Catching Plagiarists

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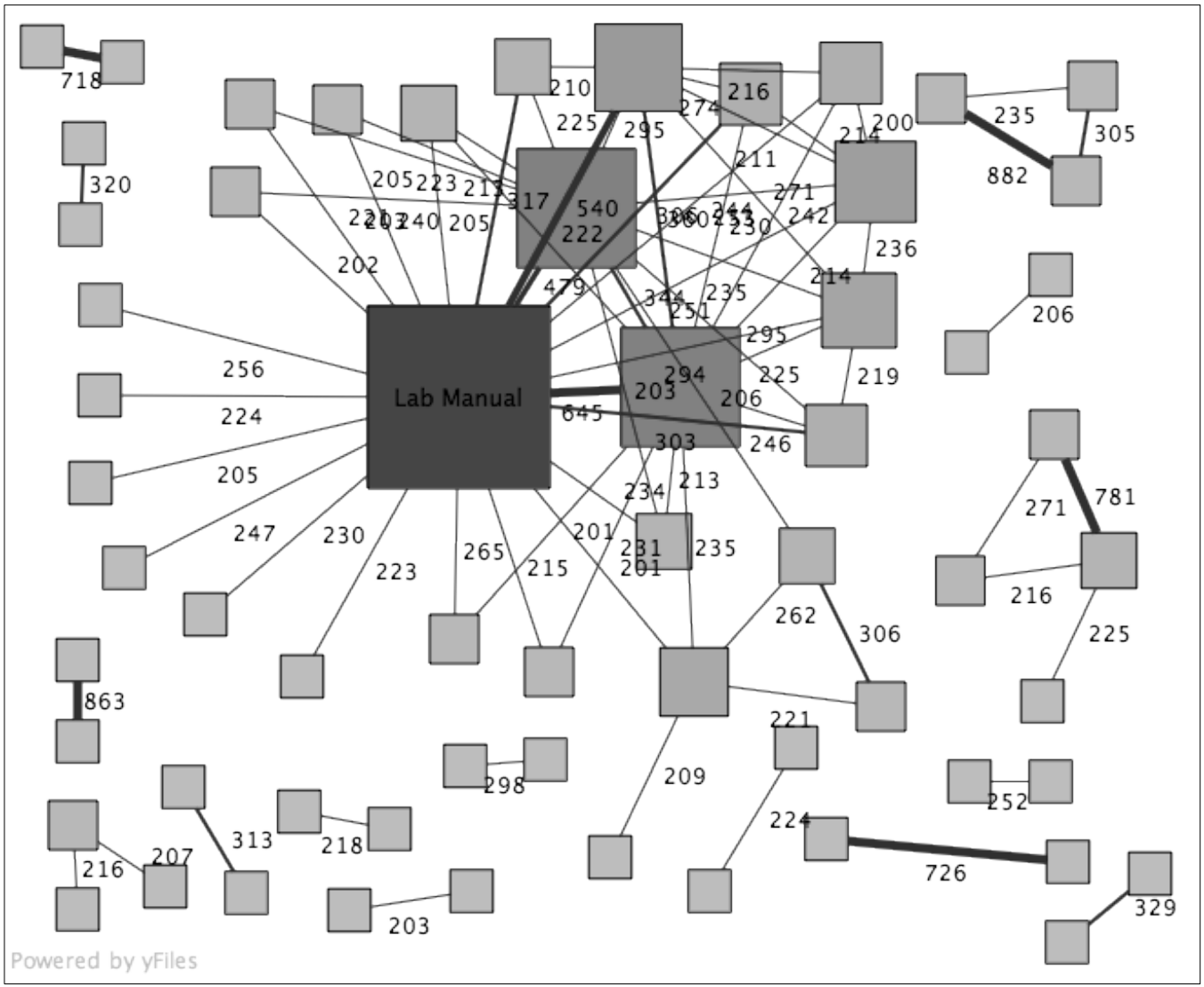
Problem Motivation

- e.g. Physics 101 at a large university
- One student helping another by giving him a copy of his assignment only to have the other turn it in (or large portions of it) as his own.

Problem Statement

- Given a set of text documents, find if any have been plagiarized in full, or in part, from some other document in the set.


Lab Manual
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Powered by yFiles

What's Nifty?

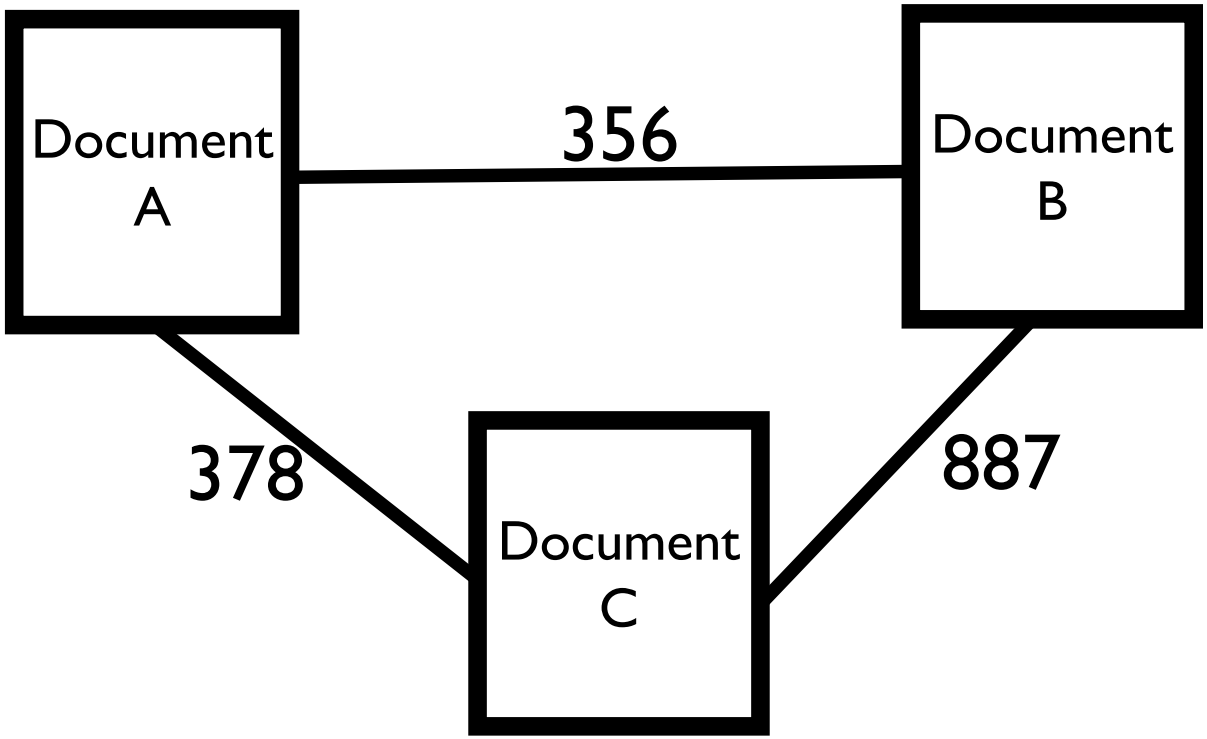
- Virtually zero prep...or a lot.
- Covers *many* areas of CS1/CS2
- Real Big-Oh implications
- Accessible by/challenging to all levels of students
- No one minds it being a console application!
- Relevance and motivation

Nift[yi]est Thing of All

- This problem REQUIRES a computational solution - no other way to do it.

Suggest a Strategy?

- Compare n-word chunks between documents.



Nifty Parts

1. Harder text processing
2. Real data structure choices/consequences
3. “Real World” issues

Part 1 : Text Processing

- Processing many documents in a non-trivial way.
- Option: just compare two documents to find a degree of similarity.
- Interesting Question: *what* do I need to compare?
- Did someone say regular expressions?

Part II : Data Structures

- Comparing even a small set of documents requires some structures
- *Many* possibilities
- Real Big-Oh concerns / analysis

Part III : Real World Issues

- Large document set quickly becomes unmanageable if poor algorithm chosen.
- Memory limits
- Output representation
- Legal issues?

Resources

- Web Site
- Assignment Sheet

“Through the duration of Heathcliff’s life, he encounters many tumultuous events that affects him as a person and transforms his rage deeper into his soul, for which he is unable to escape his nature.”

--bwa93.txt