Bookworm

Social networks from novels

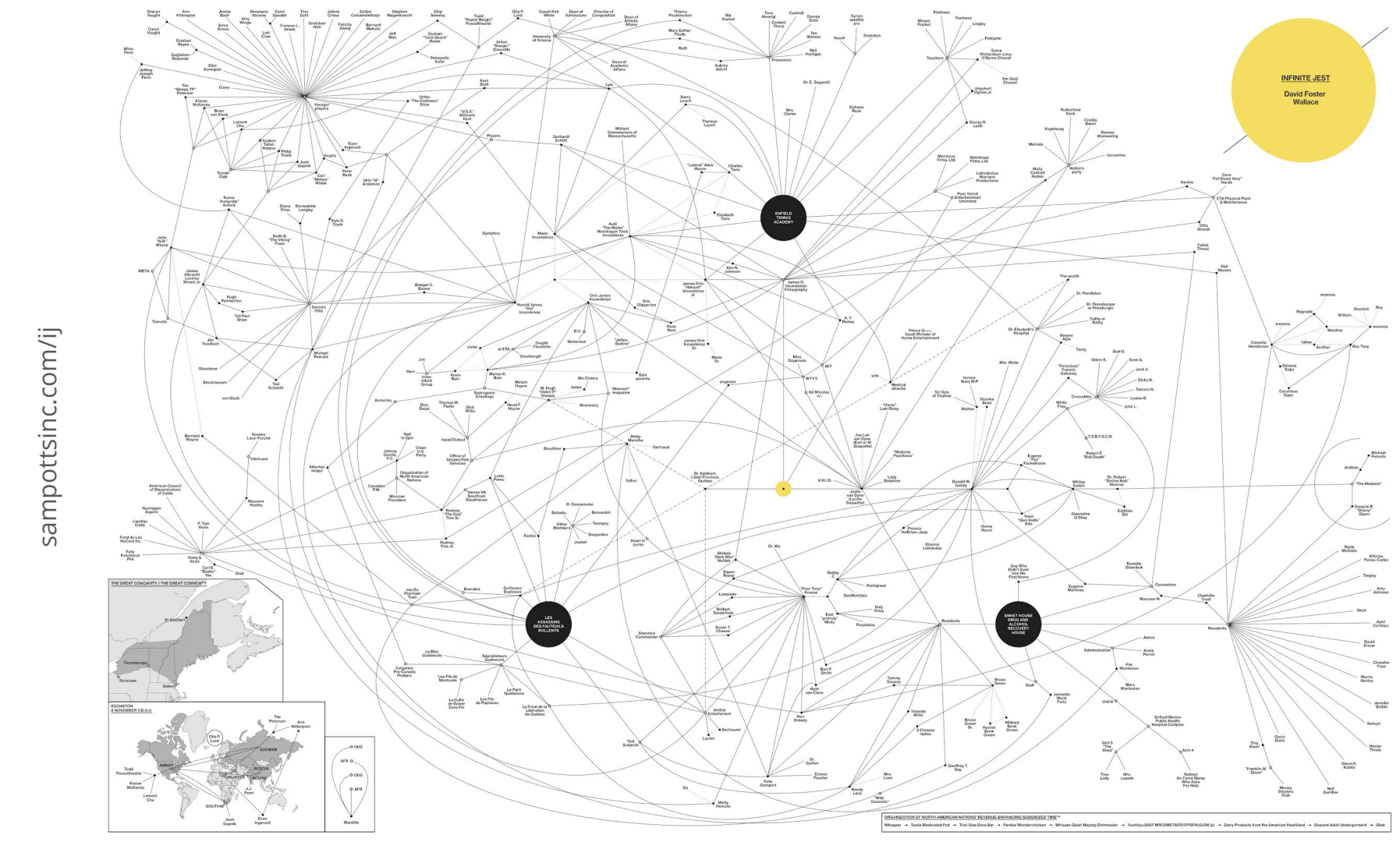
Databeers London, March 2018

Harrison Pim

Who am I?

Harrison Pim

Twitter @hmpim
Github harrisonpim (.github.io)



sampottsinc.com/ij

Can I make this network thing for any novel?

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Character Connections

Vernon
Petunia
Dudley
Lily
James
Dumbledore
Harry
Voldemort
...

About once a week, Uncle Vernon looked over the top of his newspaper and shouted that Harry needed a haircut.

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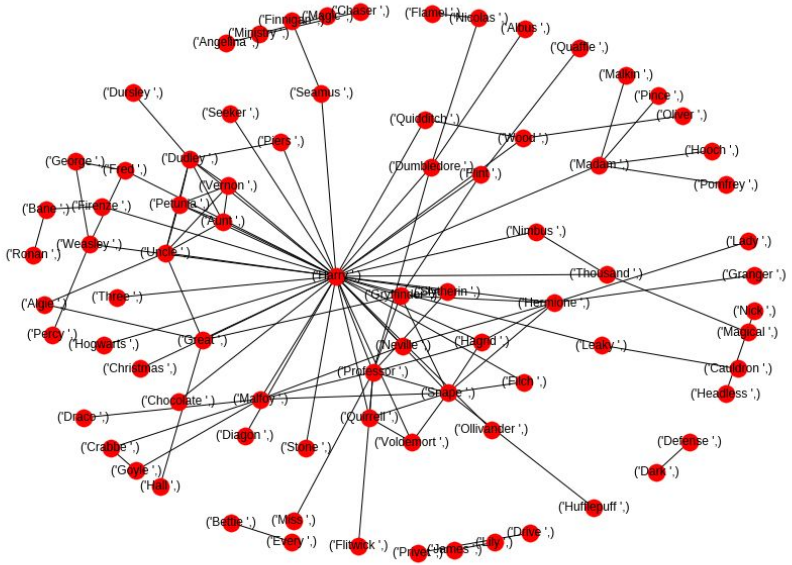
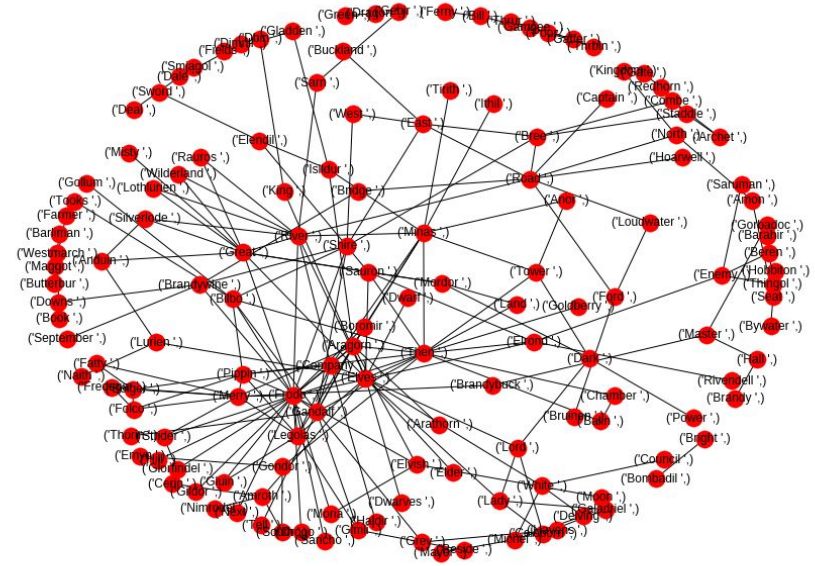
Harry Potter



Lord of the Rings


('Gandalf ',)
('Frodo ',)
('Aragorn ',)
('Sam ',)
('Pippin ',)
('Merry ',)
('Gimli ',)
('Legolas ',)
('Elrond ',)
('Boromir ',)
('Faramir ',)
('Theoden ',)
('Eowyn ',)
('Saruman ',)
('Gollum ',)
('Bilbo ',)
('Elendil ',)
('Isildur ',)
('Arwen ',)
('Galadriel ',)
('Celeborn ',)
('Treebeard ',)
('Barliman ',)
('Bill ',)
('Lurtz ',)
('Shagrat ',)
('Gorbag ',)
('Grima ',)
('Wormtongue ',)
('Haldir ',)
('Rumil ',)
('Orophin ',)
('Celebrian ',)
('Elrohir ',)
('Elladan ',)
('Glorfindel ',)
('Erestor ',)
('Arwen ',)
('Lindir ',)
('Dwarves ',)
('Thorin ',)
('Dain ',)
('Balin ',)
('Dwalin ',)
('Oin ',)
('Gloin ',)
('Fili ',)
('Kili ',)
('Bifur ',)
('Bofur ',)
('Bombur ',)
('Beorn ',)
('Radagast ',)
('Azog ',)
('Bolg ',)
('Smaug ',)
('Bard ',)
('Tauriel ',)
('Thranduil ',)
('Legolas ',)
('Sauron ',)
('Witch-king ',)
('Lurtz ',)
('Shagrat ',)
('Gorbag ',)
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('Grima ',)
('Wormtongue ',)
('Rohan ',)
('Eomer ',)
('Eowyn ',)
('Faramir ',)
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('Gondor ',)
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('Smeagol ',)
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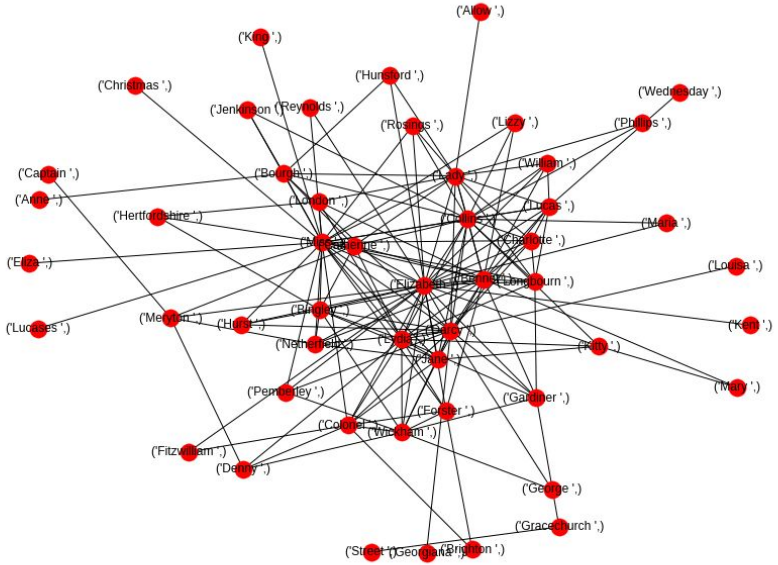
('Deagol

Pride and Prejudice



Do some maths...

Character Importance

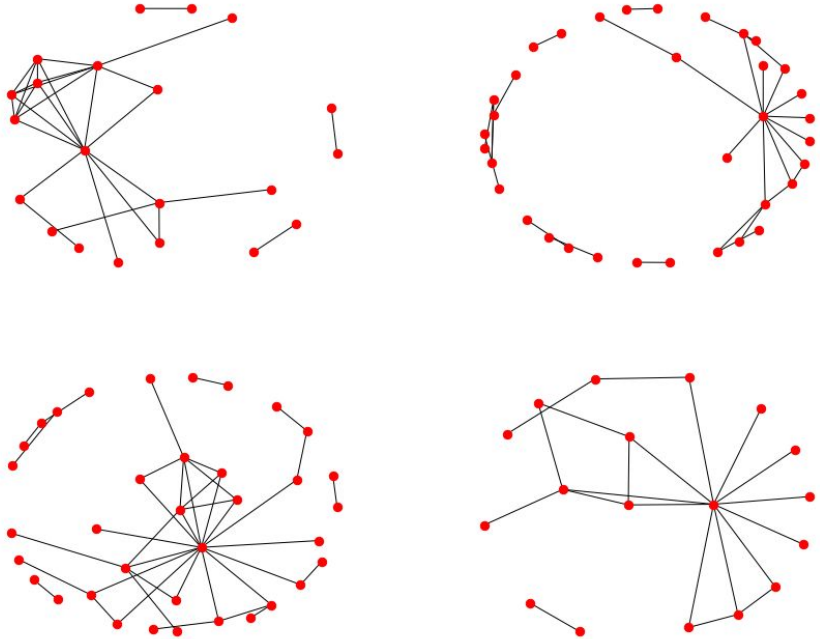
('harry ', ' potter ')	0.162006
('ron ', ' weasley ')	0.077277
('snape ', ' severus ')	0.053273
('draco ', ' malfoy ')	0.043361
('hermione ', ' granger ')	0.042616
('mcgonagall ', ' minerva ')	0.039662
('hagrid ', ' rubeus ')	0.034685

Characters’ Closest Relationships

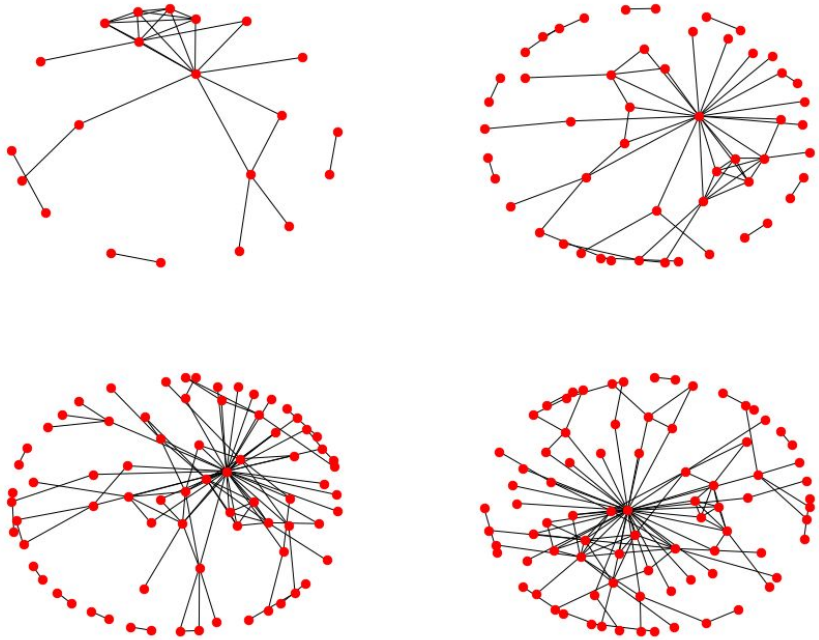
```
('harry ', ' potter ')
----------------------
('ron ', ' weasley ')
('hermione ', ' granger ')
('hagrid ', ' rubeus ')
('snape ', ' severus ')
('dudley ', ' duddy ')
```

Time

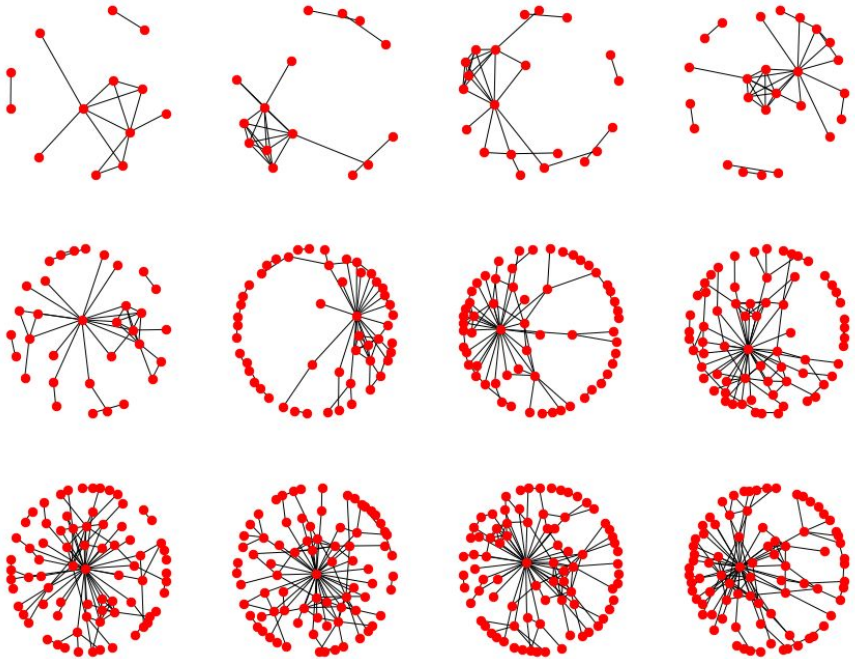
Temporal Networks



Temporal Networks

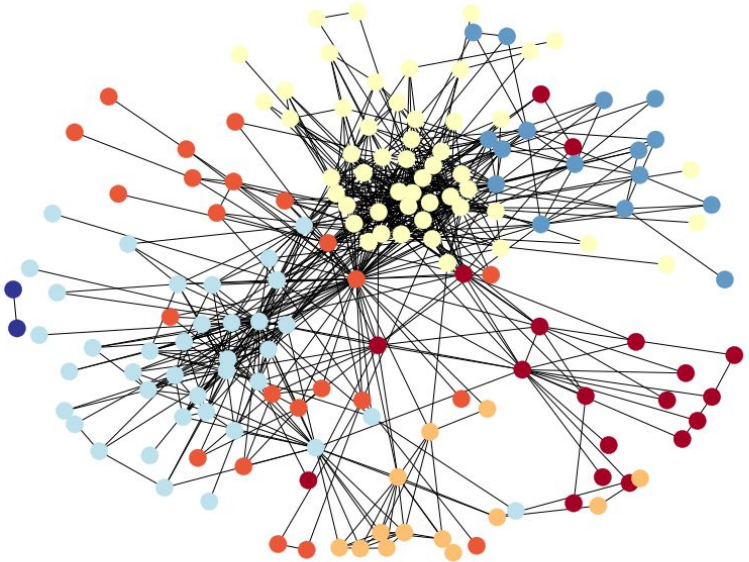


Temporal Networks



Community Detection

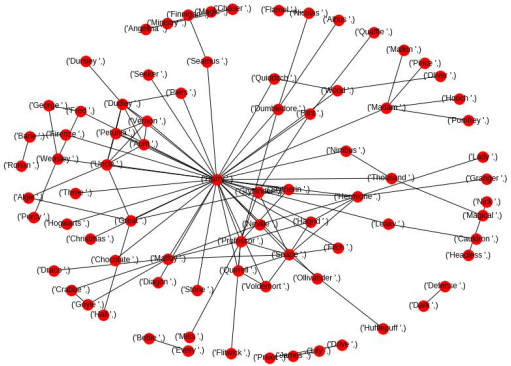
Character Communities/Cliques



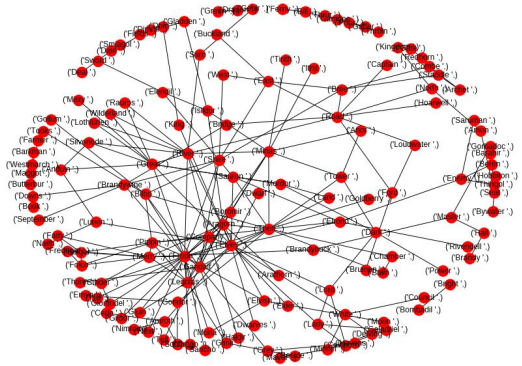
Similarity

Novel Similarity

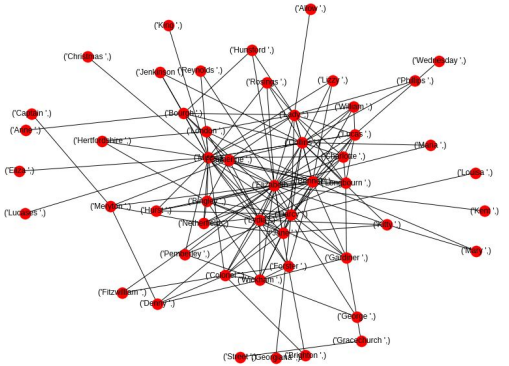
Harry Potter



Lord of The Rings



Pride and Prejudice



Novel Similarity

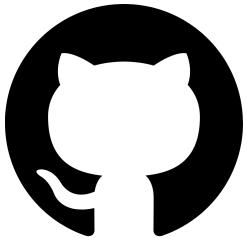
	Harry Potter	Lord of The Rings	Pride and Prejudice
Harry Potter	0.000000	862.261406	1718.486502
Lord of The Rings	862.261406	0.000000	1745.118988
Pride and Prejudice	1718.486502	1745.118988	0.000000

A network of novels

Other Languages!

Films!

Historical Texts!!



harrisonpim/bookworm

Thanks

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Twitter @hmpim
Github harrisonpim (.github.io)