**Overview**

My project will use Facebook data to find relationships between people and offer new relations between them if they have share interests. Also, I will find minimum dominated sets.

**Data**

In this section you will describe the data set you will use.

In this project will be used the provided data from UCSD.

I will present the data in the graph there are each vertex is the node and each edge is relationship between them.

**Questions**

Easier. For the selected user define friends which haven’t relationships between themselves.

Harder. Determine minimum dominated sets of users in subnet.

**Algorithms and Data Structures**

I will use adjacency list data structure for the both questions.

For the easier question my idea was to determine start node and all nodes what have connections with it. After I need to iterate throw each node and check connection between them.

For the harder question. Currently fastest algorithm is the trivial O (2n) algorithm, which iterates and checks all the subnets for each node.

**Algorithm Analysis, Limitations and Risks**

For the easier question it’s pretty straight algorithm with complexity time O(n).

For the harder question this is the NP-hard problem and I need to search more information about approximation of the algorithm I will try to implement it and look up in internet for better performance solution.

**Other risks:** I don’t use minimum dominated sets before and I haven’t strong knowledge in NP-hard problem solutions, and in this cause this is the biggest risk in my project.