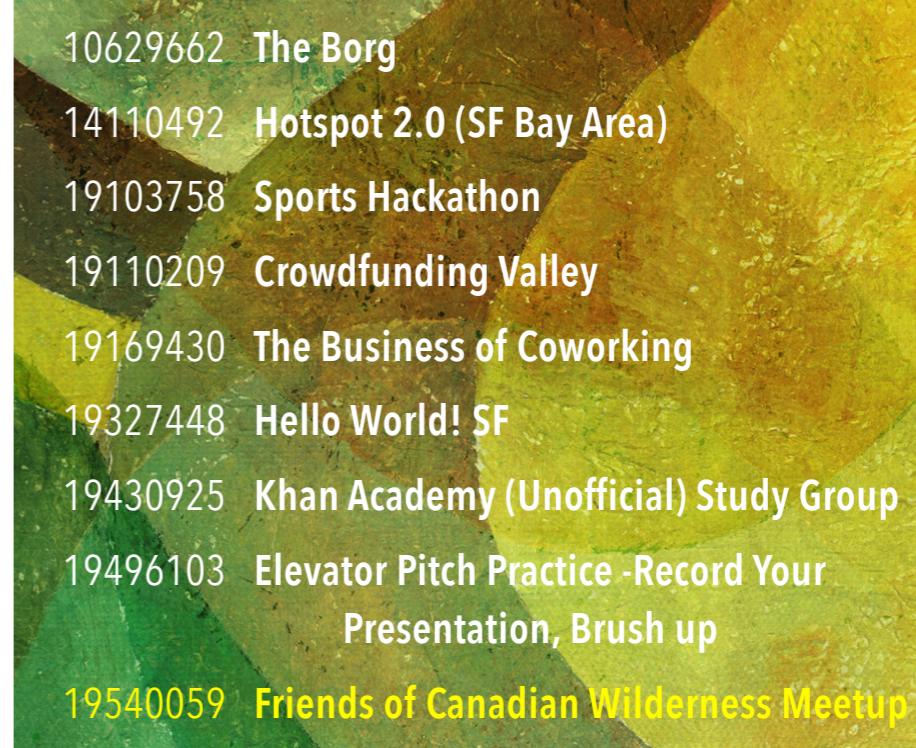
# A SAMPLE COMMUNITY

---



- 13752232 **Girl Gone International San Francisco**
- 14709952 **SF Bocce**
- 1569779 **20 and 30 somethings in San Francisco - AWESOME Stuff**
- 1654112 **San Francisco Women's Picnic Book Club--20s/30s**
- 1724725 **San Francisco Newbies in their 20s**
- 1779069 **Just Graduated College and Moved to Silicon Valley**
- 1811226 **The Antisocialites: Unique people in their 20-30s**
- 18230756 **New in town Girlfriends San Francisco**
- 18575035 **Great Girlfriends SF (30-40)**
- 18860444 **San Francisco Ladies' Brunch Meetup**
- 18955438 **SF Girlfriends in 20's and 30s**
- 19119977 **Just A Couple Couples In The City**
- 19506096 **San Francisco 20-Somethings Women's Cookie Club**
- 19646457 **Double Date!**
- 19924434 **San Francisco Young Professional Travelers**
- 3167582 **San Francisco Random Adventurers 20s-30s**
- 4202882 **HUMANRACE**
- 5379582 **Good times w/ Wine & Girlfriends 20s & 30s**
- 6453932 **Going Out Girls in San Francisco! 20s-30s**
- 6978792 **New In The City**
- 7647082 **Marina Young Women's Cooking Club**
- 7739722 **San Francisco DINKs: Fun Childfree Couples in 30s and 40s**
- 8644732 **SF Movies, Happy Hours and Fun!**
- 9845002 **Happy Hour & Networking San Fran**
- 9996132 **Good Times w/International Girlfriends**

- 
- 10185432 Marin County Euchre group (card game)
  - 10316592 Never Too Late To Have a Happy Childhood even for grown ones
  - 10620852 Tech in Marin
  - 1066931 Marin Moonshiners Hike & Picnic
  - 13051522 Sausalito 20-40's Sail Ski Social Meetup
  - 13120312 Novato Cohousing Now Meetup
  - 13621192 Marin Acoustic Guitar Group
  - 13833032 Concord Wiki - All About Our City, Written by Our City
  - 1420856 Got Wind and Water ...
  - 14357862 Quest Hiking Group
  - 1458833 Carl Jung and Active Imagination
  - 15248952 Point Reyes Station Ukulele meetup - 2nd Sunday
  - 1553353 The Graceful Power of The Consciousness
  - 1568840 Marin Meditation and Conversation Meetup
  - 1591091 North Bay Mobile Drive-In
  - 1594076 Kayakers' Alliance

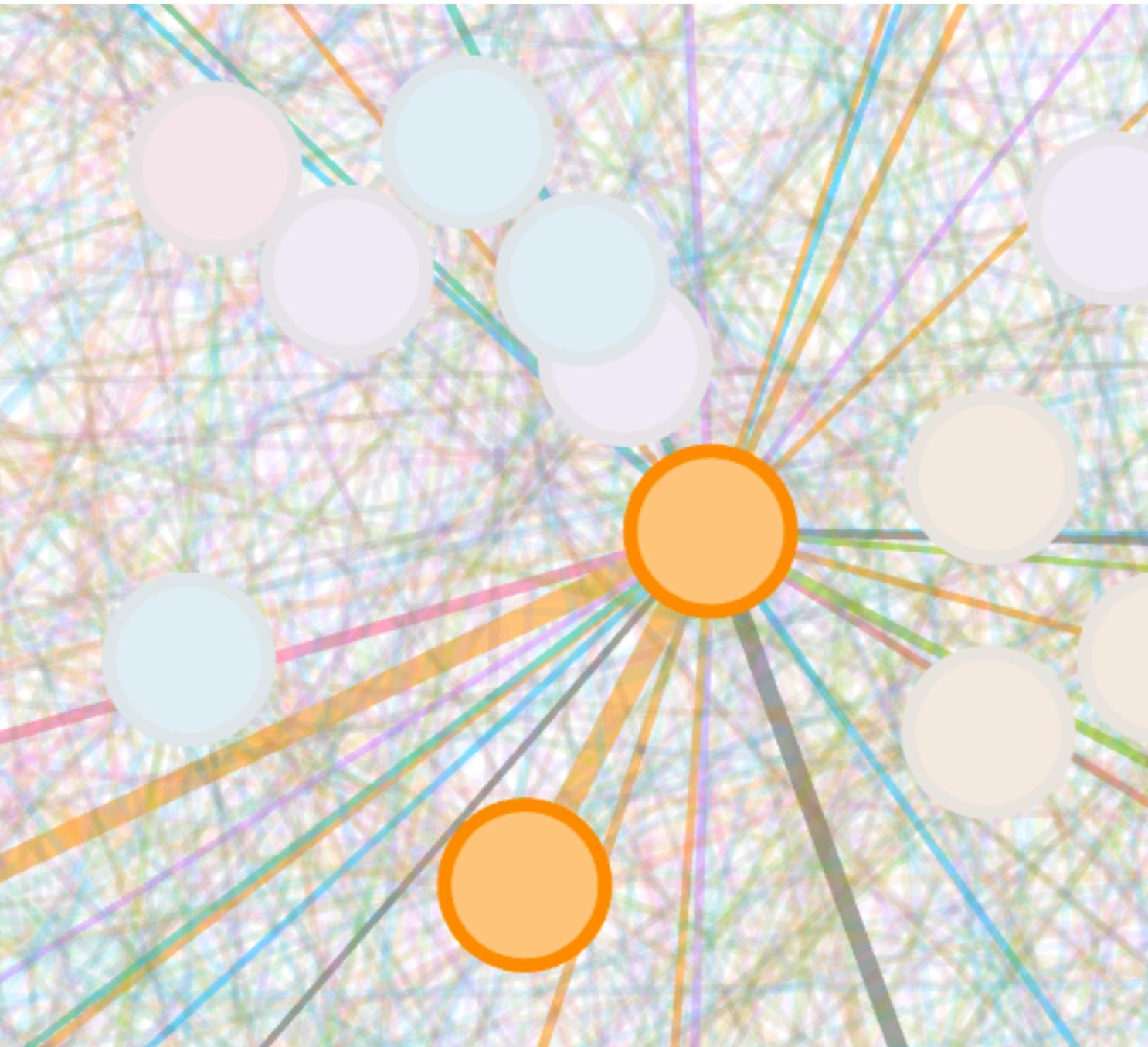
- 
- 10629662 The Borg
  - 14110492 Hotspot 2.0 (SF Bay Area)
  - 19103758 Sports Hackathon
  - 19110209 Crowdfunding Valley
  - 19169430 The Business of Coworking
  - 19327448 Hello World! SF
  - 19430925 Khan Academy (Unofficial) Study Group
  - 19496103 Elevator Pitch Practice -Record Your Presentation, Brush up
  - 19540059 Friends of Canadian Wilderness Meetup

- 
- 1082686 An Alternative to Dating as Usual
  - 1225656 Decriminalize Prostitution!
  - 12776342 OneTaste East Bay
  - 12790222 Real Pleasure Marin
  - 13638892 Cougar Parties & Cruises
  - 1504976 Date Me, If You Dare
  - 1614811 Tantra with Moneeka
  - 1682003 Sequoians Nudist Park, Castro Valley Ca.

Get a sense of where your neighbors are going

# Future Directions

- *App to browse Meetup groups*
- *Jumpstart a Meetup Recommender*
- *Sniff out the social heartbeats of an area*
- *Stretch yourself in ways you would not have imagined*



# Questions?

- 11276052 Crowd-tasting: Whisky and other spirits [SF]
- 1128669 Happy Hour Club
- 1271344 New York Giants Fans Unite in San Fran
- 1326081 The San Francisco Live Indie Music Group
- 1342563 Mission Dive Bars
- 1506076 The NY Yankees Unite in SF
- 1547183 Women who like Beer
- 1683009 Chicago Sports Fans in the Bay Area
- 1714061 San Francisco Chicago Bears Fans -Bear Down!!
- 1733916 Bay area Hockey fans!
- 1750312 San Francisco Homebrewers Guild
- 1761523 San Francisco Fighting Illini Sports Fans
- 17705802 San Francisco Notre Dame Football Meetup
- 18219976 Sirwisa Brewing Collective
- 18397603 San Francisco Scotch and Whisk(e)y Meetup
- 18522920 SF Bourbon
- 18887862 Alcohol Alchemy - Learn. Make. Share.
- 20082043 Rose Kingz Mens Basketball Tournament
- 5847432 SF Young Professional Canadian Expats
- 901849 Bay Area Beer Socials