
The Future of
Social Media
&
Social Networks
Emily Morency

Abstract

Invention of new technologies creates new worlds for exploration and creativity. Virtual, augmented, and artificial realms are becoming integrated with actual reality in the new age of information. The way humans and machines communicate is becoming more and more intertwined. Social media and social networking are some of the biggest forms of technological communication today. Approximately 2 billion around the world use social media, and that number continues to grow. Some of the world's brightest minds, such as Mark Zuckerberg, Kevin Systrom, and Lee Rainie, look into the future of how social media and social networks could change with the integration of fantastic new Internet capabilities.

The world saw the demise of social networks in the past, including MySpace and Friends Reunited, due to the creation of bigger and better things, like Facebook and Twitter. Will this pattern continue until the demise of social media and social networks all together? This research paper attempts to explore what directions social media and social networks are moving towards in the future. Various industry trends affecting the social media and social network landscapes will be explored and questioned. These include wearable social technology, virtual reality capabilities, and machine learning.

This report also goes into detail about a new concept being looked into by many experts: the Social Network of Things. Also referred to as the Social Internet of Things, this concept stems from the idea of the Internet of Things: that everyday objects, such as toasters, lamps, or furniture, could someday have network connectivity allowing them to send and receive data. The integration of social media and social networking into the Internet of Things opens an entire new realm of possibilities for communication technology. This integration along with new trends in social media and social networking could be the next big things to take the technological industry by storm.

Introduction

http://cdn.business2community.com/wp-content/uploads/2013/07/social.media_.jpg

Today's concept of social media began back in the 1970s when some of the most innovative minds of the 20th century created the Internet and the World Wide Web. It was a time of mullets and cut off jeans, and the beginning of something no one would have predicted would have blown up like it did. The Internet gave us e-mail and AOL Instant Messenger, which soon gave way to SixDegrees, the very first social media network. By the new millennium, around 100 million people had Internet access, a number that continues to grow. MySpace came and went and the world saw a new generation of social media and social networks. Facebook, Twitter, Instagram, SnapChat, LinkedIn, Tumblr, Pinterest, FourSquare, WhatsApp, Reddit, Vine, YouTube, Google+, and many more gave way to what is known today as the most widespread online communication tactic. The increase in popularity of mobile devices is responsible for this trend, according to Rhianna Richards, Head of Content Marketing for social media analytics platform Sysomos. People carry their smartphones, iPads, or tablets with them everywhere they go, and according to Richards, more and more people are constantly logged in to social media during the hours they are awake during the day.

Future Trends in Social Media & Social Networks

Technology You Can Wear

Have you every thought of your Fitbit as wearable technology? What about your Apple Watch? According to social media marketing expert Jamie Turner, by 2020 the average person will own eight pieces of wearable technology. Wearable technology allows companies to collect massive amounts of data on their customers. This increases company/customer engagement, thus making the customer's experience more personal and more rewarding. NPR Digital Strategist Melody Kramer told CNBC she believes social media "will become part of the fabric of our clothes, part of the glasses we wear and the shoes we put on, and the gadgets we no longer see as gadgets but as part of our very selves."

http://uploadvr.com/facebook-reveals-social-vr-features-oculus-connect-3/

Facebook joined the wearable technology party, having recently purchased one of the leading developers of consumer virtual reality headsets, Oculus, for $2 billion. It was purchased with the hope that VR technology would move Facebook towards a more personalized user experience. An article from

Forbes mentions that Facebook creator Mark Zuckerberg recently demonstrated a new wearable technology at Oculus' Connect Conference. He demonstrated a social virtual reality experience currently in the works behind the scenes at Facebook.

In a recent article from Webgains Zuckerberg says, "Imagine enjoying a court side seat at a game, studying in a classroom of students and teachers all over the world or consulting with a doctor face-to-face- just by putting on goggles in your home." Zuckerberg is also quoted by Gergory Ferenstein in a recent article from VentureBeat as looking forward to the future of wearable technology, "I think it's pretty easy to imagine that in the future we will have something that we can wear… and you'll just be able to have context with what's going on around you in the world and communicate with people and not have to disrupt your conversations by looking down." Virtual reality headsets are a fast evolving form of wearable social technology.

In an interview with Bloomberg's Emily Chang,, Instagram CEO Kevin Systrom said that virtual reality headsets "could play a 'critical role' within the company in the near future." Systrom's vision for the future of his company includes being able to let people travel anywhere in the world in a fraction of a second.

Jamie Feltham of Upload VR describes the virtual reality headset as overlaying virtual reality avatars of your friends so you can virtually hang out together. These detailed avatars meet in 360-degree environments and their facial expressions change based on inflections in their voice. A recent article from TechCrunch describes the experience as "potential for human connection in VR." Zuckerberg says the first step in the virtual reality revolution is to get the wearable technology out there, then getting software experiences built to work with that hardware. The only problem? No one wants to wear a big bulky headset. According to TechCrunch, Zuckerberg hopes to solve that problem by integrating the headset technology into a pair of traditional eyeglasses within the next 10-15 years.

http://uploadvr.com/snap-spectacular-new-glasses/

Also hopping on the wearable technology train is Silicon Valley's hottest rising star, Snapchat. According to UploadVR, the social network powerhouse had leaked news of its first electronic product, thought to be a pair of sunglasses with the ability to record video more like the human eye sees. Appropriately named Snapchat Spectacles, these smart-eyeglasses are a step towards the eventual creation of augmented reality eyewear. Snapchat has already instituted the use of AR with its face-swapping and filtering technologies. The invention of Spectacles is Snapchat's way of putting its foot in the wearable technology door.

http://uploadvr.com/reddit-may-become-the-first-major-social-media-network-in-vr/

Will Mason of UploadVR describes Reddit as the social network that has embraced virtual reality more than any other. It provides a peak into the minds of the technology industry's most passionate advocates. Reddit has not been as open as Snapchat about its wearable technology future. Reddit co-founder Alexis Ohanian posted this picture on Instagram with a sneak peak of what looks like a GearVR application with cross platform capabilities along with projects manager Michael Pope. Mason predicts the headset will use a grid based UI with a gaze and tap input. In plain English, this means when you look at a post and tap it, it will expand out so you can see it in full. These exciting possibilities for wearable technology could come faster than anyone anticipated.

Integration of Virtual Reality

In a recent article from Computer World, futurist Mike Elgan introduced the world to the idea of a "social virtual reality". With new technologies, like those mentioned above, becoming widely available to consumers, social interaction through virtual reality could quickly become the next big technological trend. Some experts believe that this new form of social networking could create a virtual reality addiction for people who live in these virtual worlds.

According to Elgan, virtual reality social networking would be "hyper-compelling" by allowing people to interact with others as the versions of themselves they want to present to the world. Once they create their virtual avatar, people would be able to transport themselves from one virtual space to another. The virtual reality technology used in these networks would be able to analyze facial expressions and mimic the movements of arms, legs, torsos and heads.

http://img.sxsw.com/2015/spg_images/IAP43701.png

In an article from the website DigitalTrends, Lulu Chang explains the first ever virtual reality social network, vTime. This social network allows the user to create a lifelike avatar and walk into one of any twelve "detailed virtual destinations." You can interact with up to three friends who also use virtual reality headsets. Chang discusses how in vTime you can chat with other users in real time using the "illusion of social presence" thanks to vTime's head tracking and spatial audio.

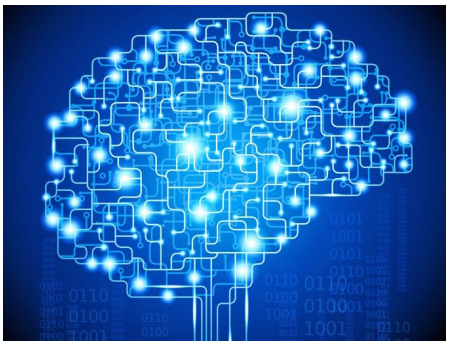
"Like all new culture-changing technologies, social virtual reality will be the best thing and the worst thing that ever happened to us. It will bring us together in some ways somewhere in the virtual worlds, but it will also isolate us more in the real world." – Mike Elgan

"In virtual reality," according to Elgan, "the experience feels like direct and total participation and immersion." With virtual reality social networks, when you want to look to the left, you turn your head to the left and see what is there in your own 360-degree virtual world. "More compelling," he continues, "is that when you're having a conversation with another person, you can make eye contact."

In another article from UploadVR, Mason says that in its current state, use of social media has resulted in less personal and more disjointed social interactions. What would make virtual reality social networking popular would be the addition of body language in situations where the communicants are not face-to-face. Mason states that 93% of all communication is non-verbal. Nonverbal-communications, such as hand gestures and head movements, are key to understanding what people talk about, and how people talk about them. Ian Hamilton of UploadVR also mentions the importance of non-verbal communication when he explains that head and hand movement tracking are an important part of what would make virtual reality work. These elements would let you connect with others without being in the same physical location as them.

Mason concludes with the fact that virtual reality social networking would become so popular so fact because it allows for "naturalistic interaction" between multiple people without having to occupy the same physical space.

Machine Learning (Minus the School)



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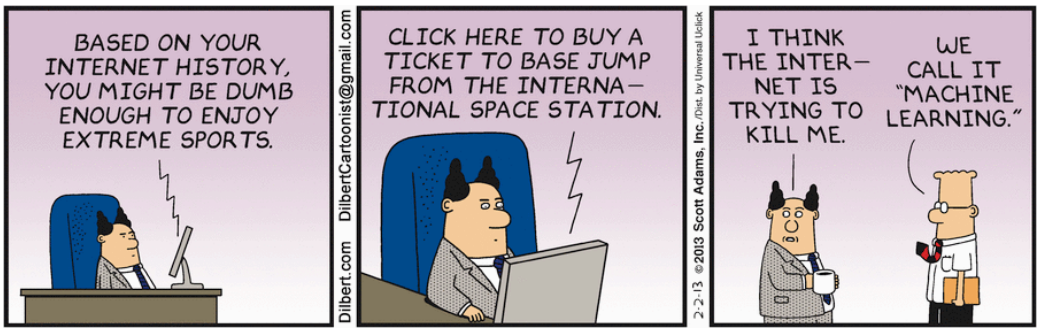
New developments force social media to evolve to keep up with the changing technological climate. Social networks change in order to become "smarter" so they evolve with their corresponding industries. According to Jamie Turner, a new phenomenon emerging in the world of technology is machine learning. Machine learning is the process of finding patterns and making predictions based on data gathered by software. Machine learning increases efficiency in a machine's particular industry. This idea can be applied to not only physical machines but to social media as well.

A recent article from the International Journal of Distributed Sensor Networks describes this new idea of a social network of machines. Authors Marina Pticek, Vedran Podobnik, and

Gordan Jezic, describe the machine social network as “a network of devices that are contextually, socially, and network aware” and create connections between each other to solve problems as efficiently as possible. According to them, communication is no longer only for humans.

According to Pticek, Podobonik, and Jezic, in order to achieve a smart machine network, connected devices have to be aware of their environment. This means the need an awareness of the other devices that make up their specific network. They would operate without any human interaction and would have the ability to make decisions automatically.



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Similar to how humans connect with each other through Facebook, applications can be associated with a device. Once the device has used the application, it can subsequently list its wants, needs, and interests, and the device can offer metadata on certain resources related to the specific application.

There are certain challenges associated with a social network of machines according to Pticek, Podobkik and Jezic. One would be the heterogeneity of smart machines due to the complex ecosystem of billions of interconnected devices. Another would be the limited possibility of different machine social network applications. Lastly, the design of an interface that can operate completely independent from any human interaction has yet to be developed.

https://cnet1.cbsistatic.com/img/9hUta39k28x3-tE1IuU1T1OzeYE=/770x433/2016/10/07/99be6391-48d0-4136-8513-26cde2c5fb87/ud100716.jpg

Smart machine capabilities such as Wireless Sensor Networks, Machine-to-Machine communication, and Cyber-Physical Systems have quickly become a very real possibility. The ultimate goal behind the idea these technologies as a social network of machines would be to establish the paradigm of the Social Network of Things.

"Social connection among machines would transform them from passive data-collecting devices into active members of a thriving ecosystem." - Marina Pticek, Vedran Podobnik, and Gordan Jezic

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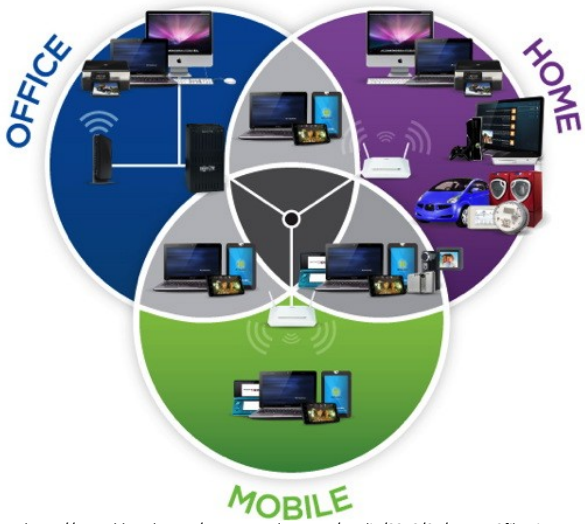
Social Network of Things

What is it?

Dr. Ajith Parlikad, senior lecturer at the University of Cambridge, states that when you combine the concept of the Internet of Things with social networking technologies you get the "Social Network of Things". As the Industrial Age comes to an end and the Information Age begins to rise, cyborg anthropologist MJ Petroni believes the Social Network of Things would project us further into that future. He believes the Social Network of Things comes at the apex of the Information Age, "a time when devices and people are connected through pervasive Internet access, a rich web of sensors, advances in artificial intelligence, deep APIs and cultural changes."



https://www.blogcdn.com/www.engadget.com/media/2013/01/nav1149file1.jpg

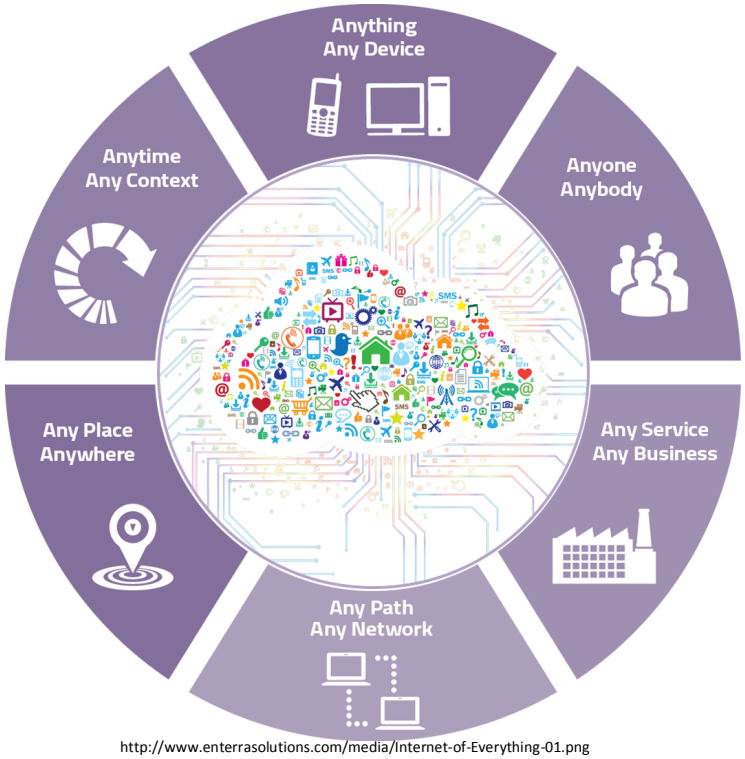
In an article from NTT Innovation Institute Inc, Petroni, in collaboration with Srini Koushik, identifies six key paradigm shifts that are creating the context for the emergence of the Social Network of Things:

1. Business strategy is shifting from products to platforms
2. Media is shifting from audience to community
3. Leadership is shifting from controlling to empowering people
4. Individuals are shifting from consumers to co-creators
5. Brands are shifting from push to pull
6. Organizations are shifting from hierarchies to networks

These shifts are driven by new kind of technological innovation. They are changing the way people think about business and organizational models in addition to how social media can be used to stay relevant in the 21st century.

Key technological trends drive the Internet of Things according to Petroni and Koushik. Trends including the cloud, big data, and proximity based tools such as near-field communication and Bluetooth Low Energy.

When asked about the Internet of Things and its relation to social media and social networks, Director of Internet, Science, and Technology Research at the Pew Research Center, Lee Rainie, said, "[it] will enable people, companies, governments, and non-profit organizations to pump a lot more data into the world and have a lot more data available to them, in return. This will change their media experiences" (L. Rainie, personal communication, October 31, 2016).



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As technology evolves, the divide between human social networks and the social network of devices begins to blur. The Social Network of Things uses many of the same technologies used by the Internet of Things.

Petroni and Kouchik believe that life with a Social Network of Things will be safer and easier if properly implemented. It would allow negotiation between devices without human approval and provide real time information about the present to help predict the future. The challenge with this would be designing a system that can access its maximum potential to augment human capabilities. Another challenge would be having these devices inform each other and negotiate an outcome.

Real World Applications

Petroni describes an example of the Social Network of Things in an article from CauseIt.com. In 2011, the world was introduced to Nest, the first learning thermostat. It uses machine learning technology to discover a persons pattern of heating and cooling habits. Nest then coordinates between multiple thermostats over one singular network to suit the homeowner's needs.

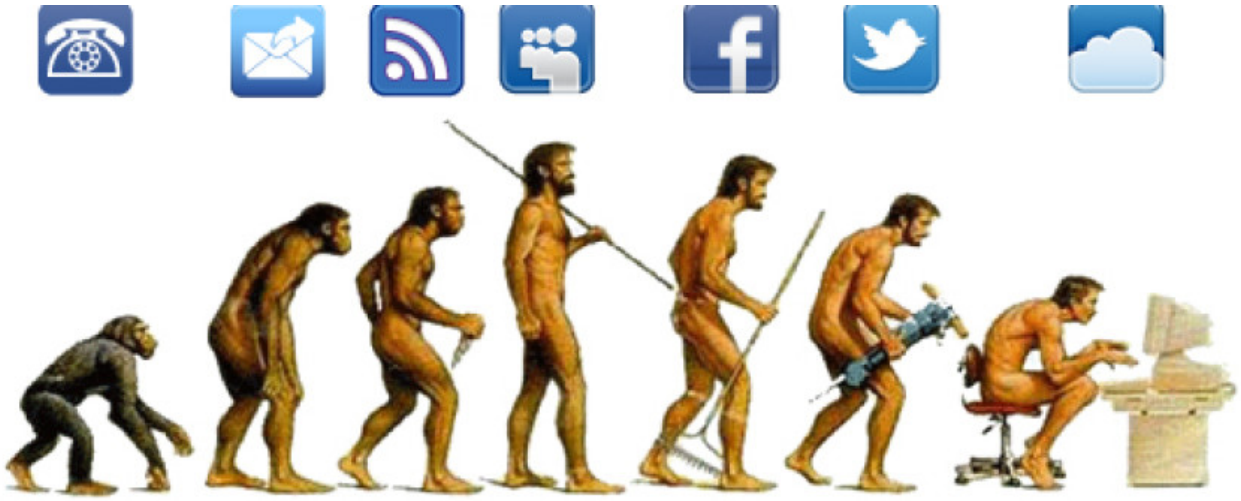
As the Nest platform evolved, according to Petroni, more products became available. In 2014, "Works With Nest" products were announced. This platform and API allow products outside the Nest brand to join the Nest network, allowing for more interconnected devices. Petroni explains how "Whirlpool appliances can coordinate with your Nest to find out if you are home—if you're not, but your laundry is still in the washer, they can run a 'refresh' cycle to make sure the clothes don't become mildewed or wrinkled."

Lee Rainie also gives examples of how objects could be interconnected in the future: “You might see people sharing their FitBit readings with others via their social media profiles. You might see your friends Yelp reviews of local bars when your smartphone’s GPS system reveals that you are in a certain neighborhood. You might be notified when your friends are nearby. You might allow your friends to be alerted when you are near them, or when you do something interesting, or when you post something new on a social media site. When you are ‘traveling’ in virtual reality to some interesting place, your experiences might be documented for your friends to see.”

“All this will change people’s ‘media’ and ‘data’ experiences because they will be facilitated through social media. Social media won’t just be about friend requests, likes, emojis, tagging, and picture sharing. It will soon include experience sharing and personal data sharing, assuming people give permission for that.“
(L. Rainie, personal communication, October 31, 2016)

In Conclusion

In the words of John Flood, “Augmented reality is to social media as smartphones were to the Internet: a whole new way to experience our everyday world.” Virtual reality, wearable technology, and machine learning in conjunction with the Internet of Things would bring the world into the future of social media and social networks. The computing power of today combined with the technology of tomorrow would create an entirely new social world in which people can live.



Annotated Bibliography

Augmented Reality: Social Media's Future? (2016, July 11). Retrieved from http://www.bluetie.com/en/blog/2016/07/11/augmented-reality-social-medias-future/

Augmented reality is an up and coming technological trend. No industry is immune to the effects of augmented reality, and social media is no exception. This article discusses the pro's and con's of augmented reality on social media. With increasing usage of augmented reality technology, its integration into social networking is something that needs to be taken very seriously. This article prompts critical thinking into augmented reality's integration into social media.

Bennett, C. (2016, September 29). 10 Predictions For the Future of Social Media. Retrieved from http://60secondmarketer.com/blog/2016/09/29/10-predictions-future-social-media/

This article from internationally recognized author Jamie Turner lists 10 predictions for the future of Social Media. These 10 predictions cover a wide variety of topics. From wearable technology to video live-streaming, this article is a comprehensive look at how social media is changing based on current industry trends, and where it is expected to go according to an industry expert. Lists like this one are a valuable resource when looking into the future of any topic.

Chang, L. (2016, May 28). VTime, the social network for VR, now lets you hang out in your photographs. Retrieved from http://www.digitaltrends.com/virtual-reality/vtime-social-network/

This article from Digital Trends discusses the first virtual reality social network, VTime. VTime is a place where friends can hang out in a virtual environment. In addition, photos can be uploaded and experienced with family and friends. This is the first of many similar social networks to come. This article discusses VTime, virtual reality trends, and how they can be integrated into social networks in ways that would fit naturally into people's lives.

Constine, J. (2016, October 06). Oculus demos augmented social virtual reality with facial expressions. Retrieved from https://techcrunch.com/2016/10/06/facebook-social-vr/

This article from TechCrunch discusses Mark Zuckerberg's demonstration of Facebook's new virtual reality experience. Zuckerberg has been emphasizing the relationship between virtual reality and human interaction in recent statements. He has said that he believes virtual reality is the future of Facebook. This article shows just how he plans on making that happen through Facebook's partnership with Oculus. Facebook wants to use virtual reality as a means of bringing you even closer with your friends and family, and plans on doing so through the methods discussed in this article.

Durbin, J. (2016, September 26). Everything You Need To Know About Snapchat's New Spectacles. Retrieved from http://uploadvr.com/snap-spectacular-new-glasses/

This article from UploadVR introduces another piece of hardware released in an attempt to keep up with the changing social media environment. Snapchat's release of Spectacles, video-recording sunglasses, are meant to make your social media experience easier by making it completely hands free. This idea also promotes interactivity between social media platforms. These Spectacles introduce the possibility of augmented reality capabilities for Snapchat, something they will need to keep up with up and coming social media networks.

Elgan, M. (2015, November 02). Why virtual reality is the next social network. Retrieved from http://www.computerworld.com/article/2999819/social-media/why-virtual-reality-is-the-next-social-network.html

This article is a comprehensive overview of the integration of virtual reality and social media. It talks about the current social media and virtual reality landscape and predicts that the next year will be the year of virtual reality. It also includes opinions from Mark Zuckerberg, a leading innovator in the integration of virtual reality into social media. Many uncommon aspects of virtual reality in social media are also discussed, such as emotional power, addiction, and satisfying human interactions. These ideas are valuable because they are not commonly discussed among experts.

Feltham, J. (2016, October 06). Facebook Reveals Social VR Features At Oculus Connect 3. Retrieved from http://uploadvr.com/facebook-reveals-social-vr-features-oculus-connect-3/

This article introduces Facebook's new features for Oculus Rift. Virtual Reality technology is expanding into every aspect of today's society. Facebook and Mark Zuckerberg are no strangers to innovation, and the world of social media and virtual reality won't be overlooked when it comes to virtual reality innovations. Facebook is leading the way for social media platforms integrating virtual reality technology and this article delves into how it is able to do so. This article is valuable because it shows how social networks are beginning to think seriously about how they can use virtual reality.

Feltham, J. (2016, October 24). Instagram CEO: VR Could Play 'Critical Role' In Company's Vision. Retrieved from http://uploadvr.com/instagram-ceo-vr-play-critical-role-companys-vision/

In addition to Facebook, Instagram is jumping on the virtual reality train. Instagram CEO Kevin Systrom believes that virtual reality headsets are going to play a critical role in the future of Instagram, and he discusses this in this article from UploadVR. With other social networking platforms showing interest and initiative in new technologies,

Instagram, and other social media networks will have to do something to keep up or they risk being put out of business.

Ferenstein, G. (2015, January 14). Zuckerberg's 3 predictions for what social networks will look like in 10 years. Retrieved from http://venturebeat.com/2015/01/14/zuckerbergs-3-predictions-for-what-social-networks-will-look-like-in-10-years/

This article describes 3 predictions from Mark Zuckerberg for what social networks will look like in 10 years. When it comes to predictions from industry experts, the bigger the better. Facebook is one of the biggest social media networking sites on the Internet, therefore Zuckerberg's opinions and predictions carry a lot of weight in the technological world.

Hamilton, I. (2016, September 15). Facebook More Deeply Integrates with Oculus Platform. Retrieved from http://uploadvr.com/facebook-oculus-integration/

This article is an in-depth description of Facebook's integration with Oculus. Arguably the fastest growing virtual reality platform, the partnership between Oculus and Facebook is propelling the pair into the future of social media and social networking. In addition to Oculus's partnership with Facebook, this article also discusses the general integration of virtual reality and social media. The discussion of Oculus in this article is important due to its being the biggest virtual reality partner in today's social networking environment.

Imagining Social Media in 2025. (2015). Retrieved from http://www.webgains.com/public/looking-forward-imagining-social-media-in-2025/

This article starts off by reminding people how far the world of social media has come. From the creation of Facebook only ten short years ago to the endless possibilities of the future, it is hard to predict what the future of social media will look like. This article looks at what social media could look like in the year 2025. It discusses the idea that while the need for social media might not change, the way we communicate will change and with that social media will change accordingly.

Kevin Systrom [Interview by E. Chang]. (2016, October 23). In Bloomberg. Retrieved from http://www.bloomberg.com/news/videos/2016-10-23/kevin-systrom-studio-1-0-full-show-10-23

This interview with Instagram's CEO Kevin Systrom from Bloomberg's website is conducted by Emily Chang. In this interview, the two discuss Instagram's rapid growth and popularity and how they have affected the company as a whole. In addition, they discuss the relationship Instagram has with parent company Facebook. This Interview is valuable because Systrom discusses the role virtual reality will play in the future of his company.

Marr, B. (2016, March 17). Facebook, Virtual Reality (VR) And The Future Of Social Networks. Retrieved from http://www.forbes.com/sites/bernardmarr/2016/03/17/facebook-virtual-reality-vr-and-the-future-of-social-networks/#aa70b7f3a74e

This article discusses specific virtual reality and augmented reality products. Facebook's Oculus, Samsung's Gear VR, and Google's Cardboard are among the products mentioned. This article discusses the barriers broken by these new technologies and the new opportunities they create. They have the ability to take social networks to a new level no one has ever seen before. A fully integrated social environment is becoming possible with these new virtual reality and augmented reality technologies.

Mason, W. (2016, April 15). How the reddit VR app might really look on the GearVR. Retrieved from http://uploadvr.com/reddit-may-become-the-first-major-social-media-network-in-vr/

Reddit is embracing virtual reality more than any other social networking site. Reddit provides insights into the minds of some of the most passionate and intelligent people in the technology industry. The open collaboration provided by Reddit feeds the /r/oculus community and lets industry experts collaborate when it comes to virtual reality integration in social media and other technology industries.

Mason, W. (2016, April 15). How VR is going to humanize social media. Retrieved from http://uploadvr.com/social-virtual-reality/

Similar to the new concept of the "Social Internet of Things" is the concept of "Social Virtual Reality" discussed in this article. Some experts believe that in order for virtual reality to succeed in social media, it has to be more connected and more personal. Majority of the criticism social media receives is that it promotes anonymity and less personal communication. If virtual reality can create a world of more interconnectivity and more collaboration, it will thrive in the coming years. Virtual reality will bring another level of personal relationships by bring body language back into social media.

Parlikad, A., Dr. (2016, July 14). The social network of things. Retrieved from http://www.themanufacturer.com/articles/the-social-network-of-things/

This article discusses an industry not commonly thought to be effected by social media: manufacturing. Having a machine connect to the Internet optimizes its performance, and having it connected to a social network further improves that performance. The main purpose of integrating social networks into manufacturing is collaboration to optimize performance. Combining the Internet of Things with social networks creates a social network of things allowing humans to oversee every possible aspect of the machine's work and maintenance.

Petroni, M., & Koushik, S. (2014). The Social Network of Things - The Evolution of Smarter Everything. Retrieved from http://americas.nttdata.com/Services/Services/Digital-Business/~/media/Documents/Other/The-Social-Network-of-Things.pdf

This article explains the Social Network of Things. It discusses how in the future devices will be able to communicate and collaborate unlike ever before. We are seeing this through development of products like Apple's HomeKit and HealthKit and Google's Built for Nest. The Social Network of Things, according to some experts, will create significant new opportunities for growth and development. By looking at the evolution of humans and machines as in this article, we can increasingly look to the future of human and machine interactions. The most important part of this article is the six shifts described that are driving the landscape of the Social Network of Things.

Pticek, M., Podobnik, V., & Jezic, G. (2016, June 1). Beyond the Internet of Things: The Social Networking of Machines. International Journal of Distributed Sensor Networks, 12. doi:10.1155/2016/8178417. Retrieved from http://dsn.sagepub.com/content/12/6/8178417.full.pdf+html

It is becoming more and more possible for machines to be able to communicate with other machines just as humans communicate with other humans. Machine social networks, as described in this article, will be possible because of today's social networks. This article also analyzes the challenges in creating these machine social networks, and how the current evolutionary stage is being altered for the future. Additionally, this article provides many detailed diagrams of how this concept will take shape.

Richards, R. (2016, March 29). The Future Of Social Media Is Looking Bright. Retrieved from https://blog.sysomos.com/2016/03/29/future-social-media-looking-bright/

This article mentions trends social media is leaning toward for the future. It mentions increasing popularity of chat based social media platforms, video-based sites taking over the popularity of social networking, and buying on social networks. It also mentions the next steps for these trends and the implications they might have. This article also provides background context for the most popular social networking sites of today: Facebook, Twitter, Instagram, Pinterest, LinkedIn, and Snapchat.

The History of Social Media. (2015, June 16). Retrieved from http://historycooperative.org/the-history-of-social-media/

This article provides a comprehensive history of social media. From the very first social networking platform to today's most popular platforms, this article provides multiple sections describing all of the stages of social media from its installation to its current state. It also includes a small look into the future of social media.

The Social Network of Things. (2016). Retrieved from http://www.causeit.org/the-social-network-of-things

This article discusses how technological progression can be thought of in terms of overlapping eras. As the Industrial Age comes to an end and the Information Age beings to rise, what comes next? Some experts are looking seriously into the beginning of the Cyborg Age as the next wave of technology to come, as mentioned in this article. This article states that the Social Internet of Things is the apex of the Information Age. With the Cyborg Age and Singularity looming in the near future, this article looks into how the Social Internet of Things will change along with these technological and societal changes. This article also mentions the six key shifts that create the context for the Social Network of Things.

Wellons, M. C. (2016). 11 Predictions on the Future of Social Media. Retrieved from http://www.cnbc.com/2014/10/02/11-predictions-on-the-future-of-social-media.html

Mary Catherine Wellons, San Francisco Bureau Chief for CNBC, compiled a list of 11 predictions for what social media will look like in the year 2039. These predictions come from industry experts from all over the United States. Predictions from industry experts like the ones featured in this article are a valuable source of information on the future of social media. These predictions are on a variety of topics so they cover all aspects of social media and social networks.

Top 10 Issues

Threats to Privacy Link #1 Link #2	The future of personal privacy in the growing era of technology is a very popular issue. According to the Pew Research Center, it is a global issue that will affect people all over the world by 2025. Policy makers will have to change the way they make policies in order to keep up with the rate of technological progress and omnipresent surveillance, which is the biggest threat to people's online presence. Experts are saying that while encryption technology will continue to improve, so will privacy-prevention technology.
Government Control Link #1 Link #2	The future of the internet will give governments much more control over people's every day lives. Governments can increase surveillance so they are constantly watching you. They can also filter the content you can access online so you only see what they want you to see. The government can also exploit private companies advertising infrastructure and monitoring technology. If the government takes advantage that the future of the internet will give them, the phrase "big brother is always watching" will become a reality and not just a saying.
Internet Addiction Link #1 Link #2	The rise of the internet has brought with it the rise of internet addiction. According to the APA, online gaming, gambling, cybersex, pornography, social networking, and auction houses all represent different triggers that can lead to Internet addiction. This form of addiction can cause neurological complications, and psychological issues. With the growing amount of things you can do with the internet, pathological internet use could become a serious issue in the future.
False identities (Catfishing) Link #1 Link #2	The use of false identities is an evolving issue as the internet grows. Catfishing, or being intentionally deceptive when creating a social media profile, was made popular in 2010, and since then it has become an extreme form of manipulation. Revenge, loneliness, curiosity, and boredom are only some of the motivations behind this form of scamming. With the growing capabilities of the internet, there is no telling where the future of catfishing might go.
Security/Cyber Crime Link #1	As internet technology progresses, so does hacking and data breaching. Hackers are getting better and better at figuring out

Link #2	people's passwords, and therefore are getting better at accessing people's personal and financial information. Experts say that with more and more objects having internet connectivity, there are more and more ways for hackers to exploit people. Very few of these items are developed with cybersecurity or data privacy in mind, and according to NBC News, a skilled hacker can break into a new connected device in a matter of hours.
Loss of interpersonal communication skills Link #1 Link #2	Children today are spending more time communicating through the internet than they are face-to-face. This is causing them to have a hard time understanding emotions. They are spending so much time communicating through technology they aren't developing basic communication skills. Despite the fact that emojis were developed to express emotion, they don't add voice inflection, body language, and facial expressions. The inability of children to recognize these nonverbal communication tactics will only get worse as the internet becomes more integrated into people's lives.
Health Concerns Link #1 Link #2	The increasing use of the internet is increasing sedentary lifestyles. Experts are calling this the "sitting disease". The correlation between internet use and obesity has been proven in many studies, including one by the *Journal of Internet Medical Research.* The more people use the internet the less they are getting up and exercising. With the internet becoming more involved in people's lives, the risk factors that it brings to people's health will only become greater.
Education Link #1 Link #2	The internet provides the ability for students to learn new things at an alarming rate. According to the Pew Research Center, three-quarters of online teens say the Internet helps them do their schoolwork. The Internet has virtually replaced the library when it comes to doing research and writing papers. However, the question has arisen among teachers all over the country if the increased abilities of the Internet have increased the number of students who cheat. The web has made it much easier for students to copy a paper or cheat on a test, and websites like Sparknotes promote laziness by providing summaries of books so students don't have to read them.
Machine Takeover Link #1	The Internet of Things and interconnectivity that comes with it are taking over the world. There is the potential for everything

Link #2	to be "smart" or automated. Machine takeover will change the way people go about their every day lives, and there is no telling whether that change will be positive or negative. It could eliminate the need for humans to preform tasks, thus eliminating a lot of jobs. On the other hand, machine takeover could potentially make lives easier by coordinating schedules and processes.
Advertising Link #1 Link #2	While online advertising has proven to be beneficial for some companies, many people have complained about how annoying online advertising is. According to AdWeek, 92% of 3,200 internet users surveys said they had considered using an ad blocker. 62% of those surveyed said they were annoyed by preroll ads. Experts predict that content and advertising will become one in the same, and we won't be able to tell which one is which.

Top 10 Futures Thinkers

Lee Rainie Link #1 Link #2	As the director of the Pew Research Center's Internet & American Life project, Lee Rainie has had a profound impact on the way we view the internet. He has written books on various topics relating to the Internet and has earned credibility through his many years of research.
Marc Andreessen Link #1 Link #2	Best known for being one of the co-authors of the first Web browser, Marc Andreessen has become one of the most influential people to invest in the future of the Internet. He has embraced all of the innovations that came after his, and is seeking to continue to improve upon them. He has been making many predictions on Twitter and believes, like many others, that Software will end up programming the world.
David Clark Link #1 Link #2	David Clark is a senior research scientist at the MIT Computer Science and Artificial Intelligence Laboratory. He has been working at MIT since receiving his PhD from there is the early 1970's. He has been involved in the many of the major Internet protocol implementations since the 1970's, and from 1981-1989 he acted as chief protocol architect for the Internet. He has won countless awards for his work and research and is an Internet Hall of Fame Inductee from 2013.
Vinton Cerf Link #1 Link #2	Vinton Cerf is known as on of the "fathers of the Internet". He is currently the vice president and Chief Internet Evangelist for Google. His contributions to the world of the Internet are

	innumerable. Some of his most recent work, contrary to popular opinion, predicts a negative "Digital Dark Age". He is giving people his honest opinions that the future he sees is scary, and might not even include Google at all.
Stephen Johnson Link #1 Link #2	Stephen Johnson, although not as famous as other industry professionals, has one characteristic that set him apart from all the rest. He explains technology in a pop-culture relevance, a way that no one else can. His provocative theories and ideas cause other experts to think differently about their own ideas. He has written many successful books about the Internet and it's innovations, and continues to blog about his thoughts and upcoming works.
Tim Berners-Lee Link #1 Link #2	Tim Berners-Lee is known for inventing what we now know as the World Wide Web. He is one of if not the most influential person in the technology field today. His most recent work with the World Wide Web Consortium is predicting a "Semantic Web", an evolved version of the current systems. Berners-Lee continues to make strides in the development of new Internet Technologies, and in turn, continues to prove he is the leading innovator in digital technology.
Ray Kurzweil Link #1 Link #2	Ray Kurzweil is one of the world's leading futurists. He has been accurately making predictions in the world of technology for over 30 years. A successful inventor and engineer, Bill Gates has deemed Kurzweil as being the best at predicting the future of artificial intelligence. None of his predictions have been wrong yet, and they don't seem to be going wrong any time soon.
Bill Gates Link #1 Link #2	Microsoft's founder, Bill Gates, has been dominating the technology industry since he was 15 years old. He is not only the richest man in the world, but he is one of the most optimistic about the future. He has been making predictions about the future of his company and it's role in the world of technology and the internet for many years. As he gets older and wiser, he continues to make predictions, and with the credibility he has built, everyone is listening.
Elon Musk Link #1 Link #2	Elon Musk is one of the foremost thinkers in the technology industry. He is trying to define the future of transportation using new internet technologies. He has been overseeing extreme innovation, and is continuing to make his ideas for the future known. He has started with self-driving cars and is currently moving toward the future of space travel.
Gerd Leonhard Link #1 Link #2	Another influential futurist, Gerd Laonhard has also been working on making observations about humanity and technology and how it is progressing. He has been researching

	the idea of the "Megashift" and is writing a book on this idea. His book acts as a wake-up call for those who refuse to accept the reality we are moving towards. He is writing books to help people move towards this future.

Top 10 Information Curators on Twitter

PewResearch Internet @pewinternet	The Pew Research Center is not only a great curator of information on it's website, but it is very influential on Twitter as well. The PewResearch Internet Twitter account tweets links to it's own website for more information, but it also re-tweets other influential tweets related to the future of the Internet. PewResearch Internet mainly tweets statistics and graphs with data from research conducted by the Pew Research Center.
Future Megatrends @TrendsFM	Future Megatrends is a Twitter account operated by trend spotter Christopher Moller. This account tweets short headlines in conjunction with a relevant article related to a future trend. This account tweets about all different topics in relation to the future, including robotics, employment, and artificial intelligence. The informative links and the varying of topics Future Megatrends tweets makes it a top future information curator on Twitter.
BBC Future @BBC_Future	BBC is a very reputable news source. The BBC Future Twitter account posts relevant information on news topics related to various future topics. This account uses pictures to make their tweets more interesting. Majority of BBC Future's tweets include some sort of informative visual, whether it is a picture, graph, or infographic.
Tech Crunch @TechCrunch	TechCrunch tweets a wide variety of breaking technology related news. It analyzes all aspects of technology, in relation to the future and beyond. Tech Crunch is a reputable source of all kinds of technology related news, and it's twitter account is the same way. TechCrunch's tweets capture attention by being short and snappy which increases readability and won't lose the reader's interest.
Mashable SocialMedia @mashsocialmedia	Mashable is a modern source of news. Mashable Social Media is a modern source of social media related news. In addition to the latest in news, the Mashable Social Media Twitter account provides tips and tricks on how to best utilize social media as a tool. Its tweets are not only on top of the future trends in social media, but they are relevant to what is happening around the world today.
We Are Social Media @WeRSM	We Are Social Media is a collective source of information of all things social media. Its tweets relate to all all aspects of this

	communication tactic. This account is a very valuable resource for anyone looking for a comprehensive overview of anything and everything in relation to social media. It covers all possible aspects of all social media platforms.
WIRED @WIRED	Wired is the website for anything and everything related to technology. Wired's Twitter account is similar to its full fledged articles in content, but has smaller eye catching segments that make you want to read it's articles. If something happens in the world that is even remotely related to technology, Wired will cover it.
Digital Trends @DigitalTrends	The goal of Digital Trends is to help readers understand how technology effects the way they live. Digital Trend's website does this, but it's Twitter account does this faster and for those who do not have the time to read the full article. Its short headlines to its articles on Twitter provide the perfect sneak peak into each of its articles.
Slate @Slate	Slate is a Twitter account that tweets about politics, culture, technology, business, and news. They tweet articles related to all of these topics in addition to commentaries on them as well. The variety of content Slate posts on Twitter is what makes it so valuable as an information curator.
Upload @UploadVR	UploadVR is one of if not the most valuable curator of technology related news, on and off Twitter. They provide information on how Virtual reality and augmented reality will affect all different kinds of industries. UploadVR's twitter contains a lot of visuals in addition to articles. It makes looking through articles a more visual experience instead of just reading the tweet.

Top 10 Infographics

Evolving Internet of Things	This infographic portrays the evolution of the Internet of Things. What makes this infographic stand out is the amount of data that is packed into it. It contains statistics, facts, tables of data, and predictions all in one place. It states that the Internet of Things could eventually directly affect every aspect of people's lives.
The Internet of Things: The Facts	This infographic gives a basic overview of the Internet of Things. This concept is very foreign to a lot of people and this infographic does a great job of explaining the basics of what it is. It gives a comprehensive overview of what the Internet of Things will look like in the future so that someone who has never heard of the concept before will have a basic knowledge of what it is after reading it.

What Will the City of the Future Look Like?	This infographic shows a visual representation of what life could look like when dominated by the Internet of Things. It focuses on three different areas of innovation: lifestyle, transportation, and productivity. It also has a timeline with major facts about the world at different periods in the future. This infographic is valuable because it makes more sense to see a concept like the Internet of Things than to just read about it.
Growth in the Internet of Things	This infographic is a timeline of the Internet of Things, starting in 1989 and ending in 2020. It measures billions of devices and shows an upward trend as we move into the future. The most important part of this timeline is that you can clearly see that from the inception of the Internet of Things in 2009 that the slope of the line increases dramatically and keeps increasing as it goes into the future.
Evolution of the Internet	This infographic is a timeline of the evolution of the Internet. It begins in 1969 with the introduction of ARPANET and ends in 2018 with future predictions. This timeline shows these future predictions right next to all of the past innovations related to the Internet, and makes it easy to relate where it has been to where it is going in the future.
Tomorrow's World	This infographic is a timeline of the future of technology. What separates this infographic is the fact that it goes 100 years into the future. The events on the timeline are also organized into five different categories: computing and robotics, politics and business, science and nature, society, and finally technology. Additionally, the events are organized from left to right from most likely to least likely to happen.
Why Social Media is the Future of Hiring	This infographic talks about one of the things social media can really have a big effect on in the future: employment. It explains how in the future, social media can help employers and employees find better job matches. It gives a lot of statistics for current job recruitment, and how social media can help. Lastly, it tells how to best utilize social media to get the most out of it in the future.
The Future's so Bright you Gotta Wear Shades: Why You'll be Wearing You Next Computer	This infographic focuses on the future of virtual reality. It shows how technologies have evolved over the years from being completely static to possibly being completely virtual in 2020. It then goes on to depict the different kinds of augmented reality eyewear. Finally it talks about how the future of augmented reality and virtual reality are limitless. They will impact the future of communications, networking, and marketing.

Visual Content: The Future of Social Media?	This article discusses the possibility of the future of social media being strictly visual. This prediction is made based on the fact that visual-based social media platforms are booming. It discusses this idea while taking into consideration who your prospects are and where they are located.
What Will the Internet Look Like in 100 Years?	This infographic is a collection of prediction of what the Internet could look like 100 years into the future. It gives a group of predictions that Google has made and how they are taking action in response to those predictions. It brings up a lot of popular topics such as privacy and security, but unlike most other expert predictions, the ones in this infographic go much farther into the future.

Top 10 Trends

Big Data	Data is being collected today at an astronomical rate. Companies such as Intel and IBM are taking all of this data and are turning it into powerful decision-making tools. Big Data will make it possible to make decisions based on concrete numbers instead of making inferences based on market trends. The hard data these numbers provide changes the game for companies and how they will propel their products and services.
The Cloud	Using cloud-based software is one of the most efficient methods of managing a business. It is cost effective, accessible and delivers immediate and measurable solutions to common problems. These benefits have engineers pouring resources into cloud development. This increases competition among developers, giving way to better products, services and innovations.
Internet of Things (Slide 57)	The Internet of Things will make it possible for smart devices to communicate with other smart devices. They will be able to monitor activities and make humans lives easier. Some experts predict that within the next five years, there will be 25 million connected devices. The prices of sensors, bandwidth, and processors have decreased, while widespread WIFI capabilities have made this much interconnectivity possible. The designs behind the Internet of Things are only going to get smarter and more connected.
3-D Printing (Slide 59)	3-D printing technology is becoming more and more innovative. New 3-D printing technologies are constantly being invented. Some believe that within the next year companies will be printing custom-orthotics, footwear, eyeglasses and even athletic equipment. Additionally, the future of 3-D printing will bring medical equipment and even human tissues to be used in

	the medical industry. The next big milestone for 3-D printing technology is a ubiquitous hoe printer.
Artificial Intelligence	Artificial intelligence is going to transform the future of technology and the Internet. From the digital assistance on your smartphone to self-learning machines, artificial intelligence is growing at an incredibly fast pace. The possibility of artificial super intelligence for businesses, governments, and armies is an advantage that can't be overlooked. Machines that could operate 24/7 without human assistance could provide enormous benefits that would change the future of mankind.
VR & AR	Virtual reality and augmented reality have developed into the fastest growing future trend in a very short amount of time. There are new developments being made in both VR and AR every day, and according to Moore's Law, it will only continue to grow. The technology and encoding needed to make VR and AR happen are being improved, making the barriers to entry virtually disappear. VR and AR are making their way into healthcare, entertainment, leisure and many other industries. There is nothing stopping VR and AR from entering virtually every possible industry.
Smart Virtual Personal Assistants (SVPAS) (Slide 22)	SVPAS are being seamlessly integrated into devices and services already in use today. This technology is being designed with invisible interfaces meant to help you with every day tasks. Amazon's AI system, Echo, runs on Alexa, and will soon run on your phone. Microsoft's Cortana will assist you with your PC, and there are many more SVPAS technologies being developed. Researchers at MIT, Stanford, and the University of Texas at Austin are building infrastructures to make this technology smarter than it already is so that SVPAS will be wanted in every single home.
Drones (Slide 49)	Drone technology has taken off within the past few years and it is going to grow exponentially in the next few. Drones are evolving and soon they will include powerful sense and avoid technology giving them the ability to fly on their own. In the future drones will be able to make deliveries, inspect buildings, issue parking tickets, and more. Legislation for this new technology will also soon follow suit.
Space Travel	According to NASA's website, they next thing they want to do is take humans to Mars. NASA is developing the most advanced rocket and spacecraft ever designed and they will continue to evolve this technology. Advanced solar electric propulsion, solar sails, green propellants, and composite cryogenic storage tanks are only some of what NASA is working on behind the scenes.

	These new space technologies are inspiring new knowledge to help sustain future space traveling missions.
Self-driving cars	Top Silicon Valley investor Chris Dixon believes that within ten years the roads will be full of driverless cars. The technology needed to make cars completely driverless is being improved every day. Artificial intelligence and deep learning are just some of these things. With companies like Google and Tesla focusing on these kinds of technology, a network of autonomous vehicles is in the near future.

Top 10 Readings

Firebrand Ideas Ignition Blog – "5 Key Trends that Point to the Future of Social Media"	This is a blog post from the Firebrand Ideas Ignition Blog. It was written by Andrew Hutchingon, a social media consultant and award winning blogger. His list of 5 trends in the future of social media is a very comprehensive list of the most pressing issues. He goes into detail about the benefits and consequences that each trend may or may not bring, and he includes pictures and infographics to accompany his writing.
The Simply Measured Blog – "The Future of Social Media is Mobile. Are You Ready?"	The Simply Measured Blog is described as "Social News for Better Decisions and Exceptional Results". This blog post is particularly interesting because it takes a bold stance by saying that the future of social media is mobile. This post uses many statistics and infographics in addition to its detailed explanations, making it enjoyable to read. It covers how every current aspect of social media will be affected by mobile in the future and provides recommendations for how different kinds of companies can use these changes in social media to their advantage.
IEEE Internet Computing – "The Future of Social Networks on the Internet"	This article written by John Breslin and Stephan Decker from the Digital Enterprise Research Institute in Galway talks about the need for semantics in the future of social networks. This report is very valuable because it discusses what social networks have to do in order to keep up with the changes taking place on the Internet. It discusses what social media is currently like and what has to happen for it to stay as integral to people's lives as it is now despite the changes taking place in the changing internet environment.
BBC Future – "How the Internet is Becoming a Part of Us"	BBC Future's "Beyond Limits" section has this article about how humans and the Internet can and might possibly become one. It contains diagrams of a human body and brain and contains paragraphs explaining the possibilities that the future of the Internet brings for each part of the human body.

Pew Research Center – "The Internet of Things will Thrive by 2025"	This article from the Pew Research Center discusses the future of the Internet of Things. It talks about how experts believe the rise of embedded and wearable computing will bring the next revolution in the digital world. Not only does this article do a good job of explaining what the Internet of Things is and what it might look like, but it also takes people step by step through what a world controlled by the Internet of Things will look like.
Pew Research Center – "Digital Life in 2025"	This article from the Pew Research Center discusses expert predictions for how the Internet will become more integrated in people's lives by 2025. What sets this article apart from others like it is that it separates 15 theses about the digital future into hopeful and not hopeful. In addition, it includes advice for what to do today in order to control the future of the Internet.
BBC Future – "What will the Internet look like in 2040?"	This story comes from the Future section of BBC's website. It describes a positive outlook on the future of online life in addition to a negative outlook. The two opposing outlooks are compared and analyzed. What makes this article different from others that predict what the future will look like is that this article makes predictions for the year 2040. Majority of predictions are for the year 2025, and this article goes out farther into the future.
Pew Research Center – "Public Predictions for the Future of Workforce Automation"	This article from the Pew Research Center focuses on the effect that emerging technology will have on the American workforce. It examines the results of a survey the Pew Research Center conducted on whether or not Americans think that in the future robots and computers will be doing work currently done by humans. The growing concern of robots or machines taking over jobs has people very interested in the future of employment, making this article very valuable.
Medium – "The Future of Work? The Robot Takeover is Already Here"	This article talks about the popular topic of the future of human jobs. Robots' taking over jobs has been a popular topic related to the future of the internet. This article references statistical information that proves that this process has already started. This article eloquently explains the impact that this is having and will have on humans and what it holds for the future of employment.
Fast Company – "E-books Could be the Future of Social Media"	Fast Company is the world's leading progressive business media brand with a focus on innovation in technology. This article takes something that has been slowly happening, the phasing out of physical books, and relates it to the future. This article says that in the future, e-books will act as social networks. In addition, it says that the most popular type of e-reader will be smartphones, making them easily connected to existing social networks.