Introduction

Our Team is named **NewsFlash** and comprises of 5 members. We coined the team name from the plethora of news sources, and the speed of accessing the information. Our team is eager to contribute to the project, and to create a winning application. As a whole, we have a lot of shared interests- and are looking forward to learning and contributing.

From left to right, the members are, Nick Kazlauskas, Amna Iqbal, Miranda Xu, Dickson Wong and Chandni Sehgal.

Amna Iqbal

I come from a technical background i.e. Computer Science. In addition, I have a plethora of varied interests (ranging from photography, editing, and sports to digital media etc.) I have a keen interest in honing my technical skills- and keeping in sync with the latest technologies and trends.

I am interested in the merging of the tech with the humanities. As such, endeavors which rely on,and build on other disciplines always stand out for me. I have a background in Software Testing/QA.

I am also an avid reader. Other than that, I have an interest in sports, and have played for various teams in numerous settings. I am a fan of most kinds of sports, intelligent reading, and tech.

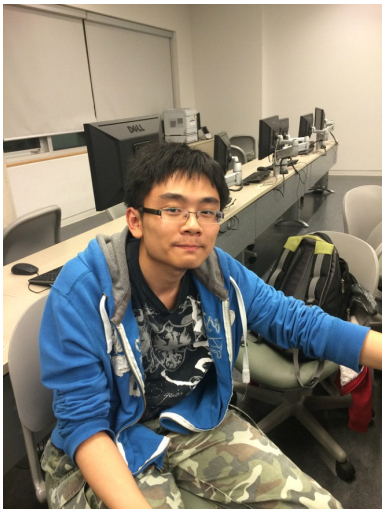
Chandni Sehgal

Born in India, I am a third year computer science specialist in the comprehensive stream at University of Toronto and hope to graduate in 2016. I moved to this country in grade 8.

Subjects like physics and mathematics always gained respect from me, but I always had strong interests in computers. I had never seen a computer back home, so when I got PC in grade 9 I was very fascinated how it worked and therefore, I decided to pursue a career in it.

My interest lies in cryptography and foresees myself having a career in embedded security. I hail from south west of GTA (Brampton), which is 2 hours (one way) away from this campus via GO transit. My everyday routine comprises of waking up at 6 and finishing off the day at 12:00am. I believe in self confidence, hard work (and Karma).

Dickson Wong



I am a 4^{th} year undergraduate student in the Concurrent Teacher Education Program; I major in mathematics and computer science. My study interests lie mostly in theoretical stuff (we all like the mathy type stuff), but after sessions with students, I do tend to think about things I could have "done better" (and sometimes, "did well").

Sometimes, I engage myself in problems relating to algorithms and the underlying mathematics. Whenever I have more free time though, I attempt transcribing music that I get motivated to play on my out of tune piano (although I fail more often than not). Fortunately, there are many talented people out there who will have done this task already, so I can just enjoy playing thepiece of music. Once in a while though, I pull out some older music tracks just so I can get nostalgic (hey, we're all getting older).

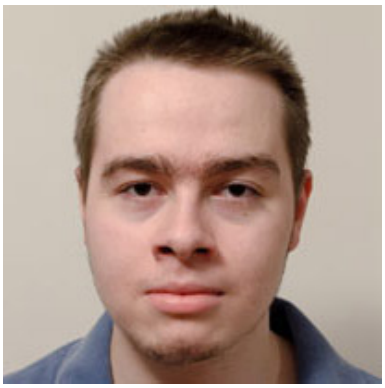
Miranda Xu

I am a 3rd year Computer Science co-op student, specializing in Software Engineering stream. I came here 2 years ago, from north of China, my education background makes me better at Math and Statistics, but unfortunately, also let me know less about Computer Science before I study here. So all my technical knowledge/skills may be mainly from the courses I have taken and my work term experience.

I finished my 1st co-op work term at Ministry of Government Services during the past summer. My position is Web Modernization specialist, and I worked with my team to implement website projects followed standard Agile development process.

The computer science realm is always attractive to me, and the study of computer science is just like an adventure, which can let me challenge and discover myself. However, my life faith of "Live for delicacy and die for love " has never changed, maybe should append music and movies. So in the future, I do hope I can engage in an industry that combines computer science and my interests together, cheer for "Carpe diem"!

Nicholas Kazlauskas



I am a 4th year undergraduate student taking a Specialist Program in Computer Science. I am an advocate for the free software movement, free speech, and privacy rights. I have been working with computers from a young age, and have accumulated technical experience in many areas of computing - embedded systems, robotics, security, networking, operating systems, compilers, graphics, reverse engineering, and programming languages.

The spare time I have is often spent programming, refactoring, patching, and contributing to open source projects. Data-driven and functional programming paradigms, with simple, testable code- is what I strive for.

Although my interests are not balanced, and most of my life is spent interacting with computers, I do enjoy photography, politics, and golf. In the past I have enjoyed woodworking, machining, and metalworking, I have aspirations for the future that I can dabble in hobbyist work again with my own machine shop. In computing, I hope that I can positively impact future generations of software developers.

Personas

John Bates

John Bates is a 35 year-old researcher. He is interested in research in language, media, and public. He considers his research as his hobby. He likes to live a stable, predictable lifestyle, and these reflect in his choices of research tools.

Johns day starts with breakfast with his family. After it, he hurries off to work, worried that he may be late to work due to the hour of transit ahead of him. During the work day, he helps out as an assistant professor. If asked about his research, he could spend the whole day talking about it. When he finally gets home through the rush hour traffic, he enjoys dinner with his family and bonds with his child. In the late evening, when he has some time to himself, he is the most productive in his research.

His research requires him to look at very large networks of information flow. As such, he prefers to work with large graphs at a single time. He enjoys looking at, and analyzing the "big picture". This helps in simplifying the visual representations and assisting him with his research.

John uses computers often to help him with his research, but he wouldn't consider himself technically savvy. The techniques and tools he takes advantage of were taught and given to him by his acquaintances. As well, although he is adaptable to change- he prefers that everything works like he would expect it to. He likes his tools to be accessible through a web browser on a desktop computer. He is not very comfortable using his smartphone.

Jessica Walker

Jessica Walker is a 35 year old Librarian. She has a high knowledge of Linguistics, History, and English and literature. She possesses Advanced degrees in Language and Literature, and Library and Information Science. This is beneficial in her role with data storage and categorization. She enjoys her work, and is always on time. She is punctual and on schedule. She works in the mornings, and all of her tasks are completed during her work hours.

Jessica works with the computers for encompassing electronic resources, metadata, archives, and knowledge management in her work tasks. She has a prior knowledge of digital repositories and open source digital tools. She has familiarity with markups, and graphical interfaces.

Her days are diverse and include various tasks. She retrieves, and categorizes information according to given requirements. She also manages data storage, and ensures that it is in a compatible format. In her breaks, she likes to read news, and articles from a range of sources.

She is technically sound, and if she runs into a technical issue- she would rather communicate with support staff (over a manual). This is useful, as she works during the day- when access to support staff is convenient. She is also familiar with the latest smartphones, and if need be would be open to learning more about them.

She is open to learning about new tools and technologies. As such, she is eager to find out the best and most efficient resources to implement in the tasks. She is geared towards strict standards compliance, and wants to ensure that any new implementation is in sync with the existing tools and software.

She is familiar with consoles interfaces, as well as graphical interfaces. However, in terms of preference- she would much rather work with visualizations and GUI.

Candice Walters

Candice Walters is a lawyer and a PhD student in the Graduate School of Journalism. Her research is focused on journalism ethics and the impact of media and technology on politics and public. She wants to impact the younger generation with the work that she has done and hopes to reach out to them.

Walters began her career serving as a lawyer in the areas of digital media, communications and sports matters at a private law firm.

She met her husband at a law firm and they decided to settle down. Candices husband was a Senior Vice President of a national news and television network but was framed into a case, based on false information supplied by unreliable sources. It was during this time that Candice decided to pursue postdoctoral studies in journalism. She wants to understand the media and wishes to be able to contribute reform the system. Part of this goal requires her to be a huge part in the education system.

Candice feels blessed to be a mother of a 6 year old daughter and a 4 year old son. She spends time with her children daily and is very assertive when it comes to their education. She believes that the education system needs to be dynamic and constantly improving with current trends.

Mrs. Walters will be teaching a new undergraduate course called "Legal Constraints on Digital Activity" for the first time. She likes her classes to be interactive; therefore, she emphasizes the use of graphics and multimedia in her teachings. She also understands the value of digital resources and their need to be reliable.

She foresees her in a larger role in modern education and hopes to reach out to as many young people as possible. She believes that education should evolve with available technology.

She likes to know of every technical instrument and uses popular and trendy products. She feels that their software is very sophisticated. On the other hand, the tools that she uses are not too sophisticated, work well on the mobile platform, and are also presented well. She understands the value in presentation as it attracts the younger crowd.

User Stories

Preface

Throughout the document, there is frequent use of key concepts that the clients want, and the software will work with. For clarity, they are defined below:

- **Source**: A publisher of news media. Media can come in many forms - text, audio, video, but media is not limited to just these examples. A source could be a website, a blog, a Twitter account, a YouTube channel, or many other existing and emerging forms.
- **Keyword**: A word or phrase associated with a source. For example, the "Associated Press" is often referred to as "AP", and these are both keywords for the same source. The URL of the main page of a news article website could also be used as a Keyword to match sources from references.
- **Article**: A news piece published by a source. Since sources publish many different forms of media, this could be an article on a website, a blog post, a Twitter discussion, a video, a podcast, or anything else on the internet.
- **Tags**: Information associated with an article - such as author, date, number of hits, etc [This will evolve as requirements for data formats and visualizations evolve.
- **Link**: A connection formed when an article cites an article from another source directly. The connection is between two articles.
- **Reference**: A connection formed when an article cites a source, either by citing an article from another source, or the name of the source. The connection is from an article to another source.
- **Visualization**: A representation of stored data in the software. Lists, tables, graphs, plots, pie charts, are a few examples of visualizations.

User Stories

1

As John (a researcher), I want to be able to keep a list of articles (with appropriate tags), so I can research the influence of certain articles and sources.

Priority: Must
Confirmations:

- Articles should contain the following information:
  - Mandatory tags: URL, date, source
  - Optional tags: name, author, "popularity" (links), etc (as requirements evolve)
  - The URL should be unique.
- If a mandatory field is missing, the article should not be added.

2

As John (a researcher), I want to be able to keep a list of sources (with appropriate keywords), so research the influence of sources.

Priority: Must
Confirmations:

- Sources should contain the following information
  - Mandatory Keyword: Name
  - Optional Keyword: URL, aliases, etc (as requirements evolve)
- If a mandatory field is missing, the source should not be added.
- Keywords should be unique amongst all sources.

3

As John (a researcher), I want to be able to save changes to the list of articles and sources, so that I can retain the old data and continue from there.

Priority: Must
Confirmations:

- The user should be able to store data (save button).
- Success: session is resumed next time the user logs in
- Fail: display message
- "Failed to save. Try again!"
- "Previous session is corrupt."

4

As John (a researcher), I want to add a source to the application, so that I can research the influence of sources.

Priority: Must
Confirmations:

- User must add a name.
  - Success: perform the action chosen and display the message: "Source Added!"
  - Fail: display one the messages: "Name was used already, try a different source."

5

As John (a researcher), I want to remove a source from the application, so that the I can manage my sources.

Priority: Must
Confirmations:

- User must include a keyword for a source in order to remove it.
  - Success: perform the action chosen and display the message: "Source Removed!"
  - Fail: display one the messages: "Keyword was not found; try again."

6

As John (a researcher), I want to change keywords associated to a source, so that I can research the influence of sources.

Priority: Should
Confirmations:

- Keywords can be used to match sources.
- Keywords need to be unique across sources.

7

As John (a researcher), I want to add an article to the application, so that I can research the influence of sources in this article (and to other articles).

Priority: Must
Confirmations:

- There will be a Add button - upon clicking this one:
  - user will be allowed to enter the article via browse button (upload article) or text box where they can copy and paste
  - if the user wants to add an article, the tags associated (such as author, name, etc) would appear and the user can change them
  - file/article size limit and support formats would appear
- Success: display message "Changes saved"
- Fail: display one of the messages below:
  - "Failed to add article due to size limit exceed. Please try again!"
  - "Failed to add article due to format. Please try again!"
  - "Empty field. Please add article to modify"
  - "Article already exists."

8

As John (a researcher), I want to remove an article from the application, so that I can research the influence of sources in this article (and to other articles).

Priority: Must
Confirmations:

- There will be a Remove button - upon clicking this one:
  - User will be allowed to enter the article they want to remove
- Success: display message "Article removed!"
- Fail: display one of the messages below:
  - "Failed to remove article. Please try again!"
  - "Empty field. Please enter an article to remove"
  - "Article does not exists. Please try again!"

9

As John (a researcher), I want to change the tags of an article in the application, so that I can research the influence of sources in this article (and to other articles).

Priority: Should
Confirmations:

- There will be a Change button - upon clicking this one:
  - User will be allowed to enter the article they want to remove
  - User specifies which tag they want to change
- Success: display message "Article Changed!"
- Fail: display one of the messages below:
  - "Failed to change an article. Please try again!"
  - "Empty field. Please enter an article to change"
  - "Article does not exists. Please try again!"

10

As John (a researcher), I want to keep track of a list of references made inside an article, so I am able to analyze the different sources that the article is influenced by.

Priority: Must
Confirmations:

- Each article should contain a list of references made to other sources.
- The source should be a source that was already included by the user.
- There should not be duplicates every time a reference is made inside the article to the source.

11

As John (a researcher), I want to be able to manually add references to an article in the application, so that the software can help me research the influence of sources.

Priority: Must
Confirmations:

- The user should be able to choose an article from a list.
- Success: display the message:
  - if added a reference: "Reference added"
- Fail: display message:
  - "Source field empty. Reference cannot be added/unmodified."
  - "Source not found. Try again."

12

As John (a researcher), I want to be able to manually remove references from an article in the application, so that the software can help me research the influence of sources.

Priority: Must
Confirmations:

- The user should be able to choose an article from a list.
- Success: display the message:
  - if removed a reference: Reference removed
- Fail: display message:
  - "Source not found. Try again."
  - "Source field empty. Reference cannot be removed/unmodified."

13

As John (a researcher), I want to be able to see a list of articles that a specific article links to, so that I can research the article.

Priority: Must
Confirmations:

- Success - The "list of reference articles" can be shown after click the "reference list" button.
  - If the list is not empty:
    - Display list of links to other articles
    - If there are multiple articles with the same name, user prompted with additional information about each article.
- Failure - display message:
  - "Sorry, no article is given, input article name/URL that you need."

14

As John (a researcher), I want to be able to search (for references and sources) within the articles links (hyperlinks/web links) recursively, so that I can research more thoroughly.

Priority: Should
Confirmations:

- The user, whenever adding an article, needs to specify whether this automated searching occurs.
- Each link to another article can be searched recursively.
- Every reference to a source and every link to another article is saved.
- Each reference and link should be unique and never duplicated.

15

As John (a researcher), I want a display of the list of the references a source makes to other sources, that I can research the influence of different sources and their relation to one another.

Priority: Must
Confirmations:

- The user is prompted for the source, and only sources specified can be displayed.
- Success - A list of references is displayed.
  - If the list is not empty: Each reference displays the name of the source
- Failure - display message:
  - "Sorry, no source is given, please input the sources as you need."
  - "Sorry, this source cannot be parsed. Please check the source name/URL and try again."

16

As John (a researcher), I want to be able to see graphical representations (network connections) of a specific source with the reference sources of this source, so it can be analyzed efficiently.

Priority: Must
Confirmations:

- Success:
  - A source to sources graph contains:
    - each node represents a source
    - every directed edge represents an article made from one source to another
  - If there are no correlations between articles/sources: there would be no edges
- Failure - display message:
  - "Sorry, no source/article is given, please input the sources/articles as you need."
  - "Sorry, some of the sources/articles cannot be parsed. Please check their names/URLs and try again."

17

As John (a researcher), I want to be able to see graphical representations (network connections) of a specific article with the reference sources of this article, so that I can see which kind of sources this article refers to.

Priority: Must
Confirmations:

- Success
  - An article to sources graph contains:
    - each node represent either the article in question or the sources
    - every directed edge would represent the reference the article makes to source
  - If there are no correlations between articles/sources: there would be no edges
- Failure - display message:
  - "Sorry, no source/article is given, please input the sources/articles as you need."
  - "Sorry, some of the sources/articles cannot be parsed. Please check their names/URLs and try again."

18

As John (a researcher), I want to be able to see graphical representations (network connections) of a specific article with the reference articles of this article, so that I can see clearly that what specific article reference this article uses.

Priority: Must
Confirmations:

- Success
  - An article to articles graph contains:
    - each node represents an article
    - each directed edge represents a link from the article to other articles
  - If there are no correlations between articles/sources: there would be no edges
- Failure - display message:
  - "Sorry, no source/article is given, please input the sources/articles as you need."
  - "Sorry, some of the sources/articles cannot be parsed. Please check their names/URLs and try again."

19

As John (a researcher), I want to be able to see graphical representations (network connections) of related articles and sources, so that I can better my understanding of the big picture of the public sphere.
Priority: Must Estimate: 1 day
Confirmations:

- Success
  - A combined sources and articles graph contains:
    - a larger node represents a source
    - smaller nodes represents articles
    - edges represent connections as described in the previous three types
    - For every node which are only on the reference level(their reference are not shown completely on the graphical representation), we can set them as a core source(maybe by clicking the button) to let the graphical representation show their references completely.
  - If there are no correlations between articles/sources: there would be no edges
- Failure - display message:
  - "Sorry, no source/article is given, please input the sources/articles as you need."
  - "Sorry, some of the sources/articles cannot be parsed. Please check their names/URLs and try again."

20

As John (a researcher), I want to be able to see graphical representations (2D plots) of the popularity of an article (or source), so I can analyze its impact on society better.

Priority: Should
Confirmations:

- Success
  - On the graph, each curve represents one reference source site, labeled with sitename.
  - Different curves should have different colors.
  - The ordinate should be the frequency of the sources are referenced by.
  - The abscissa should be the time line of the reference time.
  - The abscissa time unit can be set to month(default), year, week and season.
- Failure - display message:
  - "Sorry, no source/article is given, please input the sources/articles as you need."
  - "Sorry, some of the sources/articles cannot be parsed. Please check their names/URLs and try again."

21

As Jessica (a librarian), I want to be able to store collections of news, discussions, and articles, so it can be used in future references.

Priority: Must
Confirmations:

- Each entry should contain different information and can only be saved if the mandatory tags are there.
- The data format should be consistent throughout all entries.
- There should be enough data for each entry depending on which articles were referenced, but does not contain anymore than that.
- The format should be compact, and organized in a reasonable way.

22

As Jessica (a librarian), I want to be able to categorize data by date, title, or keywords/tags, so I can retrieve certain pieces faster.

Priority: Could
Confirmations:

- There will be three options for data categorization.
  - Date
  - Title
  - Tags
- Success: display message: "Data categorized successfully"
  - data can be sorted by the category chosen;
- Failed:
  - data that cannot be sorted by the category will be listed separately - "The following was missing X" (X is the chosen sorting criteria)

23

As Jessica (a librarian), I want to be able to export data in a compatible format (e.g. XML) with certain other software, so that the data will be accessible in the future on any system.

Priority: Must
Confirmations:

- The data format will follow the requirements set out by the client as the project evolves.
- Other software (perhaps visualization) will be able to use the database files.

24

As Jessica (a librarian), I want a login screen to authenticate and authorize users, so that the data access is restricted and secure.

Priority: Should
Confirmations:

- There should be a login screen, to allow the users to input their credentials.
- Success: display message: "Login successful" and "User authenticated"
- Fail: display one of the below messages
  - "Login failed. Please try again!"
  - "Authentication failed. Please try again!"

25

As Candice (an educator), I want to be able to see pie charts for the number of articles by each author, so that I can show contributions of different author's from the past.

Priority: Must
Confirmations:

- Success:
  - Each part of the chart are different in color
  - The authors names can be shown on the charts.
- Failure - display message: "There are no articles in the database."

26

As Candice (an educator), I want to be able to see Time Series graphs for dates of sources, so that I can present the changes in the trends of sources over time.

Priority: Must Estimate: 1 day
Confirmations:

- Success - display message:
  - The graph shows time series graph for articles from the date the user chooses.
- Failure - display message:
  - "Sorry, no source is given, please input the sources as you need."
  - "Sorry, some of the sources cannot be parsed. Please check their names/URLs and try again."

27

As Candice (an educator), I want to be able to see table visualizations on various categories, such as authors, source location, or references within articles, so that I can have a comprehensive view of these articles.

Priority: Could
Confirmations:

- Success:
  - the top row indicates every reference sources name, and the right side column labels the time unit(month, year, week or season).
  - User can set the time range manually
  - The bottom row will show the amount cites time of each reference in the defined time range.
- Failure - display message:
  - "Category not specified."
  - "Articles with this category do not exist"

28

As Candice (an educator), I want to be able to set data sharing permission for students, so that it will prevent plagiarism.

Priority: Must
Confirmations:

- An Educator login screen will have checkbox options to allow Import/Export data
- Success:
  - Checkmark on checkbox beside "Allow Import/Export data" will allow data sharing
- Fail:
  - if a student authenticator will try to import/export data - he/she will get message, "Error! Data Sharing not allowed. Please contact admin"

29

As Candice (an educator), I want to be able to export the data (sources, articles, visualizations) through a web interface, so that the data is more readily available to larger groups of people.

Priority: Could
Confirmations:

- Success for the users who have access to data sharing.
  - Select export data: prompts user to save
- Failure - display message:
  - "Sorry, you don't have the access to this data. Please check with the administrator

30

As Candice (an educator), I want to be able to import the data (sources, articles, visualizations) through a web interface, so that the data is more readily available to larger groups of people.

Priority: Won't
Confirmations:

- Success for the users who have access of data sharing
  - Select import data: set current database to data
  - Indicate whether marked the data with data author.
- Failure - display message:
  - "Sorry, you don't have the access of this data. Please check with the administrator(with email address)."
  - "Sorry, no data is selected to execute with, please select the data you need and do the operations again."
  - "Sorry, your data type is incompatible, please check again."

System Design

The software manages a collection of articles, published by sources, and the links and references between them. The user can input sources, articles, and add links and references. The managed articles can be categorized to filter and find specific content. With the managed data, it creates representations of the links and references.

The main components of the software are:

1. The database that stores the source entries and article entries, each of which may contain different types of data.
2. The interface that allows the user to load from a database, modify the database by adding new sources and articles.

The interface also allows for a variety of visualizations to be created from the data stored.

In the system, the user must interact with the interface and specify sources and articles. The interface will then deal with finding connections and store both the sources/articles and connections that it has found into the database.

System Metaphor

Every store has a list of different groups of consumers that often buy from the store, from the elderly to the hip young kids (which is a very basic example). However, every group of consumers also visit different types of stores.

A company hires an analyst to understand these relationships - the company will tell the analyst exactly which groups of consumers the company is interested in and will also specify which stores (whose consumer traffic) are particularly of interest to the company.

The analyst will then research a store, taking note of the consumer groups that are of interest to the company.

Sources

We liken the sources of information (that we want to analyze) to be the different stores. We expect that a certain consumer group will likely visit many stores - just like how an article may contain many references to sources.

We can also draw connections between two stores if they happen to have the same consumer groups visit them - just like how we draw connections between sources of information if there is an article from one source that references from another. Information about stores is stored inside the filing cabinet (database).

Articles

We liken the articles to be different consumer groups. Different consumer groups visit different stores - similar to how different articles make references to different sources. Information about consumer groups is stored inside the filing cabinet (database).

User

The company is the user, providing a list of sources (consumer groups), and articles to analyze (stores). The company interacts with the analyst.

Analyst

- The analyst is similar to the interface - it is whom the company (user) interacts with.
- The analyst is responsible for interpreting information from the company (similar to how the interface interprets user input).
- The analyst will seemingly "analyse" the relationships between the consumer groups and the stores (similar to how the connections between articles and references just appear on screen for the user to see when they give input).
- The analyst is responsible for keeping a filing cabinet (or of the sort) to keep track of which consumer groups and stores the company wants to look at (like how the interface will interact with the database).
- The analyst is also responsible for presenting visualizations of the data that he has collected to the company, depending on what visualizations the company would like to see. (just like how the user can choose from a few visualisations)
- The analyst will interact with the company (the user) and keep track of information with his filing cabinet (database).

Database

What the analyst uses to keep track of all the consumer groups and the stores that the company provided and all of the information that he has researched.(It could be a filing cabinet).

Release Plan

Release 1 - 14 days (25/09/2014 to 09/10/2014)

Core functionality to get a working and usable piece of software for this release. Basic data entry and visualizations will be completed during this iteration. Below is the list of the user stories completed and their estimates.

User Story 1 (1 day)

Design of the schema and implementation of the interfaces for storing sources will be done.

User Story 2 (1 days)

Design of the schema and implementation of the interfaces for storing articles will be done.

User Story 3 (8 days)

Design and integration of the database will need to be done. Extra time is allocated to deal with potential problems with storing data.

User Story 4 (4 hours)

An interface will be created for adding sources to the database.

User Story 5 (4 hours)

An interface will be created for removing sources to the database.

User Story 7 (4 hours)

An interface will be created for adding articles to the database.

User Story 8 (4 hours)

An interface will be created for removing articles to the database.

User Story 10 (1 day)

Design of the schema and implementation of the interfaces for storing references will be done.

User Story 11 (4 hours)

An interface will be created for adding references to an article in the database.

User Story 12 (4 hours)

An interface will be created for removing references to an article in the database.

User Story 13 (1 day)

A list visualization will implemented for links between articles in the database.

User Story 15 (1 day)

A list visualization will implemented for links between articles in the database.

Release 2 - 28 days (09/10/2014 to 06/11/2014)

Although the previous release was functional, there are many features the business would like to make it easier to analyze data, and make it presentable. Most of the advanced visualizations of data will be completed during this iteration. Working with graphical visualizations will be a new experience for most of the team, and appropriate time for research and testing must be allocated to ensure it is functional. Estimations for similar visualizations are amortized for how often they are used. Below is the list of user stories completed and their estimates.

User Story 16 (2 days)

A graph visualization will be implemented between sources in the database.

User Story 17 (2 days)

A graph visualization will be implemented between articles and sources in the database.

User Story 18 (2 days)

A graph visualization will be implemented between articles and sources in the database.

User Story 19 (5 days)

A graph visualization will be implemented between articles and sources in the database. More time is allocated to accommodate for the additional complexity compared to the other graph visualizations.

User Story 20 (8 days)

A plot visualization will be implemented between articles, sources, references. This is a unique visualization that works with a large variety of data into one view.

User Story 25 (5 days)

A pie chart visualization will be implemented for articles and authors.

User Story 27 (4 days)

A table visualization will be implemented for software data. This is not graphical, but works with a large variety of data into one view.

Release 3 - 20 days (06/11/2014 to 26/11/2014)

The product is usable for research, but it is not suitable for multiple users yet. The data can be used for research, but it cannot be exported for use with the library systems yet, and there are still key productivity improvements to make it nicer for research. This iteration will address these problems. Appropriate time is allocated for the account system and the export functionality, as research and consultation with the clients will be necessary. Below is the list of user stories completed and their estimates.

User Story 6 (2 days)

Design of the schema and implementation of the interfaces for storing keywords will be done, and the interface for adding them will be integrated with the sources interface.

User Story 14 (5 days)

Research for HTML parsing will need to be done, and proper testing to minimize false positives of links and references. Integration into the article interface will also need to be completed.

User Story 22 (3 days)

Design of the schema and implementation of the interfaces for storing keywords will be done, and the interface for adding them will be integrated with the articles interface. An interface for filtering the articles will also be implemented.

User Story 23 (4 days)

Consultation with the client, and research of their requested format will need to be done. Testing will be important, to export only correct data from the database.

User Story 24 (6 days)

Design of the schema and implementation of the interfaces for managing accounts will be completed. Research of best practices for account systems will be needed, and extra time is allocated for testing to ensure the system is secure.

Future Releases

The user stories that did not make it into the release iterations were deemed to be lower priority by the business, or had estimates that were too long to complete a working application within the release iterations.