Homework 4: Due Monday, April 11 (at the beginning of the class)

Social Graph: 2^{nd} Layer

Create a visual social graph of 2^{nd} layer of people you “know”, that is those people, who are known by somebody whom. Make the edge thick if it is a strong tie between them and edge thin if it is a weak tie between them.

I envision the following challenges. You may not know who the 2^{nd} layer people are. This means you will have to talk to one (or several) of your first level people. In the “depth” scenario, you will talk to ONE of your connections and interview them in depth essentially to draw their social graph (similar to the one you draw for yourself). In the “breadth” scenario, you will talk to ALL of your connections and ask them to let you know of at least one connection of theirs and include that information. You can use either a “depth” scenario or a “breadth” scenario or a mixture of these to extend the network to additional 25 people (some of these, say 5, can overlap with your first layer people).

As in the first graph, use abbreviation for names. Separately, provide attributes/tags for the graph nodes, that is, people, and attributes/tags for the edges, that is, the relationship. If possible, try to organize the graph so that it categorizes people in some way that resembles some kind of a mental picture of how you view (or could view) them.

For the 2^{nd} layer people, add those attributes whom your first layer connections consider important. Some suggested attributes for the node are: (i) name, (ii) UCSC or not, (iii) job/expertise, and the following attributes for the edges: (i) strong/weak, (ii) relationship (friend, brother, professional connection, etc.).

Outcome
This example quickly illustrates the power of social network. With 25 connections at each node, just at the third layer, you would have 15000+ connections, approximately the population of student body at UCSC.

This “explosion” is related to several concepts in various disciplines in different ways: geometric progression, exponential growth, NP-complete problem, viral engineering.

If you could tap the 3^{rd} layer of connections in your life effectively, you can make a dramatic impact on society or in your own personal life.