Trends in Digital & Social Media (V13)
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User’s Guide for Students

Terminology

The title of this course is “Trends in Digital & Social Media”. However, for simplicity’s sake, this e-book will refer to “social media”, or “SM” for short, as though SM encompasses both digital media and social media.

How to use an e-book for this course

Using an e-book for learning is similar to studying from a traditional paper e-book. If you are using an e-book reader with one of the EPUB, MOBI, or PDF file, you can select any text in this e-book and add annotation to capture your immediate impressions of the readings and media.

You can keep this e-book for future reference in your scholarly or professional work.

You will frequently see text in this e-book in a blue color. These are hyperlinks just like you would see in a Web page in typical Web browser. If your e-book device is connected to the Internet, you will be taken to the resource by tapping on the hyperlink.

There are several resources in this e-book that link to a location within the Granite State College online Library’s Discovery Service. You may need to log in to the
Discovery Service first before the link will go directly to the resource.

The username and password for the GSC Discovery Service is located in every GSC Moodle course in the Research Help sidebar block, usually at the bottom.

Citations

Some of the key resources in this e-book include a conveniently pre-formatted APA citation located in a shaded box like the example below. Please use these citations in your writing in discussion forums and in your final papers.


When citing your sources in coursework, do not cite this e-book or its author. Write your citations referring to the original articles or media from which your positions are based.

What is the theme of this e-book?

The content that has been curated for this e-book has been selected based on the following criteria:

• Which topics pertain to our actual experience of
SM as we are engaged with it in the real world?

• Which authors and organizations present authoritative voices related to the topics?

• Which content offers well-supported, applicable, and varying viewpoints to a given topic?

The intent of this e-book is not to prescribe “the truth” about SM according to the instructor’s personal point of view. Rather, it is to help you to synthesize your own position on each topic which you will then apply appropriately to a final project of your own invention.

This means that while a certain perspective on, say, anonymity, may work well for a certain type of project, it may not work well at all for another. You will determine which position works best on a given topic for your project idea and support it as though you are presenting your idea to a potential stakeholder or interested audience.
Which e-book reader?

If you prefer to download any of the e-book files for use on your devices or computer, we recommend using one of the following applications below so that you can use the note taking features as you read.
Mac: iBooks – If you are using a Mac running one of the most recent operating systems (Mac OS X Mavericks or later), you already have the iBooks application in your Applications folder. More about iBooks can be found on Apple’s website.

Use the EPUB file

Windows: Use the Amazon Kindle for PC software if you prefer to use an e-book reader.

Use the MOBI file

Amazon Kindle: Kindle devices use their built-in software to read e-book files. No extra software is needed.

Use the MOBI file

iPhone and iPad devices: If you do not already have this app, go to the App Store on your device and download it for free. More about the iBooks app for iPad and iPhone can be found here.

Use the EPUB file

Computers and print: Your computer is already capable of opening a PDF file, so you will not need any extra software to open a PDF.

Use the regular PDF for your computer. If you want to print out the textbook onto hardcopy paper, use the PDF-Print version.
How to use an e-book for this course

Using an e-book for learning is similar to studying from a traditional paper textbook but with some extra capabilities.

Using an e-book reader, you can select any text in the e-book and add annotation to it to capture your immediate impressions of the readings and media.

You can do a search within the e-book to find things quickly.

You can keep the e-book for future reference in your scholarly or professional work.
"Pay it Forward" from prior students of COMM601

Every term, I ask students to voluntarily offer a piece of advice they would give to new students of this course. Below is a running compilation of the results:

On the course in general:

I think experienced social media users will expect to cruise through the course. However, this course looks at social media from perspectives you likely never thought of so don’t assume this course will be easy. Keep an open mind and stay engaged.

This course will seem overwhelming the first week or two and then you will get into a rhythm. Trust the process, take advantage of the course resources, and stay openminded.

Don’t be surprised that the course is not about social media marketing and that any preconceived notions about social media should be “parked” and examined objectively and often throughout the weeks of the course.

Use the course to your advantage. Even though this is NOT a course about marketing on SM, there are plenty of topics within the course that provides you the opportunity to explore and incorporate your findings within the assignments.

Be sure to read/watch all course resources. I took
notes while watching videos and reading e-book, which made it easier for me to relate my learning in the weekly forums.

ALWAYS cite your resources properly. There are plenty of resources out there to help with this. Purdue OWL is a great one. In addition, give yourself a deadline of getting your discussions done by Tuesday evening, that way, you’ll never mess up and submit late. Online courses are about self discipline, and that’s a fact!

If you are not sure about an assignment, contact the professor sooner. He makes every effort possible to reach out and be able to communicate with you so take advantage of that.

You’re going to think a lot more than you think you would. This isn’t so much a fluff course as it is a thinking experiment.

Make the most of the course, dive in, and be willing to open up. I loved this course and found it well taught and very enjoyable.

If you’re passionate about social media this course would be a great choice for you. I definitely have learned a lot from this course and there is a lot of valuable information I can take with me in my future career so I definitely recommend this course.

Take advantage of all the resources and read them – the information presented in the class is valuable, especially if you anticipate using digital or social media personally or professionally in the future. As a person currently working in this field, these lessons were so helpful and really made me feel more knowledgeable on the subject.
On time management:

Manage your time accordingly.

It’s ok not to take notes on every single thing in the course. But I would make a summary of what was in the source that was in the book to look back at and find information that you need. This will help with posts and the final.

Be prepared to process a lot of information.

Keep ahead of the assignments and write a weekly diary that relates the course topics to your final project. It will save you SOOOO much time in the long run.

Don’t fall behind. The material appears to jump around as the modules go on, but near the end everything seems to fall into place, as long as you kept up with it all.

Watch all the videos and read the articles and the class makes sense, and will get you thinking!

Log on regularly to keep up with all of the media and articles.

Take the time to read the extra material suggested after each chapter in the book. There is minimal reading involved to do so and it provides additional material when posting to the forum, making it easier to create a quality post. Also be sure to back up all of your work, especially your final project! I learned the hard way that just because you have never lost any work to date, it can happen at any time.

On the final project assignment:

Start visualizing your final project as early as possible.
Outside of the forums, start writing parts of your SM app proposal or narrative for each module as you go. You do not need the entire final idea figured out in order to do this. This will be helpful with creating your outline and writing your final paper.

Make notes on each module that relate to your final project.

Work on the draft of your paper throughout the semester.

Do not procrastinate the final project! Try to save aside information each week that could be useful for your project.

Be prepared to write down key points of each module and start transitioning them into your story at the end of every week.
COMM601 is designed so that you can apply your research for each topic in the course to a project of your choosing. The course syllabus and course resources within Moodle will describe the options for the final project in more detail.

Throughout this e-book, you will see frequent references to “your project” or the “final project”. These references pertain to your final project idea which you will propose at the beginning of the course and develop throughout the term.

If you have any questions about the final project details, please contact the instructor as soon as possible.
Introduction – Why study digital and social media?

Students in this course come from a broad range of academic disciplines. Some enroll in COMM601 because of a personal or academic interest; some because it is required for their major.

Students’ engagement with social media (SM) range from wholesale immersion to total disconnection. Rarely does one come into COMM601 without a predisposition to SM one way or the other.

Whether you are a heavy user or a non-user of SM, it is a part of our lives. It is everywhere. Where do you start in an effort to study it? After all, given the constant churn and changes in the SM landscape, what conclusions could you make today that wouldn’t be obsolete by next week?

In this course, we will study trends, which is to say that we will be “dipping our cup” into the realtime stream of contemporary issues as well as examining some of the apps and platforms that are relevant today and perhaps gone tomorrow!

We will explore some significant themes, events, and narratives that have shaped how SM proliferates globally, and how, in turn, it has shaped us as a society in the present moment.

Your goal in this course is to develop a position on each topic that reflects your insight drawn from a variety of authoritative perspectives as well as
from those of your peers and the research you have conducted on your own.

Ultimately, the educational outcome of COMM601 is that you will be able to speak intelligently about the topics we cover in this course under any situation: professional, academic, or personal.

Readings & Media

Article: Anil Dash – “12 Things Everyone Should Understand About Tech”

Dash is a software developer and writer on Medium. He states: “Tech is more important than ever, deeply affecting culture, politics and society. Given all the time we spend with our gadgets and apps, it’s essential to understand the principles that determine how tech affects our lives…. Technology isn’t an industry, it’s a method of transforming the culture and economics of existing systems and institutions.”

There are legitimate arguments against some of Dash’s points such as those found in the comments section. For example, the influence of open source software is not factored into his list. The value of this article, despite the author’s surface level effort to support his propositions, is in its attempt to distill the totality of technological presence, invention, and influence into a digestible set of axioms worth considering as we go through our studies in this course.

Video: Nicholas Christakis – “The hidden influence of social networks”

Nicholas Christakis is an author, research scientist, and prominent presenter on how social media promotes healthy living. In this presentation, he describes how the structures of networks impose meaning on its members; that being a member of a social network causes things to “rub off” on you in ways you might not even notice.

**What to look for as you watch:**

- Think about the social networks you are a member of, both online and in real life: Does the network influence you in any way? In what ways do you influence the network?

Connect to Nicholas Christakis on Twitter: @NAChristakis – Website: nicholaschristakis.net/

Orientation: Social Media Fact Sheet

Review the most recent statistics and trends related to the most popular SM platforms and the demographics of their users.
Optional: Social Media Basics, Definitions, and Terminology

If you are unfamiliar with SM, its terminology, or some of the major SM platforms/applications in recent history, please review this article by danah m. boyd and Nicole B. Ellison.


danah boyd (yes, all lowercase) is a scholar and author on the role of digital technology in society and about social media in particular.

boyd’s article will help you to understand the evolution of various features and functions found in contemporary
social media. You do not need to memorize the history of innovations or the names of each platform that has come and gone.

**Focus only on the three sections labeled as follows:**

- **Social Network Sites: A Definition**
- **A History of Social Network Sites**
- **Networks and Network Structure**

**Web version** – Social Network Sites: Definition, History, and Scholarship

**PDF Download** – Social Network Sites: Definition, History, and Scholarship

Connect to danah boyd on Twitter: @zephoria – Website: www.danah.org
Chapter 1 - A Historical Perspective

Overview

The history of SM is not confined to the technical innovations created in the last 15 years or so. In fact, one of this week’s presenters, Tom Standage, claims that SM has been around for 2000 years!

In this chapter, you will find that throughout history, SM has proliferated in various forms and with various audience types: literate gentry, common folk, computer geeks, and others.

While the focus of this course is on present-day trends and concepts of SM, it is important to understand that social interaction through media is not a new experience. The Internet Age is different from past systems because it has offered the lowest entry point for mass communication in human history, on a global scale.

Kevin Kelly begins by explaining how technological innovations evolve and assimilate into our culture. He goes so far as to say, “Technology is who we are,” today’s interaction is part of a continuing trend of self-organization and is an extension of our humanity.

Then we will hear Tom Standage’s presentation which describes SM as a concept that transcends our simple notion of contemporary SM system. Evidently, what we are familiar with today is not that much different than what people did 2000 years ago.

So how did SM find its way to the Internet? Andrew Keen, in “Digital Vertigo: How Today’s Online Social
Revolution Is Dividing, Diminishing, and Disorienting Us“, offers an intriguing theory. In the mid-1960s, west coast hippies – known for a community-driven culture – happened to converge in the Silicon Valley area with the pioneers of computer technology companies.

Keen states, “… the history of Silicon Valley must be understood in terms of its social values, moral judgments and economic ideas – in the context of what some sociologists would call its ‘ideology’.“ (Keen, A., 2012, p. 97). An example of his thesis is found in the Community Memory Project (below) which originated in the San Francisco, CA area.

The Community Memory Project: 1973, Berkeley and San Francisco, California. Excerpts from flyers:

“COMMUNITY MEMORY is the name we give to this experimental information service. It is an attempt to harness the power of the computer in the service of the community. We hope to do this by providing a sort of super
bulletin board where people can post notices of all sorts and can find the notices posted by others rapidly.”

“… a tool for collective thinking, planning, organizing, fantasizing, and decision-making.”

“By being open and interactive, Community Memory seeks to present an alternative to broadcast media such as TV. The nightly national TV news – both commentary and commercials – gives people the ‘word’ from on high, telling us ‘that’s the way it is.’ Community Memory is different. It makes room for the exchange of people-to-

people information, recognizing and legitimizing the ability of people to decide for themselves what information they want.”


Other primary resources: “Community Memory” catalog search.

We will also review how The Well [ http://www.well.com/ ] emerged as the prototypical networked SM platform for our age, how it was envisioned by its creators, and how its members’ lives were changed. This media is offered as primary testimony by The Well’s developers who describe their philosophy and motives in creating the first virtual asynchronous (not realtime) online community.

Key Terms

**Disruptive** – In the context of this course, we will define “disruptive” as the ability to displace or marginalize an existing tradition, process, or model. The causes of
disruption often involve technologies, but sometimes involve an innovation in process. The effect of a disruption is a change in the structure of social, political, economic, personal, or interpersonal traditions.

What should you be focusing on?

Your objectives in this module are:

- Trace how present-day social media fits in the historical continuum of social communication.
- Identify the motives for creating social communication.

Readings & Media

In this chapter’s readings and media, the authors will present the following themes:

1. SM is a technology that was created within the context of many other technologies.

2. SM, as we know it today, is not the first form of SM – there is a long historical trail of SM systems and technologies that precede what we see today, each with their respective disruptive influence.

3. Online SM, as we know it today, was inspired by its first creators within a particular social and political context that influenced the
Kevin Kelly begins the story by describing the historical motive for change through the human invention of technologies. However, Kelly’s presentation is not about SM. This presentation will help us to step back and view SM as a technology: one that is embedded among other contemporary technologies and built upon prior needs and technologies.

Kelly: “The question that I came up with was this: what does technology want? And by that, I don’t mean, does it want chocolate or vanilla? I mean, what are its inherent trends and biases? What are its tendencies over time?”

What to look for as you watch:

- Consider that SM is just a point on an existing continuum spanning ALL technological inventions created by humans for some purpose or another. This may help you to get a sense of how SM fits into a historical narrative of ongoing technological innovation.

- Consider how Kelly proposes the need to be engaged with technologies rather than fearing
them. What are the steps we should take to discover their usefulness?

- Identify the connection between “what technology wants” and the larger question of why SM was invented.


Connect to Kevin Kelly @kevin2kelly – Website: www.kk.org
Required Video: Tom Standage – “Lessons from Ancient Social Media” presentation

We leap from a broad conversation about technology, what propels it, and how we manage it, to a narrower story about SM as a concept.

Standage claims that SM isn’t new at all – it is simply an extension of other forms of communication going back 2000+ years. The critical proposition in this presentation is about how each step in the evolution of social communication carried with it a disruptive shock to the balance of life and society at that time.

What to look for as you watch:

• Consider why people throughout history have been trying to communicate through media.

• How have these forms of SM been disruptive? To whom or what?

Tom Standage: Lessons from ancient social media
Required Videos: The WELL – Hippies in Cyberspace

The following short videos describe the historical background of The WELL, the first online network-based social media platform in a form similar to what we recognize today.

What’s particularly valuable about these presentations is that they are primary testimony from the individuals who were involved from The WELL’s inception.

One of the speakers, Howard Rheingold, is a prominent author on the subject of digital culture. In the video, he refers to “The Farm” and “living on a bus”. These are details related to a time in the late 1960s when groups of
hippies formed farm-based communes. One group pooled their money to buy a fleet of old buses, drove them to a plot of land in Tennessee and parked them in an arrangement to form a new community.

These kinds of alternative social relationships, he claims, inspired the communitarian culture found in SM.

**What to look for as you watch:**

- What were the underlying social ideals that motivated the creation of The WELL?
- How are the early principles of communitarianism reflected in the modern concept of an “online community”?

Howard Rheingold: The Early Days of The WELL


Rheingold, Howard [Susan Hedin]. (2009,

Connect to Howard Rheingold
@hrheingold – Website: www.rheingold.com

**WARNING!!!**

*In your online research for this topic DO NOT CITE THE ARTICLES BELOW. They are inaccurate and not suitable for use in our studies.*

**DO NOT CITE THIS ARTICLE:** “Complete History of Social Media: Then And Now“, May 8, 2013 by Drew Hendricks.

**DO NOT CITE THIS ARTICLE:** “The History of Social Media: Social Networking Evolution!” by the History Cooperative.

Optional: The History of the Commodore 64

Check out this brief section about modems in the history of the Commodore 64 home computer system. **Go to the part at 28:37** where it describes the introduction of a
modem to get onto the Internet to access some of the online social interaction at that time. The Quantum Link system operated from 1985 – 1995.


If there was an infinite amount of time available for this topic, this documentary would be assigned watching. The History of the BBS is told by the original creators of the systems that were used to interact over primitive Internet connections. BBS are the earliest forms of electronic network social media.
Chapter 2 – What is a Social Media Network?

Overview

Students in prior terms of this course have been surprised to discover that there is a lot more to SM than Facebook or Instagram. The variety of SM ranges far and wide. This module is a deeper inquiry into what makes media “social”.

For example, eBay.com has community groups where sellers can congregate. Does that make eBay social media? How much “social” must there be for something to rightfully be called “social media”?

And what is the difference between “social media” and a “social network”? Are they one-and-the-same or are they different entities?

In this chapter, we set the stage for discussing where the line is drawn between systems that can be called SM and systems that don’t qualify. The value in this discussion is in thinking about how your final project ideas can be constructed as a SM platform or how SM is integrated into your work of fiction.

What should you be focusing on?

Your objectives in this module are:

- Identify the functional building blocks of social media.
Identify the features of social media that offer a value proposition.

Your projects should reflect what SM can do and how SM does what it does.

Readings & Media

In the following readings and media, the authors will present the following themes:

1. SM is comprised of several functional building blocks. Each SM system is strong in some aspect (or more) of these building blocks according to its intended purpose or use case.

2. There are many more types of SM than the few we see or hear about most frequently.

3. Each SM system provides its users with a certain value proposition in exchange for something the user gives to the system.

Required Slideshow/Video: Jan H. Kietzmann’s Honeycomb Model of SM

Jan H. Keitzmann deconstructs SM systems into their functional components. The purpose of this model is to help identify the ways in which any given SM system is intended to serve its users. The slideshow is designed for
a business audience but it is equally useful for a general conversation about the characteristics of SM.

**What to look for as you watch:**

- How do you imagine the balance of your final project idea’s features and functions based on Keitzmann’s model? What aspects of the Honeycomb Model are stronger or weaker in your idea?

*View any one of the versions below of Kietzmann’s presentation. They are all the same.*

Connect to Jan H. Kietzmann @7_dials
Website: SFU Beedie School of Business
Required Infographic: The Spectrum of Social Media Types

This graphic is an ongoing effort to classify all of the current and past social media types. You may find it useful as a way of identifying the type of SM system you plan to propose in your final project (if you choose Option #1), or a framework for the presence of SM in your story (if you choose Option #2).

Alexis C. Madrigal’s article “Dark Social: We Have the Whole History of the Web Wrong” explores the idea that SM existed long before today’s SM. However, what makes today’s SM different is how it is published.

He states, “Publishing social interactions makes them more visible, searchable, and adds a lot of metadata to your simple link or photo post.” (emphasis added). This article was originally published in 2012, so it is likely that the proportions in his graphics may be outdated.

However, the key argument he makes concludes: “…we’re exchanging our personal data in exchange for the ability to publish and archive a record of our sharing. That may be a transaction you want to make, but it might not be the one you’ve been told you made.”

The leverage of metadata within the SM ecology is the only reason SM is profitable, and is the basis of the entire social sharing economy.

Optional:

What is the difference between social media and social networking? “Social Media vs. Social Networking”.

Chapter 3 – Metadata, Tracking, and the User's Experience

Overview

The concepts and technologies described in this module are perhaps the most important (and most controversial) when it comes to understanding the fundamental commercial value of SM and mobile apps. You may have noticed that SM and many mobile apps are free. How can these systems earn a profit if they are giving away the service for nothing?

It has everything to do with the “digital footprints”, or metadata, that people generate as they surf the Internet, view content, create posts within SM systems, and move around in their daily lives with their cellphones turned on. Metadata is then collected from Web browsers by tracking systems embedded within websites and from mobile apps transmitting data to data partners. This data is then used to algorithmically predict an individual user’s interests, preferences, geolocation, movement patterns, and personal characteristics.

Research shows that ordinary people don’t like the idea that they are being tracked (Pew Research Center, 2014). But then how bad is it, really? Aren’t there benefits to being tracked, from the user’s perspective, for the privilege of accessing all of these apps at no cost?

We will explore the value proposition of this arrangement in terms the unique circumstances of your proposed final project idea.
Key Terms

Before you get deeply involved in this week’s readings and media, there is one very important clarification you will need to understand when we refer to privacy in the context of this week’s discussion.

**Personally Identifiable Information (PII):** When we refer to metadata collected while surfing the Internet and using mobile apps, we are not referring to PII, or Personally Identifiable Information. An example of PII would be your name, Social Security number, passport ID, credit card numbers, and other similar information.

Instead, we are referring to tracking techniques that collect metadata through the use of cookies and similar technologies.

The difference is significant. PII can identify you as an individual, such as “Joe Schmo owns a house in Weare, NH, has four mountain bikes, has a son named Joe jr. who has ADD and goes to the Winchester private school.”

Tracking, however, is not intended to identify someone individually. Instead, it is intended to synthesize a profile of an unnamed individual for the purpose of grouping him or her with other people with similar profiles, such as: “A man in his early 50s who owns a house, has a family with school-age kids, and likes to do outdoor recreational sports.”

If you respond to this week’s discussion in terms of PII, you will have misinterpreted the focus of this week’s topic.

**Consumer journey (or Consumer life journey):** Refers to two basic concepts: the path a person takes through online navigation to arrive at a desired location, and the actual path in physical space that a person follows as part of their daily movement. In both contexts,
marketing analysts seek the points in the consumer’s journey that are most likely to gain their attention.

**HTTP Cookies:** HTTP Cookies are small pieces of data sent from a website and stored on the user’s computer by the user’s web browser while the user is browsing on the Internet. Tracking systems embedded in a website can collect and store cookie data and use it to form profiles of users for marketing purposes.

**Location data (or Geo-Location):** Location data can be acquired according to the mapping of IP addresses (physical locations of Internet access points) or from the GPS data that is recorded from an activated cellphone.

**Metadata:** A set of data that describes other data, or “data about data”. For example, when a person navigates the Internet, the Web browser collects information about what the user is seeking such as which Web pages had been visited, how much time was spent on the page, what was clicked on, objects hovered over, and which ads were clicked. The metadata does not identify the user, but it describes what the user interacted with. Marketing systems (trackers) are able to collect this information and algorithmically derive the user’s interests and preferences without actually ascertaining the user’s PII.

**Online Behavioral Targeting (OBT):** The process of placing targeted online ads that are specifically tailored to a user based on their metadata profile.

**Social Informatics:** The name of the area of research that is concerned with the design and development of “recommender systems” based on metadata.

What should you be focusing on?

Your objectives in this module are:
- Identify the technical methods used to track an individual’s online behavior and location.
- Explain how tracking technologies affect what someone sees as they navigate the Internet and physical space.
- Develop arguments that support or oppose the use of tracking from the user’s perspective.

Readings & Media

In the following readings and media, the authors will present the following themes:

1. Your online behavior and physical movement in real space is being compiled and quantified into metadata that can be used to personalize your Internet and media marketing experience.
2. There are hundreds of trackers reading your metadata and feeding you content and ads that are designed to match your preferences, interests, and location.
3. While this process might sound creepy, there are actual benefits for users according to marketing industry professionals.
4. Research indicates that there are generational differences in how people feel about their online presence, location, and sense of privacy.
Interactive graphic: What is Tracking and How Does it Work?

The interactive image below is a simplified description of how SM works to personalize your online experience. Start at 12 o’clock, then move clockwise through the model. Click on each image to see an explanation.

Required Radio (3:44): WBUR Here and Now: “The Anatomy Of The Microtargeted Ad”. Retrieved 5-18-2018. This short segment includes an interview with Here & Now media analyst John Carroll who explains how a microtargeted ad is placed in front of a user. Key themes to listen for:

What is computer vision (also known as “machine vision”)? Here is company that provides this service.
What is consumer journey mapping?
What is a micromoment?

An interactive or media element has been excluded from this version of the text. You can view it online here:
https://granite.pressbooks.pub/comm601/?p=35

**Required Article:** How behavioral advertising works

**Neil Patel blog:** “Behind the Scenes of Behavioral Advertising” by George Mathew. Retrieved 12-12-2015. This describes how behavioral advertising works. You only need to read the sections under the headings:

- How Behavioral Advertising Works
- Online Behaviors That Advertisers Use
- How Advertisers Use Retargeting

**Required Article:** What is an online tracker and what do they do?

Here is a randomly selected tracking company found in a browser’s tracker data:

Welcome to Optimizely.com: “Let’s personalize digital experiences for your customers. Optimizely is the easiest and
**most powerful solution for transforming your customers’ experience.”**

Note how they refer to a personalized Internet experience as “delightful”?

**Required Video (22:00): How is cellphone location data used to track human patterns of movement?**

This webinar video is produced by The Local Search Association (LSA), a not-for-profit industry association of media companies, agencies and technology providers who help on-the-ground businesses market to local consumers. It explains in clear detail how smartphones allow anonymous data to be collected everywhere a person goes and how that location data can be used in a surprising number of ways to predict the best times and places to market to targeted audiences.
If the articles above made you feel as though your privacy is being encroached, perhaps the next few articles will persuade you to think about the positive effects of tracking.

Under what conditions would a person appreciate having their Internet experience personalized to their interests?
Behavioral Targeting (OBT)

Read the following excerpt below from an article, “Optimizing Revenue – The 411 on Behavioral Targeting” (No author indicated), October 29, 2011. Retrieved 12-12-2015.

Benefits of Behavioral Targeting for the User:
Most users are strapped for time and only go online to catch up on the latest news or read some articles in between breaks from work or at night before going to bed. Site visitors will obviously appreciate it when they are greeted with content that jives with their interests. This saves the user time and provides the visitor with a richer experience.

For example, when you reach your personalized homepage on Yahoo!, you will be greeted with news articles and editorials that are customized to match or fit your interests. You have the option to stick with the recommendations made by the site, or change the settings so that the content that is displayed is exactly what you’re looking for.

Behavioral targeting can expand the reach of websites, which makes it extremely useful for online publishers and website owners. It also benefits users and advertisers in the process. When properly implemented and optimized, it can serve to benefit all three parties, hitting multiple targets with one stone.

Required Article: Why is Tracking Good?

Required Article: Targeted marketing working too well

*Forbes*: “How Target Figured Out A Teen Girl Was Pregnant Before Her Father Did”. You’ve probably heard this story before, but here is the *whole* story from Forbes which you should read even if you already know the main details. By Kashmir Hill, February 16, 2012. Retrieved 12-12-2015 from Forbes Magazine. [Note: If your Web browser uses an ad blocker, you may need to disable it to see this article or open it in a different Web browser that does not have an ad blocker enabled.]

Required Data: Generational differences in perceptions of Internet privacy

The Pew Research Center’s Internet & American Life Project is a non-partisan research group that conducts surveys to monitor public sentiment in a variety of topics. Read about “Public Perceptions of Privacy and Security in the Post-Snowden Era” which surveyed American adults describing their views about privacy, and “Teens, Social Media, and Privacy” which shows how teens share information about themselves online.

*What to look for:*

- Compare these two reports. What jumps out at you as the major differences between adults and
teens in their willingness to disclose their online presence?

- What factors can explain this difference?

Optional: Supplemental resources related to tracking, metadata, and privacy:

**People don’t want to be tracked:** Hoofnagle, Chris Jay and Urban, Jennifer M. and Li, Su. “Privacy and Modern Advertising: Most US Internet Users Want ‘Do Not Track’ to Stop Collection of Data about their Online Activities” (October 8, 2012). Amsterdam Privacy Conference, 2012. Available at SSRN: https://ssrn.com/abstract=2152135

**Facebook’s average revenue per user** as of 4th quarter 2017, by region (in U.S. dollars).

An infographic that shows all of the categories of companies that operate on consumer data between you and marketers.

A list of companies that provide **data analytics services for marketing**:

- SafeGraph – Processes and predicts areas of physical space optimized for marketing.
- LiveRamp – “Identity resolution” to connect individuals to marketing spaces.
- Unacast – Provides information about human traffic patterns for marketing and product development.
- Fysical – Provides data on foot traffic for use in smart cities, retail, real estate development, and predictive modeling/forecasting.
• Foursquare – The “check-in” SM app is developing a location technology platform.

**Business Insider:** “From Start To Finish, This Is How Beacons Send Ads To Your Phone While You’re Shopping” describes how little tiny beacons can be installed in a business to transmit weak Bluetooth signals to a nearby smartphone to promote an ad.

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**Optional: Supplemental resources related to social informatics**

If you are interested in the contemporary issues related to social informatics, user privacy, and the science of social networks, look through the latest SocInfo 2017 Conference program. Look through the conference topics and follow the proceedings. Here is a list of the presenters and their topics.

References:

Chapter 4 – The Ethical Challenges of Online Behavioral Targeting (OBT)

Overview

In the prior chapter, we explored the benefits and risks associated with Online Behavioral Targeting (OBT) and the balance of “living publicly” from the user’s experience of SM and the Internet.

In this chapter, we turn the tables and look at OBT and other advanced technologies from the ethical perspective of the business owners who use them.

This week’s discussion will put you into the position of a business owner whose success depends on remaining competitive. You will have the power to use an algorithm to predict characteristics and behaviors of your customers to gain a competitive advantage. How far would you go, given the opportunity to calculate some very intimate details about them?

Key Terms

Open-source intelligence (OSINT): (Excerpted from the Wikipedia entry). Huge collections of data about individuals can be obtained through open-source resources provided the information does not require any type of clandestine collection techniques to obtain it and that it must be obtained through means that entirely meet the
copyright and commercial requirements of the vendors were applicable. These open sources include:

- **Media**: print newspapers, magazines, radio, and television from across and between countries.

- **Internet**, online publications, blogs, discussion groups, citizen media (i.e. – cell phone videos, and user created content), YouTube, and other social media websites (i.e. – Facebook, Twitter, Instagram, etc.). This source also outpaces a variety of other sources due to its timeliness and ease of access.

- **Public Government Data**, public government reports, budgets, hearings, telephone directories, press conferences, websites, and speeches. Although this source comes from an official source they are publicly accessible and may be used openly and freely.

- **Professional and Academic Publications**, information acquired from journals, conferences, symposia, academic papers, dissertations, and theses. Commercial Data, commercial imagery, financial and industrial assessments, and databases. Grey literature, technical reports, preprints, patents, working papers, business documents, unpublished works, and newsletters.

An example of an app that draws from OSINT data is the Predictim app whose service evaluates whether the babysitter you intended to hire poses any risks. (See the optional article resource below from CBS News).
What should you be focusing on?

Your objective in this module is:

- Develop a strategic position on the use of OBT from a business person’s perspective which takes into account its ethical ramifications.

Readings & Media

**Thematic narrative in this chapter**

In the following readings and media, the authors will present the following themes:

1. Metadata and tracking systems are constantly improving.
2. Even though metadata systems do not collect or report PII, there are ethical issues to consider when businesses use recommender systems that are surprisingly accurate.

**Required Database: The privacy cost of free apps**

AppCensus is a non-profit research organization that evaluates Android apps to determine what data it collects, how it collects it, and with whom it is shared.
- Type in a search term in the search box at the top (like “sleep” or browse by category) and then explore any random app’s test results. You can see at a glance which apps share sensitive data by the badges next to each item.
- Click on “View Privacy Analysis” to see the results.
- Here is an example for “OK Cupid Dating“. Hover over the boxes to see which sets of data are shared.

The value of this exploration is to compare the variations in privacy settings. These settings are business decisions put in place to achieve a strategic business plan.

**Required Article:** The ethical codes of using OBT

Review “The ethics of Online Behavioral Targeting (OBT)”. You only need to review the parts about the ethical codes related to OBT. You are free to skim the other parts related to all of the methods of data collection if it would help you with your project. The main focus of this piece begins on page 135 (pg 11 of 22 within the PDF) under the heading “Ethical Analysis of Online Behavioral Targeting and the FTC Principles and Guidelines”
Required Article: The case for banning OBT

Review The New Republic – “Ban Targeted Advertising“. David Dayan makes the case for banning targeted advertising altogether. He suggests that not only does the “surveillance economy” fail to deliver anything meaningful to advertisers but building massive databases of metadata creates an attractive target for hackers. The risks outweigh the perceived benefits.

Dayan argues from both a business perspective and from an ethical perspective. As you read, consider whether Dayan’s commentary is a strong argument for banning OBT, or whether his argument would be weaker if the OBT system had a few tweaks?

**Required Interaction:** What information is being tracked while you interact online?

Spend a few minutes clicking around ClickClickClick.click to see just how much metadata can be collected about your Web browser behavior as you navigate online. This will give you a sense of how sophisticated Web browser tracking technology has become. In addition, consider that the manner of your interaction can be tracked to identify patterns of your engagement that are as unique as your fingerprint or manner of walking.

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**Required Data Sheet:** What is in a person’s actual profile data?

Would you like to see what the Internet actually “knows” about you from your online behavior and other forma of data collection? Here is how you find out: Go to Yo-Da Your Data and sign up – it’s free! Read more from their
collection of “Privacy Horror Stories“. Here is Yo-Da Your Data’s Twitter feed.

Optional: Supplemental resources related to OBT and publicly obtained data

The Federal Deposit Insurance Corporation (FDIC) Center for Financial Research describes how metadata from one’s digital footprint is being used as a basis of determining credit worthiness. “On the Rise of the FinTechs—Credit Scoring Using Digital Footprints” includes the following statements:

The growth of the internet leaves a trace of simple, easily accessible information about almost every individual worldwide – a trace that we label “digital footprint”. Even without writing text about oneself, uploading financial information, or providing friendship or social network data, the simple act of accessing or registering on a webpage leaves valuable information. As a simple example, every website can effortlessly track whether a customer is using an iOS or an Android device; or track whether a customer comes to the website via a search engine or a click on a paid ad. In this project, we seek to understand whether the digital footprint helps augment information traditionally considered to be important for default prediction and whether it can be used for the prediction of consumer payment behavior and defaults.

...Using more than 250,000 observations, we show that even simple, easily accessible variables from the digital footprint equal or exceed the information content of credit bureau scores. Furthermore, the discriminatory power for unscorable customers is very similar to that of scorable customers. Our results have potentially wide implications
for financial intermediaries’ business models, for access to credit for the unbanked, and for the behavior of consumers, firms, and regulators in the digital sphere.

**BBC News:** “Bereaved mother criticises Facebook over baby ads”. This article describes how a woman who suffered the loss of a stillborn birth continued to receive targeted ads for baby products and related content no matter how often she objected to the ad placements through Facebook’s feedback mechanisms. This article will give you a sense of how, despite the incredible capabilities of OBT, it is not “intelligent” enough to know when circumstances in a person’s life have changed.

**CBS News:** “AI babysitting service Predictim vows to stay online after being blocked by Facebook and Twitter”. Find out why Predictim, an app designed to evaluate the risk of the babysitter you intended to hire (which sounds like a good idea), turned into a problem so unmanageable that the service was suspended. This is relevant in this chapter because it is predicated on the ability of the system to “scrape” social media content about an applicant.

**How to opt-out of data collection agencies:** Stop Data Mining Me “… is the central source for consumers to learn what kinds of information data brokers have about them and how to exercise their opt-out choices.” They provide a running list of resources you can use to opt out of metadata collection.

**The World Privacy Forum** is a research organization on the forefront of examining privacy issues in the digital era.
Overview

If you look back through history and document people’s reactions to newly emergent technologies, you will see a predictable pattern: there were some who saw the new thing for all its promising capabilities; others insisted that it posed extraordinary dangers.

Naysayers said that the first electrified subway system was an underground death trap. “People were not made to travel underground!” it was said. But then, when people finally rode on the subways, they found that it was actually quite a nice experience.

Motion picture films, in their first decades as an entertainment medium, were believed to cause juvenile delinquency and depraved behavior based the imitative behavior theory. For example, in 1913, “After [censor Major Funkhauser] banned some films of people dancing (the turkey trot and the tango), he said that ‘the objection is not based so much upon these pictures in themselves, but upon the effect they would have on thousands of young people.’” (Denby, D., 2016). Communities all over the country mandated censorship despite arguments about Free Speech. This practice dissolved through a combination of legal decisions and changes in social standards that were less paternalistic.

In the 1950s, comic books were targeted as a
corrupting influence on young people. Piles of comic books were burned, fostered by the belief that “…Hitler was a beginner compared to the [influence of the] comic-book industry.” (Werther, F., 1954).

In this chapter, we examine the promise (and outrage) held in one of the newest media technologies to become accessible to the general public: Augmented, Virtual, and Mixed Realities (AR/VR/MR), collectively referred to as reality technologies.

The readings and media in this chapter touch upon the basic capabilities of reality technologies and then go beyond the “wow factors” to explore their potentially negative collateral effects.

Key Terms

As a relatively new and evolving field of study, the terminologies used to describe AR/VR/MR are often changing. The following definitions provide basic descriptions, though there may be additional nuances to them under certain conditions.

**Augmented Reality (AR)** – “…taking digital or computer generated information, whether it be images, audio video and touch or haptic sensations and overlaying them [onto] … a real-time environment” (Kipper, G., 2012, p.18).

**Virtual Reality (VR)** – “A completely artificial digital environment that uses computer hardware and software to create the appearance of a real environment to the user” (Kipper, G., 2012, p. 22).

**Mixed Reality (MR)** – “…where real world objects or people are dynamically integrated into virtual worlds to produce new environments and visualizations where physical and digital objects co-exist and interact in real
Microsoft offers a more detailed illustration of MR with graphical and video representations of MR across the full spectrum of reality technologies.

**Reality Technologies** – A blanket statement used to describe all of the varieties of AR/VR/MR.

![Mixed reality spectrum](image)


**Haptic Feedback** – The experience of vibrations and other sensory experience associated with a VR experience. Examples of this are found in surgical training.

What should you be focusing on?

Your objectives in this module are:

- Identify the elements in AR/VR/MR sensory experiences that differentiate them from other forms of media.
- Identify the ways in which immersive technologies can produce positive impact on the human experience.
- Evaluate the collateral risks and challenges that
emerge from the proliferation of immersive technologies such as:

- How does immersion in artificial environments adversely affect behavior in the real world, especially if the virtual world is more emotionally and physically fulfilling?
- Are behaviors or thoughts in the virtual world subject to the same moral, ethical, and legal codes as those in the real world? Can “thought crimes” be considered real crimes?

Readings & Media

In the following readings and media, the authors will present the following themes:

1. Reality technologies can provide amazingly immersive experiences for entertainment, education, and for forming empathy.
2. With the power that comes with reaching deeply into the realms of human sensory and psychological experience comes a set of profound ethical considerations.

Examples of various reality technologies:

You are in an unfamiliar airport with thousands of people
swarming around you. You can’t read or speak the local language. You have no idea how to get to the check-in counter. Then you hold up your AR-enabled smartphone and load an app that maps information onto the airport interior. The information floats in front of you so that you can navigate directly to your destination.

![AR app](image)

You are repairing a complex piece of machinery and need assistance. You put on an AR device and it maps animated information onto the device to guide you step-by-step through the process.

**Video:** Augmented Reality Training Demonstration – by Scope AR using the Epson Moverio BT-100
You are scheduled to be deployed to a complex military theatre of action where it would not be possible to recreate the engagement environment in the physical realm. You and your team put on a VR apparatus that produces a simulated representation of the engagement environment. The VR system enables your team to practice and refine your strategy through active participation and playback analysis.

**Video:** Virtual Reality: The Future Of Military Training
As your 2-year-old child grows, you sense something isn’t quite right. She is withdrawn, doesn’t make eye contact, and is not communicative. She is diagnosed with a form of autism. You are frightened about how she will be prepared to get by in the world. As a parent, you wish there was a way you could see the world through her eyes to help her cope as she grows up.

So you locate a VR resource that helps you to understand how autistic people experience stimuli in the real world so that you can respond to your child’s reactions and needs.

**Video:** Autism TMI Virtual Reality Experience (Note: This is recorded so that it can be viewed in 360 VR using a Google Cardboard device. You will not be able to get the
full experience from watching this video without wearing the device, but consider the immense value in having this kind of resource freely available on YouTube.)

You feel alienated from your peers and feel desperately lonely. You don’t like how you look, you are sometimes bullied, and you feel detached and withdrawn from the world. You have no place to go in your community that makes you feel like you belong to something meaningful.

So you put on your VR device and it transports you to a virtual world where you can appear to be anything you want – a different person, an animal, an alien. It gives you a newfound sense of freedom and comfort to interact with others in realtime, to make friends, do things together, or
even change genders. Other participants seek you out to dance, chat, or have sex with you – an experience you believe could never happen in real life. The virtual world is beautifully fulfilling in ways the real world cannot be.

As an educator for medical students, you want to enable them to experience empathy with patients. Embodied Labs is a company inspired by Carrie Shaw, a medical student, to create VR embodied experiences. Read more in NPR’s feature article, “Virtual Reality Helps Hospice Workers See Life And Death Through A Patient’s Eyes“.
Required Ethical issues and codes of conduct

Article: Frontiers in Robotics and AI – “Real Virtuality: A Code of Ethical Conduct. Recommendations for Good Scientific Practice and the Consumers of VR-Technology” by Michael Madary and Thomas K. Metzinger. This is a formal research article that contains more than what you will need for this module. Please skim the initial sections if you like, but focus in detail on the following sections:

• Beginning with “Context-Sensitivity All the
Way Down” and ending before “The Research Ethics of VR“.

- Beginning with “Risks for Individuals and Society” and ending before “Summary“.

Here is an excerpt relevant to our studies which bears a connection between the psychological effect of social media participation and the implications of “need” within reality technologies:

…immersive VR introduces new and dramatic ways of disrupting our relationship to the natural world. Likewise, the newly created “need” to interact using social media will become even more psychologically ingrained as the interactions begin to take place while we are embodied in virtual spaces....(Madary, M., & Metzinger, T., 2016, p. 2)


Required VR and the rules of virtual sex

Article: The New York Times: “Virtual Reality Gets Naughty”. Please note that this article refers to aspects of sexuality in language which some may find unexpectedly frank for an academic activity. There is no nudity or sexually explicit content shown here, but the subject matter
touches upon aspects of sex-oriented technologies which some may find uncomfortable. It is, however, a critical exploration into the areas where reality technologies are implemented.

Krueger explores several dimensions to the “virtual companionship” technologies: **online pornography, robotic companionship, sex therapy, sex education, and PTSD therapy.**


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**Optional: Supplemental resources that are relevant to AR/VR**

**COMM601** alumnus Peter Riendeau produced his undergraduate Capstone project as an online e-book tracing the impact of AR/VR in the field of Marketing. Mr. Riendeau had worked in the field of sensory technology for about 30 years and combined his work experience with his Marketing studies to produce this open document.

**Educause Review:** “VR and AR: The Ethical Challenges Ahead” describes the issues of using immersive technologies in the field of education.

Firefox has developed a mixed reality Web browser called Firefox Reality.

**Mashable:** “Virtual reality porn is here. Get ready for
the first coming” by Chelsea Stark. This article uses explicit language in its reporting of the VR technologies now being tested in the pornography industry. It includes descriptions of other remotely controlled devices such as teledildonics. The purpose in offering this article is to surface the implications of self-centered sexuality in a social context where the rules of consent differ from those in the real world.

**DigitalBodies.net**: VR, AR, Wearables and the Future of Learning. Explore how AR/VR is being used in the field of education.

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**References**


Overview

It seems inevitable that if computers can be programmed to “think” like humans, they would be employed to do the things humans do, for humans. After all, wouldn’t it be nice if we all had our own personal assistant working 24/7 to answer questions and do tasks on our behalf?
In the past few years, a convergence of advanced technologies, development standards, and interconnectivity has made it possible for computers to recognize patterns in speech and data to interact in remarkably human-like ways. In this chapter, we will review the implications of artificial intelligence (AI) in the human environment.

Key Terms

**Artificial Intelligence (AI)** – “Artificial intelligence is the design, implementation, and use of programs, machines, and systems that exhibit human intelligence, with its most important activities being knowledge representation, reasoning, and learning.” (Whitson, G. P., 2013).

**Artificial General Intelligence (AGI)** – “…[I]s when a computer program can perform any intellectual task that a human could.” (Astute Solutions). AGI, also referred to as “strong AI”, would have the ability to acquire new knowledge and skill on its own, learn from examples, and understand the context of a situation. Voss’ article (2017) provides a bullet list of eight points that describes the capabilities of an AGI algorithm. *It is important to note that practical AGI machines do not yet exist.*

**Artificial Narrow Intelligence (ANI)** – “[R]efers to a computer’s ability to perform a single task extremely well, such as crawling a webpage or playing chess.” (Astute Solutions). Examples include computer vision (which is how Facebook is able to identify a person in a photo), Google Translate, and a commercial website offering you purchase suggestions based on your prior purchases. ANI is considered to be a “weak AI” because it can only do what it is designed to do and nothing more (Dickson, 2017), and its capabilities are limited to the programmer’s design. In other words, it cannot “self-learn” (Voss, 2017).
**Artificial Super Intelligence (ASI)** – “[a]n AI [entity] that surpasses human intellect.” (Whitson, G. P., 2013). As with AGI, this level of AI does not yet exist as a practical technology.

**Bot** – A communication application designed to act as a virtual assistant using humanlike communication. Some use text alone, some use synthesized speech. Popular examples include: Alexa, Amazon Echo, Siri, Cortana, and Google Duplex. A Chat bot is a bot that interacts through a text based chat service.

**Deep Learning** – A method of producing a set of patterns by placing input data through multiple layers of computer processors. The goal is to process data in a way that mimics neural processing in the human brain to develop a “smarter” algorithms (Dickson, 2017). An example would include an algorithm that is able to detect cancer from scanning an X-ray – a process called “computer-aided detection”. A definitive, in-depth description of Deep Learning’s capabilities and limitations is in Marcus’ (2018) article, “Deep Learning: A Critical Appraisal“.

**Machine Learning** – A process for programming a machine to learn from analysis of examples. For example, a computing device can be programmed to learn what a cat looks like by providing it millions of pictures of cats so that patterns of similarity can be collected and then used as a basis for matching against an example (Dickson, 2018).

**Natural Language Processing:** A machine learning method for interpreting language for the purpose of enabling computing systems to understand human communication. Read more at the Educause Learning Initiative’s (ELI) article “7 Things You Should Know About Natural Language Processing“.

**Turing Test** – “…[A] test of a machine’s ability to
exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human.” (Wikipedia). The roots of this expression are in the 1951 experiment conducted by Alan Turing to test human perception of machine intelligence. Since then, the expression “Does it pass the Turing Test?” has become a refrain for every demonstration of computer intelligence.

What should you be focusing on?

Your objectives in this module are:

• Identify the different forms of AI.
• Identify how various AI technologies are currently used in the real world.
• Appraise the potential ways AGI/ASI might be useful.
• Evaluate the benefits and risks of implementing AI.

Readings & Media

In the following readings and media, the authors will present the following themes:

1. AI has tremendous potential to assist people in everyday life.
2. The use of AI poses extraordinary risks.
3. AI is pretty cool!
4. AI will kill us all. Or maybe not.

**Required** Examples of AI technologies

**Google Duplex bot:** Here is a demonstration of Google Duplex, an ANI, being used to make phone calls to schedule tasks. If you go to the video’s listing in YouTube (by clicking on the YouTube icon on the lower right of the video player) be sure to check out the creative comments from people who are already imagining what else this kind of bot will be useful for.

An interactive or media element has been excluded from this version of the text. You can view it online here:
https://granite.pressbooks.pub/comm601/?p=258

**What is DeepMind and why does it matter?**

DeepMind is an ongoing experimental AGI project begun in 2010 by Dr. Demis Hassabis in London, England. In 2014, the company was
acquired by Alphabet, the parent company of Google. DeepMind’s credo is “Solve intelligence. Use it to make the world a better place“.

In practical terms, the DeepMind team sees AGI in terms of “…increasing [humans’] capacity to understand the mysteries of the universe and to tackle some of our most pressing real-world challenges. From climate change to the need for radically improved healthcare, too many problems suffer from painfully slow progress, their complexity overwhelming our ability to find solutions. With AI as a multiplier for human ingenuity, those solutions will come into reach.”

Connect to Dr. Demis Hassabis @demishassabis

DeepMind’s AlphaGo AGI defeats the world’s great Go player: DeepMind is an experimental AGI system. The following video is a movie trailer for a documentary about how DeepMind was programmed to learn the rules of Go, and then learn all on its own to improve its ability to play. Ultimately, it defeated the world’s greatest Go player in a way that showed how it is possible for AGI to learn more than 3,000 years of human experience.
DeepMind teaches itself how to walk: In the video below, we see a demonstration of DeepMind creating a manner of humanoid walking without it having been given any prior information on what walking is or how humans actually walk. While the results may be amusing, it demonstrates how a “naive” AGI system can discover creative alternative possibilities for solving problems that a human might not have considered.

Demonstration of Sophia, a robot with AI programming: The following two brief videos demonstrate an initial foray into AI enabled robotics. Details include speculation about the role of AI robots among human society. It can be a bit clumsy at times, but it is still a fascinating (frightening?) initial encounter.
Required Article: Explore the range of AI applications in this comprehensive list:
Infographic: What is “Mathwashing”?:

The “What is Mathwashing?” website is designed to appear like a scrolling infographic. It explains how the mathematics at the core of AI can be biased and how the presumption of “mathematical truth” can cause algorithmic bias to go unchecked. The value of this infographic is in the call for us to demand transparency in the algorithms that have a direct impact on the options available to us, as individuals, because of AI tools that inform decisions. The conclusion includes references to articles and publications that report on this issue.

Article: Henry Kissinger’s take on AI

The Atlantic: “How the Enlightenment Ends: Philosophically, intellectually—in every way—human society is unprepared for the rise of artificial intelligence” by Henry A. Kissinger. Kissinger places the presence of AI into a contemporary context while citing milestones along the way. Keep in mind that this is commentary – not peer reviewed research. Kissinger does not support his cause/effect claims with empirical evidence nor substantiates the outcome if we adopt it.

However, his position as global public figure for over a half-century places him in a position to observe AI from a useful global perspective.

Optional: Supplemental resources that are relevant to AI

The Guardian: “Weaponised AI is coming. Are algorithmic forever wars our future?” – Weaponized AI in military operations to determine who are suitable targets for killing.

AI Weirdness: Janelle Shane writes about “…the intersection between art and science.” She has published the AI Weirdness blog that describes the results of “…training neural networks to write unintentional humor as they struggle to imitate human datasets.” Check out the results of an AI bot producing the names of “high tech pies that sound really old” and some indescribable Halloween costume ideas. If you are truly courageous, check out the artificially generated photo images produced by the BigGAN system. Some are beautiful; some cannot be unseen.

The New Yorker: “How Frightened Should We Be of A.I.?” by Tad Friend (May 14, 2018). This well-cited article introduces some speculative questions about the consequences of AGI development. There are many references to popular media that help explain the issues.
The article’s style is very accessible for a non-technical audience.

**Educause** – 7 Things to Know…: Natural Language Processing: “Natural language processing combines the power of artificial intelligence with linguistics to process and analyze language-based data.” From the Educause Learning Initiative.

**Princeton research**: Dialogues on AI and Ethics. This collection of fictional case studies is designed for use by educators to think about the ethical ramifications of AI in healthcare, sound identification, and education.

**A collection of bot apps**: Chatbottle.co is an aggregator for bot applications you can use through your Facebook, Skype, Slack, Telegram, and Kik accounts. Click on some and play around in your Facebook or Skype account.

**Chat with some bots using your Facebook Messenger account:**
Try out Swelly, Foxsy, Poncho, DoctorBOT, Wall Street Journal or Zup.

**Create you own bot**: “Build a chatbot for your business in minutes!” on botwiz.ai.

**For developer geeks**: “Anatomy of an AI System” shows a schematic model of how an AI system is developed.

**The Atlantic**: “Can Artificial Intelligence Predict Religious Violence?“. AI is used to quantify the conditions of religious conflict and predict when the conditions of a situation might lead to violence.

References

Dickson, B. (2017, May 12). What is Narrow, General


Photo Credit: Photo of Elsa Lanchester and Boris Karloff from the 1935 film The Bride of Frankenstein via Wikimedia Commons CC0.
Chapter 7 – Digital Activism

Overview

Not long ago (in terms of human history), if you wanted to cause change or influence a social or political situation, you had to take to the streets in a mass demonstration. (Ken Burns’ “Vietnam” documentary includes interviews and footage of protesters who describe their motives and feelings about mass protest.)

Today, SM has enabled a single individual to start a sustained campaign where millions of people around the world can participate. SM has disrupted the dimensions of power in unimaginable ways.

But even though SM enables millions more to participate in a campaign, is it any better at causing change than organized, traditional, on-the-ground protests such as we’ve seen in the past?

We will review theories on how SM can be a vehicle for change and examine how ordinary people used SM to promote their causes.

Key Terms

Hashtag – A term used in the body of a post to be used as a filtering mechanism for others. Hashtags are written with a hash (or pound) symbol in front of it, such as #donuts. Clicking on a hashtag will list other posts that have used that same hashtag in its content. Hashtag filtering enables participants to “listen” to the discourse centered around
a given topic or issue. Hashtags are not determined in advance by a governing body, though some organizations or themes have adopted specific hashtags as their own. Anyone can create a hashtag for any reason, and can use any term they want.

**Hashtag Activism** – Activism that is centered around the use of a defined hashtag in SM to identify one’s message or participation in a campaign.

**Digital Activist** – A person who uses SM as a means to promote a cause or to mobilize people towards awareness of a cause.

**Meme** [Pronounced “meem”] – A theme or idea that is used as a basis for commentary or creative variations which are then shared through SM.

**Viral** – When a post or meme is shared among millions of people in a short period of time. An example of a viral meme was the ALS “Ice Bucket Challenge” that spread across SM.

What should you be focusing on?

Your objectives in this module are:

- Identify the tools and techniques used by digital activists to promote a cause or movement.
- Evaluate whether those campaigns were successful or not successful
Readings & Media

**Thematic narrative in this chapter**

In the following readings and media, the authors will present the following themes:

1. People seem to have a lot of time on their hands to do good things because it doesn’t take much effort to do it.
2. Digital activism uses the power and open accessibility of SM to raise awareness and organize people.
3. Digital activism doesn’t actually work!
4. Yes it does.

**Required Video:** Clay Shirky – “How Cognitive Surplus Will Change the World”

Clay Shirky describes a phenomenon called “Cognitive Surplus”, which is “leftover” cognitive energy people are willing to spend on promoting a cause because of a sense of generosity and civic value.

**What to look for as you watch:**

- How can you put tribal members to work in your app idea (Option #1) or story (Option #2) to solve problems and promote well-being by designing for generosity?

**Required Audio**: The Exchange – “Digital Activism: What Happens When Activists Take Their Work Online”

In this NPR segment, “Digital Activism: What Happens When Activists Take Their Work Online,” one of the interviewees, Mary Joyce – activism consultant, co-founder of the Digital Activism Research Project – describes digital activism as “*Anytime a person uses the power they do have instead of the power they are supposed to have.*”

Listen for how SM has the power to change behavior. Ethan Zuckerman refers to the Human Rights Campaign to
persuade people to “rainbow” their SM icon during the Supreme Court marriage equality decision.

**What to listen for:**

- Take note of the techniques described as the toolkit for digital activists.

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**Required Article:** “Hashtag Activism: #powerful or #pointless?”

Albright’s article disputes the claims made by digital activists. She suggests that hashtag activism causes awareness but doesn’t really bring about substantial results.


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**Required Video (8:25):** PBS NewsHour
“How online social movements translate to offline results”

This segment features an interview with Zeynep Tufekci, author of the 2017 book, “Twitter and Tear Gas: The Power and Fragility of Networked Protest”.

While the research on the effect of digital activism is still relatively new, Tufecki offers a rebuttal to the argument that “slacktivism” achieves no significant change.

**What to look for as you watch:**

- What are the arguments Tufecki proposes that suggest “just clicking” has some value towards causing change?
- What impact do the algorithms in SM systems play in activist communication?
- What does Tufecki identify as the limitations of SM-based activism?
A YouTube element has been excluded from this version of the text. You can view it online here: https://granite.pressbooks.pub/comm601/?p=49

The video below describes some clever digital activist techniques used to combat opposition to a tax increase to sustain its library. The video description is as follows:

“Troy, Michigan couldn’t afford to sustain its library, so it scheduled a vote for a tax increase. A strong anti-tax group waged a dominating campaign against it.

Posing as a political group, we posted signs around town that said, “Vote to close Troy library Aug 2, book burning party Aug 5.” We invited everyone to our Facebook page, adding Twitter, Foursquare, want ads, flyers and more to drive engagement.

Optional: Supplemental resources related to digital activism

**Thunderclap** is a platform for centralizing a message and distributing it through various SM systems.

From their About page: “Thunderclap is the first-ever crowdspeaking platform that helps people be heard by saying something together. It allows a single message to be mass-shared, flash mob-style, so it rises above the noise of your social networks. By boosting the signal at the same time, Thunderclap helps a single person create action and change like never before.”

**Article:** Peer reviewed research – “Digital activism: After the hype” by Anne Kaun, Julie Uldam. First Published September 19, 2017.
Chapter 8 – Facial Recognition

“Before integrating any new technologies into American life, we must be absolutely sure that those innovations are imbued with our values.” – U.S. Senator Edward Markey, 2018.

Overview

Do any of today’s most common technologies make you feel as though your privacy or liberty are threatened? For example, it commonplace today to see people taking photos with their smartphones. It has become so ubiquitous now that an observation was made that the sound people
make when watching Tiger Woods strike a golf ball has changed in the past 15+ years because of smartphones.

In 2002, they applauded after his shot. Today, everyone is taking a picture or video with a smartphone in their hands, so they shout instead of applaud.

2002 ? 2018

How watching Tiger has changed post-smartphone.
pic.twitter.com/CGZd0kQpBM
― Jamie Kennedy (@jamierkennedy) August 8, 2018

But portable photographic technology was not always perceived as an accepted presence in society. When the first Kodak portable cameras were sold to the public around 1888, a cry of outrage ensued about the breach of privacy that was being inflicted by “all those Kodakers” taking people’s pictures in public. Over time, however, society became accustomed to it while social norms adjusted to define what is considered acceptable behavior for individuals using camera technology.

The lesson here is that people tend to see certain new technologies, at first encounter, as a threat, but then relax about it once they get used to it.

Now let’s look at another case of an emerging technology that is coming to the forefront of mainstream attention:

**Enter: facial recognition.**

Several companies (see below) have developed facial recognition software systems that can be licensed to developers for use in law enforcement, customs enforcement, property management/landlords, and passenger checks in airports by the Transportation Safety Administration (TSA).

However, strong objections have been levied by the
ACLU, congressional leaders, privacy advocates, and others who feel that facial recognition is not only an invasion of privacy, but a potential weapon to be used to advance discrimination.

Despite these concerns, the presence of facial recognition technology has not unsettled Facebook users who upload 350,000,000 images a day – all processed in Facebook’s DeepFace facial recognition system to conveniently identify their friends in each image. Nor is there much concern from iPhone users about Apple’s FaceID feature for biometric authentication. And then there is Snapchat’s Face Lenses accessory for animating facial images which can acquire several dimensions of a face within a second.

In this chapter, we will examine the affordances of facial recognition systems, where they are used, and then explore some of the ethical issues surrounding their use.

Key Terms

**Physiognomy** – A *pseudoscientific* study of a person’s facial features or expression as indicative of character or ethnic origin; the supposed art of judging character from facial characteristics. Here is more on the history of physiognomy dating back several centuries before classical Greek culture. Findings of these efforts have often been associated with proponents of eugenics theories (Valla, J. M., Ceci, S. J., & Williams, W. M., 2011).
Required How facial recognition it works

Below (fig. 1) is a graphical representation of a basic facial recognition system. Each phase of the process is defined below.

![AFER Process Flow](image)

**Fig. 1 – AFER Process Flow – © Corneanu, C et al (2016)**

**Localization:** The process of identifying the location of key facial features in an image, or in simpler terms, finding where the face is.

**Registration:** The affixing of points on the localized face that correspond with key registration points on a standardized matrix (see Fig. 2).

**Feature extraction:** Once the registration points have been established, a set of features can be extracted from the matrix that corresponds to a model that has been “taught” to the computer through the input of examples. The section of the graphic referring to “other modalities” means that it is possible to combine facial data with data sets by Steve Covello - Granite State College (USNH), Concord, NH
from other forms of acquisition, such as audio, posture, gait, or other physiological data.

**Classification:** A facial recognition system can be trained to classify input data into prescribed sets that correspond to patterns. For example, a system can classify input into a set associated with stress and then flag an image if it matches the preset “stress” pattern.

**Regression:** A statistical process that attempts to produce a “best fit” trend to a set of data. In this case, it is used to provide a match to a database within a statistical degree of certainty, such as “we are 90% certain that the input image matches against the existing profile identified as [ person “X” ].”

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Below is a link to a slideshow with a simplified visual representation of the facial recognition process. It is produced by the Electronic Frontier Foundation (EFF), a non-profit organization that advocates for privacy and legal issues related to emerging technologies.

“Facial Recognition What is it and how does it work?” slideshow.

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What should you be focusing on?

Your objectives in this module are:

- Identify the current facial recognition systems in
use today.

- Identify the various contexts of deployment, by whom, for what purpose, and under what moral/ethical presumptions.
- Explain how facial recognition might or might not be a valuable aspect of your project idea.

Readings & Media

### Thematic narrative in this chapter

In the following readings and media, the authors will present the following themes:

1. The history of facial recognition and its uses span to the extremes: from enhancing one’s social media experience to catching international terrorists.
2. Facial recognition quietly and discreetly keeps us all safe.
3. Facial recognition is genie that cannot be put back in its bottle. Once it is in the hands of agents with bad intent, it will lead to oppression and tyranny.

### Required Article: A brief history of facial recognition technology

FaceFirst, a corporation that develops facial recognition software and hardware systems, offers a brief description
of the key points in the historical development of facial recognition technologies: “A brief history of facial recognition technology“.

**Optional:** For a glimpse at a very early attempt to formulate archetypes of criminality, sickliness, and other general characteristics based on facial appearance, look at the work of Victorian era (late 1800s) statistician Francis Galton who postulated that by combining photographs of multiple individuals, a composite archetype would be revealed, such as a “pianistic face” of a piano player. He did not consider it successful, though the effort is noteworthy. Would you like to play with averaging some faces like Galton? Try it out at FaceResearch.org’s “Face Average” interactive demo.

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**Required Article:** List of the most common uses of facial recognition

GlobalMe Blog is produced by a commercial venture that specializes in language localization – a service that enables companies to present themselves in multiple languages. This involves analysis of massive data sets of speech patterns in a way that is similar to facial recognition.

**Optional:** NEC corporation published an easy-to-read whitepaper that explains common use cases for facial recognition with a few FAQ about the technology and data that is collected. This is a useful document to acquaint yourself with some of the basics, but keep in mind that it is a corporate publication – not an objective report.

**Optional:** A more scientific document can be accessed through the Granite State College online library entitled, “Survey on RGB, 3D, Thermal, and Multimodal Approaches for Facial Expression Recognition: History, Trends, and Affect-related Applications“.

“A more surveillant society is a safer one.”

**Required Video (5:56):** How Facial Recognition Technologies are Enhancing Australia’s Public Safety

NEC’s General Manager of Smart Systems, Paul Howie describes the various benefits of facial recognition.
Required List: Companies that develop facial recognition systems

FaceReader software is used to record data of people’s facial expressions for research purposes and emotional profiling.

NtechLab software “…detects and identifies people’s faces in live video streams and video footage addressing a wide range of business tasks, such as precise people count, demographic information, people flow and client behavior.” Coming soon: tracking a person’s path and recognizing a person’s ethnicity.
Faception is software that claims to detect personality types. Here are excerpts from their website:

*Faception is a [technology] for profiling people and revealing their personality based only on their facial image.*

*Faception can analyze faces from video streams (recorded and live), cameras, or online/offline databases, encode the faces in proprietary image descriptors and match an individual with various personality traits and types with a high level of accuracy. We develop proprietary classifiers, each describing a certain personality type or trait such as an Extrovert, a person with High IQ, Professional Poker Player or a Terrorist. Ultimately, we can score facial images on a set of classifiers and provide our clients with a better understanding of their customers, the people in front of them or in front of their cameras.

“Coding bodies leads to discrimination.”

**Required Essay: Chris Gilliard’s “Friction-Free Racism” from Real Life magazine**

Gilliard’s essay recounts incidences where the perception of his racial identity caused people to react as if his presence was somehow out of place. He connects this experience to the reality that facial recognition is only marginally used for helpful things like unlocking smartphones or identifying a single criminal fugitive. Rather, he states, facial recognition is deployed substantially for the purpose of assigning a person to an
identity category which, in a historical context, has served systems of discrimination.

He then projects a future use of facial recognition technology into a form of optics we can wear that, like augmented reality, to help identify “others” according to some identity algorithm so that we can avoid categories of people with whom we don’t want “friction”.

**What to look for as you read:**

- What are the connections Gilliard makes between social constructs in a society and the technologies a society embraces?

- Gilliard says that coding biometric difference – or defining “who is what” – is a form of “biometric determinism”, which is to say that “what you are classified as will determine what you will be or where you belong”. What motivates Gilliard’s concern about this?

- Given the power we already have in SM systems to select and block people that we do not want to be engaged with, why is Gilliard more concerned that facial recognition system will allow us to avoid friction with people in the real world?

*About Real Life magazine:* Real Life publishes essays, arguments, and narratives about living with technology. It was founded and edited by Nathan Jurgenson.
Required Article: Letter to Jeff Bezos from Congress

BuzzFeed – “Bipartisan Lawmakers Want To Talk To Amazon About Its Facial Recognition Tech”. Davey Alba, a BuzzFeed reporter on technology issues, provides background surrounding the letter written to Amazon CEO Jeff Bezos by a bipartisan group of U.S. congressional lawmakers about the affordances and risks associated with Amazon’s Rekognition facial recognition technology. The actual letter is embedded at the bottom of the article. A PDF of the primary resource can be downloaded here.

What to look for as you read:

• What do these lawmakers perceive as the risks of using facial recognition technology, and why?

• What do they believe should be the solution for controlling the technology?

Did you see this? @amazon face surveillance technology FALSELY matched me w/ someone else’s mugshot. I’m outraged & worried by the impact this tool will have on #CommunitiesOfColor when put in the hands of law
enforcement! @JeffBezos: We need to talk ASAP. https://t.co/xFOy8duef1

Face-recognition software determined that the Mona Lisa is 83% happy, 9% disgusted, 6% fearful, and 2% angry. pic.twitter.com/07j1MznTq0
— Weird History (@weird_hist) December 28, 2018

Optional: Supplemental resources related to facial recognition

**TechCrunch:** “3D-printed heads let hackers – and cops – unlock your phone“.

**Crain’s New York Business:** “Facial-recognition startup pushes ahead despite controversy“. This is the story of an inventor who created an FR system that can alert landlords when there is suspicious activity in an apartment building and surrounding area. While this system has caused a great deal of stress about privacy issues and when/how to notify residents when it is being used, it has been embraced wholeheartedly by operators of nursing homes that have wandering patients with dementia. “It has definitely improved patient care,” they say.

**Also worth noting:**

The number of people I've seen today hand over all of their genetic information – to a random company they know nothing about – is hilarious and unbelievable. pic.twitter.com/QnGYkcCDC3
— Graeme Moffat (@graemedmoffat) January 11, 2019
References


Chapter 9 – Anonymity and Free Speech

Hungarian protestor, Bernadett Szel: “We have been surrounded by [Hungarian state] security the whole time, and we weren’t allowed to talk to anyone in charge [at the state run media]. They wouldn’t even let us go up the stairs.”

NPR Reporter Joanna Kakassis: “…The government claims the protesters are spreading fake news and do not deserve the airtime. So activists are spreading the news about their next big demonstration on social media…”


Overview

In this chapter, we examine the issues which surround anonymity in SM. On one side of the issue, free speech enables anyone to broadcast their hateful speech with impunity, with total detachment from the victims’ experiences. And victims have nearly no recourse.

For example, in a New York Times article from 2015,
actor Carrie Fisher described how she dealt with cruel Twitter comments criticizing how she had aged since her first “Star Wars” appearance in 1977. One popular reader comment stated, “[Fisher] should just drop this Twitter thing because it’s a forum for the cruelty of the world. Cancel your account and no more trolls. It’s as easy as that. It will also get us all closer to realizing the very scant value of Twitter.” [“Jim” from Colorado, 12-30-2015]

Is the value of Twitter as scant as “Jim” claims? Read on…

On the other side of the issue, communicating anonymously has served as a channel for dissent and organizing under conditions where, if the author were known, he or she would be at-risk of harm or persecution. In fact, a collection of American dissent-driven “Alt Gov” Twitter accounts appeared soon after Donald Trump’s election to provide a countervailing (and often trollish) pro-science voice, presumably from employees of the federal government who wished to remain anonymous.

In this week’s readings and media, you will see a scientific study about the Online Disinhibition Effect, which explains how a person’s social behavior is different when posting online anonymously. You will also review what happens on the Dark Net where anonymous illegal commerce has spawned the innovation of a trust economy based on user reviews.

When you consider the negative impact of trolling and illegal Dark Net activity, you may be wondering why there isn’t a global initiative to eliminate anonymous communication all together?

On the other side of the issue, you will examine the social and political benefits to being anonymous. There is a strong case to suggest that, without anonymity, there
would be a chilling effect on the expression of free speech which, as you know, is a cornerstone of democracy.

Key Terms

**Dark Net** or **Dark Web** – An informal term that describes areas of the Internet that can only be accessed through special means such as through the TOR browser.

**Pseudonym** – A username that is not the user’s actual identity.

What should you be focusing on?

Your objectives in this module are:

- Construct an argument both for and against online anonymity.
- Evaluate the risks and tradeoffs in allowing or disallowing anonymity as a feature in your app or story ideas.

Readings & Media

*Thematic narrative in this chapter*

In the following readings and media, the authors will present the following themes:

1. People behave differently when they know they are anonymous – mostly negatively or in anti-social ways.
2. The emergence of powerful SM systems enables hate speech and harassment to proliferate on a mass scale, often by organized and mechanized efforts.

3. The power of SM systems to inflict suffering and hate upon individuals and groups causes tension against the principles of free speech.

4. Despite the damage caused by anonymous SM systems, there are benefits that influence mainstream SM systems.

**Required Article: The Online Disinhibition Effect**

John Suler’s research article “The Online Disinhibition Effect” describes the six psychological factors that contribute to trolling behavior. **Download PDF**: “The Online Disinhibition Effect“. **Log in to the GSC online library first, then look for the “FULL TEXT PDF” link on the left margin.**

**Required Article: Regulating social media**

WIRED Magazine – “Should Facebook and Twitter be Regulated Under the First Amendment?” by Lincoln Caplan. Retrieved 12-27-2017. The article describes whether SM systems should, in some cases, prevent “viewpoint discrimination” by government figures if they block other user accounts who’s opinions they do not like.


**Required Article: Anonymity in social media**

Laura Rogal’s “Anonymity in Social Media” summarizes the forces intertwined within the issue of anonymous / pseudonymous communication in SM. Skip the section on Copyright – focus on section II: “History of Right to Free Speech and Speaking Anonymously” and the end conclusion. Download PDF: “Anonymity in Social Media“.
**Required Article:** The White House demands to know the identity of a critic

The Washington Post – “The government is demanding to know who this Trump critic is. Twitter is suing to keep it a secret.” The Department of Homeland Security demanded (via lawsuit) that Twitter reveal the name and contact information behind one of the “Alt Gov” Twitter accounts that was publishing dissenting posts about president Trump and his policies.

The authors claimed to be employed by the federal government, which suggested that the dissent is within the government itself.

**Required Business policy:** The value of

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anonymity

**Whisper app:** Whisper allows users to post their intimate feelings with total anonymity. Here are their community guidelines with references to their philosophy of anonymity. In this Huffington Post article, we see how the anonymity factor has served as a channel for expression: “LGBT Youths With Unsupportive Parents Sound Off Anonymously On Whisper App” by Curtis M. Wong Senior Editor, HuffPost Queer Voices. Retrieved December 18, 2016.

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**Required Video (14:00):** Jamie Bartlett – “How the mysterious Dark Net is going mainstream”

The (free) TOR web browser is a web browser just like Firefox or Chrome, except that it provides the user access to websites with total anonymity. Through the TOR browser, you can find a burgeoning collection of illegal activity on the “Dark Net” such as drug dealing and illegal pornography.

There are also SM sites for whistleblowers and political activists where free speech can be conducted without fear of retribution. Here is more about how it works and why TOR feels their product is important.

*Note – For the video below, read the transcript of the video instead!* This presentation (as crucial as it is) tends to drag a bit. Rather than watching the video, read the transcript, which I believe will be much faster for you to
absorb. Since there isn’t much to see in the visual part of the presentation, you won’t miss out on anything critical.

**What to look for as you watch:**

- What are the benefits of an area of the Internet where there is total anonymity?
- How does the existence of the dark net influence how the regular Internet is designed?
- Is there a value to this kind of anonymity in your project idea?

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A TED element has been excluded from this version of the text. You can view it online here: https://granite.pressbooks.pub/comm601/?p=41

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Bartlett, Jamie. (2015, June). *How the mysterious dark net is going mainstream* [ Video file ].
Optional: Supplemental resources that are relevant to anonymity

“Kai Visits the Dark Web” Kai Rysdall of NPR’s Marketplace plunges into the Dark Web “live” with cybersecurity researcher Stephen Cobb. They discuss how the TOR browser works, what they find, and how even in the marketplace of illegal goods and services, there are familiar instruments being used to build and sustain consumer trust and market share.

An example of anonymity: the U.S. State Department’s “Dissent Channel” which is an anonymous channel for its members to voice their concerns without fear of retribution.

“How China has censored words relating to the Tiananmen Square anniversary” – An example of how people are still able to express themselves in SM about the Tiananmen Square incident despite censorship.

“Court Says Police Chief’s Social Media Policy Violated The First Amendment” – An example of how First Amendment rights intersect with the rights of police officers’ rights to free speech on SM. *Curated by James Gambone (COMM601 WN17).*
Chapter 10 – Social Knowledge – Q & A Networks and Wikis

Overview

When people acquire information from online resources created by non-experts, how can anyone determine what is true?

In this chapter, we extend this concern by asking how all knowledge is constructed. As you will see in David Weinberger’s “Too Big to Know” presentation, the concept of knowledge has undergone a re-examination since the emerging proliferation of network-based information systems like Wikipedia and Q & A systems.

The traditional model of knowledge – or, “what is knowable” – has been challenged: Is knowledge best embodied in the singular, immutable form of an expert’s document, such as what is in her or his book? Or is knowledge best constructed by the combined input of many people so that “what is knowable” reflects a more broad range of perspectives?

Key questions emerge:

- Which form of knowledge is more reliable?
- Which kinds of topics are better suited for social construction? Which ones are more trustworthy when presented by single experts?
- What are the indicators in socially constructed knowledge that convey its credibility? How
reliable are these indicators?

- What *strategies* can an individual employ to form a conclusive position or belief about *anything* given the rich socially constructed resources freely available on the Internet and social media?

- How much *weight* should be given to each form of knowledge when a person processes a conclusion?

Weinberger proposes that *knowledge is contained in networks* – virtual spaces or interactive groups such as the Internet and social media – not in individuals. However, he says, while there is more input from more people on any given topic than ever before, there is less agreement about what is actually true.

In this chapter, we put our hands on the instruments of traditional and socially constructed knowledge and compare them.

What should you be focusing on?

Your objectives in this module are to:

- Describe how traditional and socially constructed knowledge are both different and complementary.

- Describe how you determined the degree of credibility and usefulness of each source in your assignment research, including the indicators you found in each resource.
Readings & Media

Thematic narrative in this chapter

In the following readings and media, the authors will present the following themes:

1. From a historical perspective, knowledge and “what is knowable” has been presented as “the stuff in books and in the heads of experts”. SM has dramatically changed this perception and calls into question what knowledge really is and where it is located.

Required Video (33:22): David Weinberger’s “Too Big to Know” Presentation

This video presented below is interactive. It includes several stopping points where I have provided a preface to each major section of the presentation. Please take brief notes that pertain to Weinberger’s theories and explanations that support the notion that “what is knowable” has been migrated away from individuals/books and into networks.
If you are interested in Weinberger’s book, please review the dedicated website.

**Required Wiki: An example of social knowledge construction about drugs**

**Erowid:** The Erowid wiki is a moderated knowledge resource that “…provides access to reliable, non-judgmental information about psychoactive plants, chemicals, and related issues. We work with academic, medical, and experiential experts to develop and publish new resources, as well as to improve and increase access to already existing resources. We also strive to ensure that these resources are maintained and preserved as a historical record for the future.”

One of the factors that makes Erowid different from other knowledge resources is that it includes anonymous firsthand testimony from individuals who have actually used the drug and describe its effects and risks. Browse through some of the entries to get a sense of how each entry is populated. Here is the cocaine entry.

**Required Blog:** “Think Like a Doctor” –
An example of social knowledge

Review the blog at the link below and observe how a medical problem is presented to a general community of experts and non-experts alike in the field of medicine and how the comments they offer contribute to solving the medical problem. Scroll down to the bottom of each blog article to see the Comments link. Review the Readers’ Picks and then look for the link that reveals the correct diagnosis.

How is this an example of social knowledge? Often, you will see a combination of expert diagnosticians and common people contributing their first- or second-hand experience of a medical ailment. This is a relatively new phenomenon which has been enabled by the natural openness of the Internet.

Observe how similar this model of social media interaction resembles how humans actually construct knowledge. Think about how you seek the combination of input from your friends, family, colleagues, and professionals when you are trying to solve a problem or confront an unfamiliar and complex issue.

Think Like a Doctor

Read how ordinary readers contribute to solving medical mysteries
Required Research: Social media contributes to Truth Decay

**RAND Corporation** illustrated summary: “Truth Decay: An Initial Exploration of the Diminishing Role of Facts and Analysis in American Public Life“. Among the trends listed is “Increasing disagreement about facts and analytical interpretations of facts and data,” which is consistent with Weinberger’s thesis. This report illustrates the factors that contribute to a sense of loss in the integrity of information and facts. **Optional:** To read the full report, access the PDF from the RAND website. The Summary section beginning on page nine elaborates on the infographic illustration.

Optional: Supplemental resources related to social knowledge construction

**Article:** TechCrunch – “ResearchGate raises $52.6M for its social research network for scientists” Retrieved December 24, 2017. ResearchGate is attempting to reinvent the way scientists interact with each other. “…One of the key things that helps ResearchGate stand apart from the rest is that up to now a lot of the focus in the world of science has been about publishing successful research, while ResearchGate also provides a platform for failures.”

**Consulting platform:** Wikistrat is a consulting firm that operates as a crowdsourced collective that can be employed to help businesses and governments make strategic decisions.

**Alternative social media debate platform:** Kialo is “…a debate platform powered by reason. Kialo cuts
through the noise typically associated with social and online media, making it easy to engage in focused discussion.”

References

Steve Covello is an instructional designer with a professional background working in TV commercial advertising and Web design.

He uses social media as a rich media communication tool and learning strategy in the design of online courses.

Steve also believes that candlepin bowling is superior to traditional “big ball” tenpin bowling, that synthetic oil and shaving razors are intentionally overpriced, and cats know things that we don’t.

http://idmodule.com/