## 20-8-20 Rixt, Mels

Made some adjustments to the random mitigation strategy, now it only deletes a % of links that are in the 90% time window.

Calculated the number of links dropped in isolation, these will be used as the measure of all other mitigation strategies:

|  |  |  |  |
| --- | --- | --- | --- |
| **Dataset** | **Links dropped in isolation** | **# of links in the 90% time window** | **% of links dropped** |
| HS11 | 5805 | 21375 | 27.16 |
| HS12 | 7285 | 37861 | 19.24 |
| HS13 | 35596 | 181322 | 19.63 |
| MIT | 40947 | 1041389 | 3.93 |
| Haggle | 4906 | 21058 | 23.30 |

These numbers are averaged over each starting node (column in the matrix). Their actual dataset can be found in *dropped\_nodes\_isolation.txt* or viewed in *dropped\_nodes\_isolation\_[dataset].png*.

**Next:** we can use the percentage of links dropped in isolation in calculating the other datasets and getting some results!!!! 😊

## 7-8-20

Next steps:

**Save all created python arrays!**

* Test isolation for all datasets with the window (start 10% infections, and duration of 10% of the total time)
* Evaluate results and get feedback group, If necessary redo isolation test.
* Use random dropping and least used links with same amount of dropped links as isolation per data set.

## 31-7-20 Thierry, Stijn

List with mitigation strategies:

* Random dropping
* Isolation (Quarantine)
* Drop all contacts for Least Used links
  + Drops the links, not the nodes

Log:

* Added a part to the code which implements the mitigation strategies after a certain percentage of infections (10%) instead of giving the code a predetermined start time. (This does not work yet for isolation)
* Generated starting results using Tbegin values found in T10\_values.txt

General remarks and ideas:

* Do we want to use 1 starting node or keep averaging over all start positions ?
* Deleted links is not the same anymore, how are we going to make a fair comparison? (Maybe use the same percentage of deleted links? But this would not be possible to predetermine for isolation)

## 30-7-20 Meeting Mels, Thierry, Stijn

* General approach :
  + Reordering data and snipping excess tables to use in the python file
  + Mitigation strategies at 10% infection
  + Rescaling the time axis to one scale
  + Beta is 1 and gamma (recovery) zero (at this point)
* Next steps (goal, working towards a new meeting with supervisor soon):
  + Trimming approach (its an option, discussable)
    - Throw all unused timesteps away
    - Pros:
      * The systems become more general, the same happens without delay times due to longer periods without any infections.
    - Cons:
      * You change the behaviour of your data set molding it to something new
      * If you use a non-zero gamma, it would impossible to use
  + Working towards first results
    - List with mitigation strategies
    - Generate first results and see from there

## 18-07: Mels + Cleo

* Cleo: Adjusted followup.py to use Least used Links and Max used Links in a certain time window T\_begin till T\_end
* Mels: Adjusted followup.py to use isolation in a certain time window.
* Cost of mitigation = **percentage of links** cut (from total # of links in the mitigation time window)!
* Cleo: created script to determine T10%, T20% etc: the timestep at which for instance 10% of nodes is infected. In her paper she used this to compare the time windows over different datasets (for instance by running mitigation from T10% to 2\*T10%.
* Mels: added a trimming program that can delete unused timestamps, see the next figures

A picture containing antenna, object, cabinet, table

Description automatically generatedA picture containing cabinet, sitting, table

Description automatically generated *A picture containing antenna

Description automatically generatedA close up of a logo

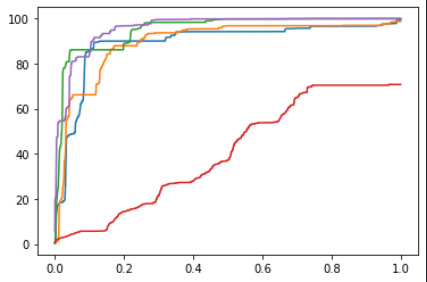
Description automatically generated****Top left:*** *Haggle 'vanille'.* ***top right:*** *Haggle trimmed 'vanille'.* ***Bottom:*** *Isolation started at Tbegin = 3000 and with initial infection window of Tisolation = 5000 of both respectively Haggle and Haggle trimmed. (all figures can be found in the folder: images)*

For next time: Decide in which time windows to plot the mitigation strategies and plot this for different percentages of links cut!

06-07: Thierry + Cleo

run and rescale datasets to Tmax = 1.

This is the figure, the npy arrays in the folder are the arrays for beta = 1 and no recovery. Analysis and plot was done in a separate file.



## 25-05: Della + Cleo

* Adjusted HS2012, HS2011, HS2013 so we could run this took a very long time ☹
* The data HS datasets should now be imported in the same fashion as the ordered MIT data set. The nodes are ordened from 0 to a maximum number.

1. HS2011 (29) http://www.sociopatterns.org/datasets/high-school-dynamic-contact-networks
2. HS2012 (29) http://www.sociopatterns.org/datasets/high-school-dynamic-contact-networks
3. HS2013 (30) (S1 dataset) https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0136497
4. RM/MIT (25/26) http://konect.uni-koblenz.de/networks/mit
5. Hypertext2009 (27,28) http://konect.uni-koblenz.de/networks/sociopatterns-hypertext
6. Primary School (31) seems devided into two seperate days: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0023176
7. Workplace (32) Link not in article: https://arxiv.org/abs/1409.7017
8. Haggle (33,34)
9. Infectious (28) Link is not in article: https://www-sciencedirect-com.tudelft.idm.oclc.org/science/article/pii/S0022519310006284#s0010
10. Virtual contacts:
11. Man Email (35,36)
12. Email EU (37)
13. DNC Email (38)
14. COllegemsg (39)