

**Privacy and Security in Online Social Media**  
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**Indian Institute of Technology, Madras**

**Week – 1.2**  
**Lecture – 02**  
**Intro to Course**

Now, we will look at overview of Online Social Media.

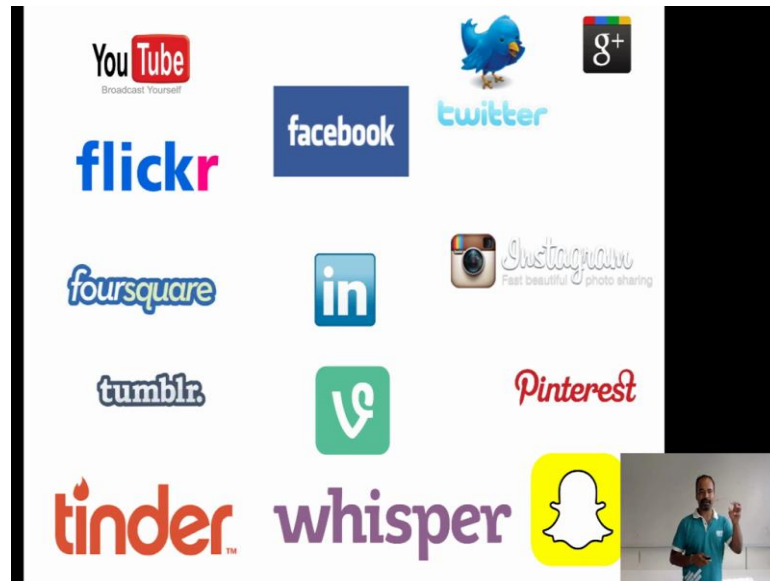
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So, social media is of different types, different types of contents are getting generated on our social media. One popular type of social media is social networks, which is Facebook, Twitter, LinkedIn and networks like this falls into social network. So, there are many different ways in which social media content is getting generated, for example, publish which is of the category of social media which has Wikipedia and crowd-sourced ways of creating content.

There is an also social game, there is an also virtual games, and there are different types of content that are getting generated through these different types of social media services that are available.

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Here I have some examples of popular social networks of different categories, different categories I mean different types of contents are getting generated in these networks, for example, YouTube is one of the most popular video sharing service, **Flickr** images, Foursquare is mostly the location based services, LinkedIn which is for professional services, Facebook combination of many different types of content, Instagram which is for the images, Twitter is the micro blog of short content plus also the combination of different types of content.

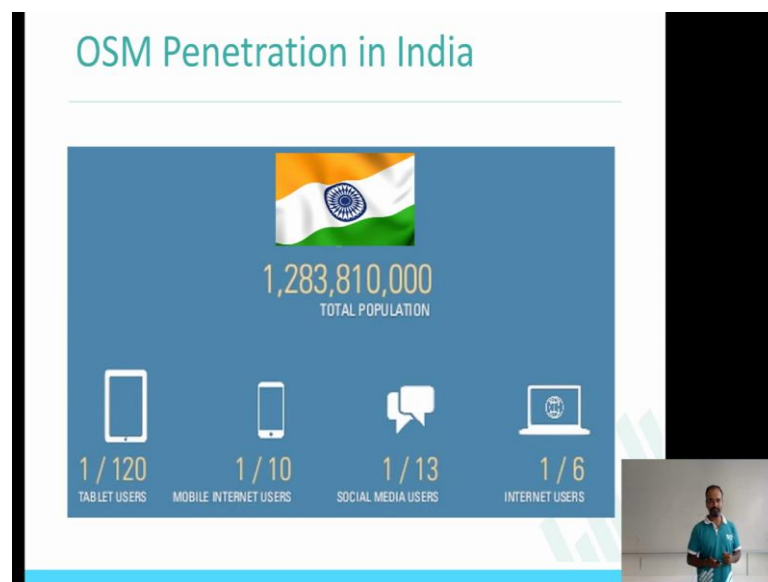
So, if you look at this set of social networks that are available, social media services that are available, they are actually creating content in their networks of a particular category type, for example, Foursquare is only with respect to location, their atomic level information is to say is actually the location; the network is based on location. LinkedIn , **okay**, the network is based on the professional connections that we would like to have or we have, but this is more the traditional type of social networks.

Whereas off-late there has been other types of social networks also that are getting more popular which is again in networks like Pinterest, which is one of the fastest growing social networks which has images as **their** base. Vine, tumblr, tinder, whisper, Snapchat or Wechat, there are many, many other social networks which are getting popular, but these category of social networks can be categorized into things like **ephemeral** social networks which are where the content is getting posted and it destroys by itself after

some time and there is also anonymous social networks like whisper, where the content that you post, is **also anonymous** and who is posting the content is actually difficult to find in networks like **Whisper** and these are different types of networks that are also getting more and more popular.

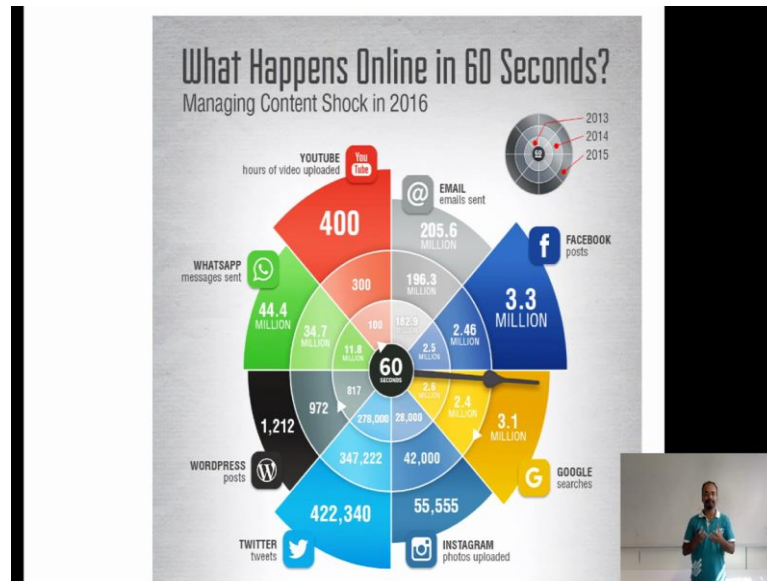
This is not a comprehensive list of social media services that are available out there. There are about 215 or 220 popular social networks services that are available now. I have captured here only some of them which are more popular and I have also captured here only to show that the social media has different types of content that are getting generated on social network and the popular ones in each of this category.

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Today, even in the course if you see there are about 1500 people interested in studying this course. The main reason for this is the proliferation of online social network, online social media. If you see here, just in India, 1 in every 13 or probably now it is getting lesser and lesser, 1 in probably 10 or 9 people are accessing social networks and definitely this proliferation is because of the proliferation of the mobile phones also, and this proliferation is one of the main reasons why the large content is getting generated in social networks also.

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This slide which is showing you, what happens online in 60 seconds? Showing you how information is actually being pushed into these different networks in just 60 seconds. If you look at in 2013, Facebook had only 2.5 million posts in 60 seconds, whereas today they are talking about 3.5 million posts every 60 seconds. So, that is only Facebook. If you look at Twitter in 60 seconds, in 2013 they seem to be getting 278,000 posts, but today they are getting 420,000 posts. So, this large amount of content is getting generated on these networks.

If you look at YouTube, they seem to have had 100 videos uploaded, 100 hours of video uploaded in every 60 seconds in 2013, whereas it is now 400 hours of video are getting uploaded on YouTube. So, this is just to give you sense how much of information is getting uploaded on this content and what kind of information also, in terms of Google searches, in terms of Instagram photographs, Wordpress post, Whatsapp messages that are being shared, YouTube videos are getting uploaded, emails sent. So, this is to give you relative understanding of information that is getting created on the social media services.

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And there is also this whole discussion about V's of online social media. There is also V's of data big data which is connected to this V's of online social media also. There is always a discussion about what is the number of V's that are available. So, I am going to talk about, I am going to discuss about the 4 and the 5th V's that is available. The first is Velocity; velocity is the speed in which the data actually getting generated on these networks. We just saw the amount of posts that are updated in every 60 seconds with which is to show you the speed in which the data is getting generated on these networks.

Second V is actually Variety, if you look at the slide that I had by different types of social networks examples this actually shows you the variety of content that are getting generated on social networks. The third V, which is actually the Veracity, which is to see the confirmation, which is to find out whether an information which is posted on social media is legitimate and not actually very hard. Veracity is the third V; the first V is the velocity, second V is what we talked about now is the variety.

The third V is veracity and the forth V is Volume; volume is the size of the content that is getting generated which is very much connected to the velocity also, which is 400 hours of videos getting generated every 60 seconds on YouTube, which is also the space that its, and that much of space it is going to occupy, which is the reference to volume. The fifth which is more recently people have been talking about, it is actually Value; value means we can have these V's; volume, velocity, variety and veracity, but if is this content is not having value then it does not make any sense. So, the 5th V is actually

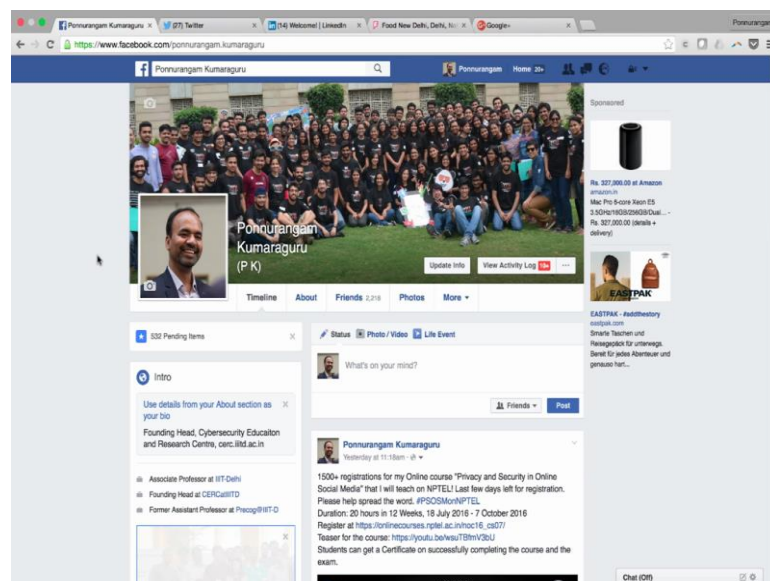
value. So, the 4 Vs to start with the volume, velocity, variety, veracity and the 5th V is value.

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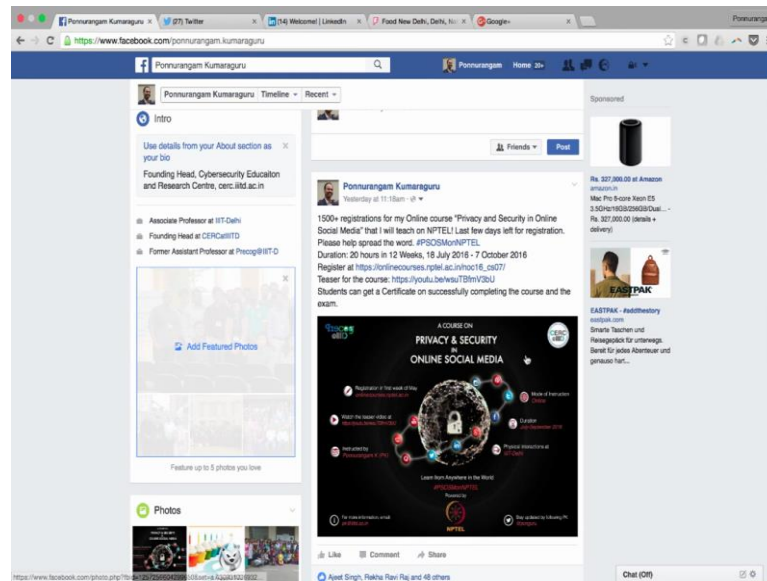
Now, let us look at different social networks that are available there and we are only going to look at some of the popular ones. These are the interesting social networks that are there, first let us look at Facebook, I am assuming that many of you would have account in Facebook.

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This is how Facebook looks. This is my account and the basic building blocks of Facebook, first is the feed that I get on my **Wall**. These are the friends, my friends are posting the content whatever they are posting and there are let me go to my account. This is my account and if you look at it, the post that I have done here sometime yesterday that I did this post which talks about 1500 registrations for the online course.

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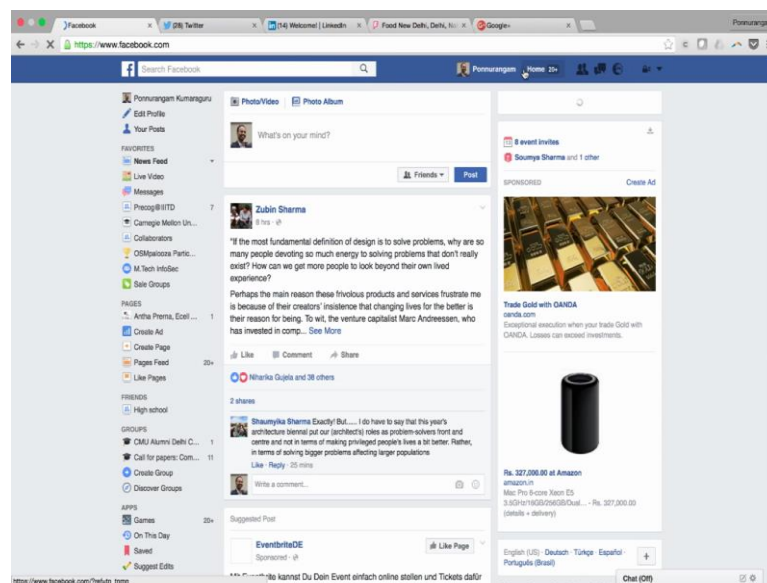
This text that I have posted, I also have an image with it and there are likes for the post, you can actually comment on the post and you can actually share, even though some of these are very basic and kind of just run this quickly, so that we will actually reuse it as we go ahead in the course. So, the basic building blocks are the post that you do, the post can be text, image or video that you can upload, likes, comments and shares and the content that Facebook stores is actually in a graph format, which is it stores all the content that is produced in Facebook in a graph.

As a user, I create some content **as a node** in the graph and then the content that I create is also as nodes **and there are** edges between these **nodes** and the friends, there is other component in the Facebook is actually friends. So, the people that you are connected with and there is an edge between the two users which is the friendship relationship and Facebook is actually a bidirectional network.

What does a bidirectional mean? In this case, if I were to be friends with Amitabh Bachchan, I have to send a request and he has to actually accept it, that is bidirectional.

Which is, there is a relationship between two people, only both of them agree to be friends and I will show you differences in other networks, how is it different? So, that is Facebook and of course, there are many, many other features in Facebook, which I am not going to go in detail. My point here was only to say some basic building blocks which we will actually use it later and there also pages in Facebook, which we will look at later in the course **which is the pages that you are part of, or that you have liked.**

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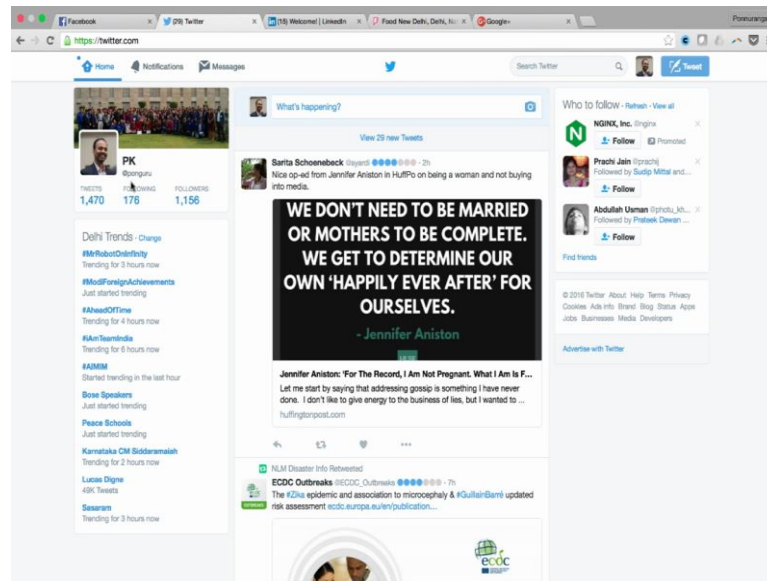


In this case I am part of some pages which is Antara Prerana, which is the entrepreneurship cell at IIT, Delhi.

I am also part of some groups, some groups can be public, and some groups can be private. So, these are the simple things that we will look at later in the course. Again, just to refresh, Facebook, bidirectional, content that are produced here – text, image and video which can be uploaded, likes, comments and shares, pages and groups are the basic building blocks of Facebook. Now, let us go to Twitter.



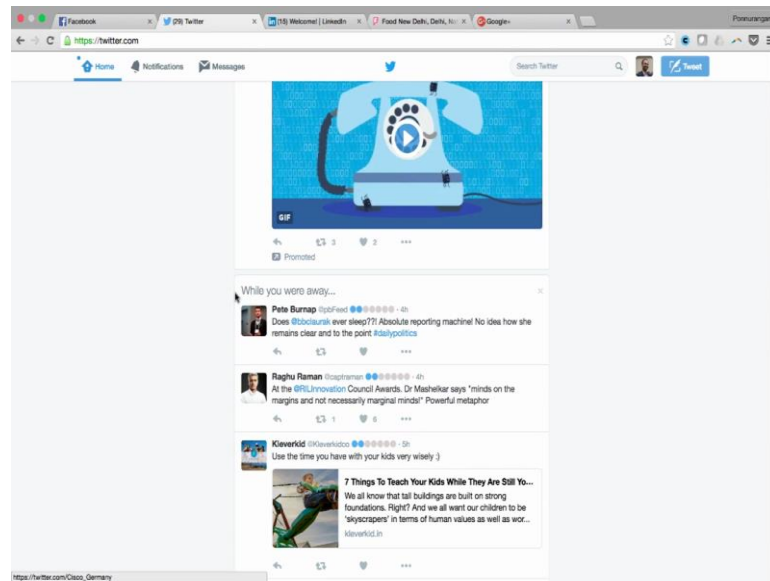
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As I said earlier in my lecture, Twitter is a unidirectional network, which is, I can follow anybody on Twitter. I can follow Amitabh Bachchan. So, I get to know what he is posting and Twitter is a micro blog website, what does that mean? That means the content that is getting generated on Twitter is only 140 characters. It cannot be more than that, whereas in Facebook it can be large text as I showed you when I was going on Facebook.

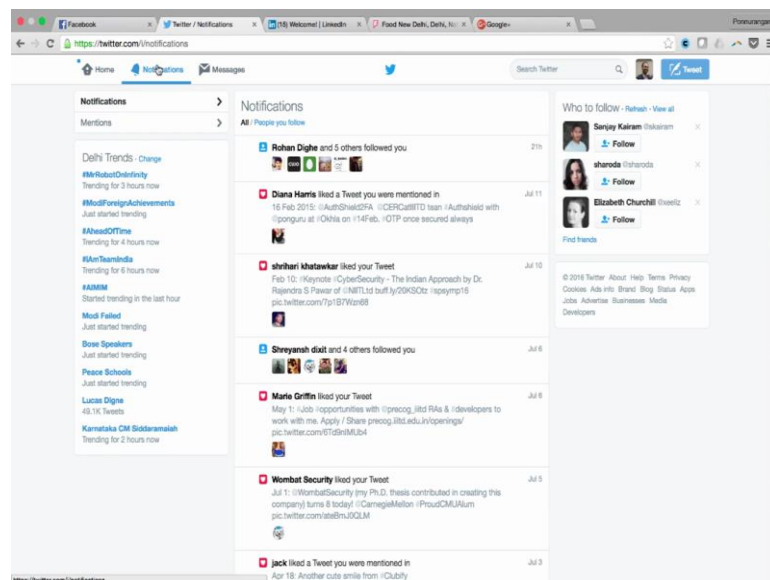
In Facebook, we saw friends. Here it is followers and followings. So, this is my account I have 1156 followers which is people who are following me, when I post a content 1100 people are going to see it, 176, the following, are the people who are actually following, whom I am following. It is if any of these 176 people post a content I am actually going to get that. So I have done until now 1470 tweets, 176 followings, 1156 followers.

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Here, if you see this is my time line, which is post from any of the 176 people and Twitter does a lot of promotional posts also here which shows up and there is also in notifications,

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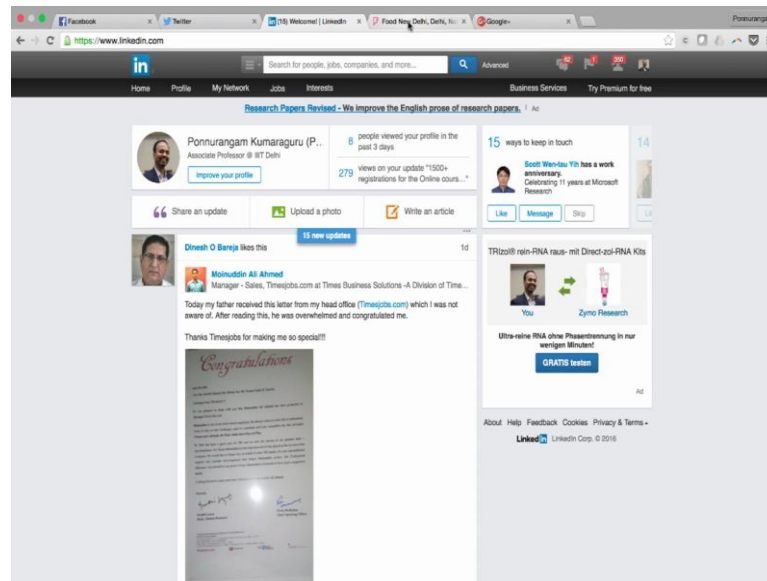
which is basically any activity that you are related with, for example, if your tweet is getting retweeted, liked, or if anybody is actually following you, all of this information shows on notification.

There is also hashtag. You saw one of the posts that I did on Facebook which had hashtag #psomonntel, which is the hashtag I am using for this class also. In case, if anybody in the class is actually posting on social networks, please add hashtag #psomonntel, I actually plan to collect this data and look at this data, how it is being used, if at all you are talking about it on social networks. So, trends; trends is something that Twitter made very popular. Here if you see Delhi trends, I have set it for Delhi you can actually change it for other locations that you may be interested in.

In this case, Mr. RobotOnInfinity, something that is trending now, ModiForeignAchievement and these are all hashtags that are trending, there could be words which are not hashtags also that is trending. Trending is from Delhi. These are the posts; these are the words or the hashtags that are popular as of now. So, that is what trending would be. As we discussed in Facebook, we talked about likes, comments and shares, in the Twitter world it is retweet, which is here, reply, that is here and this is like. Twitter used to have this favorite earlier, but now it is likes.

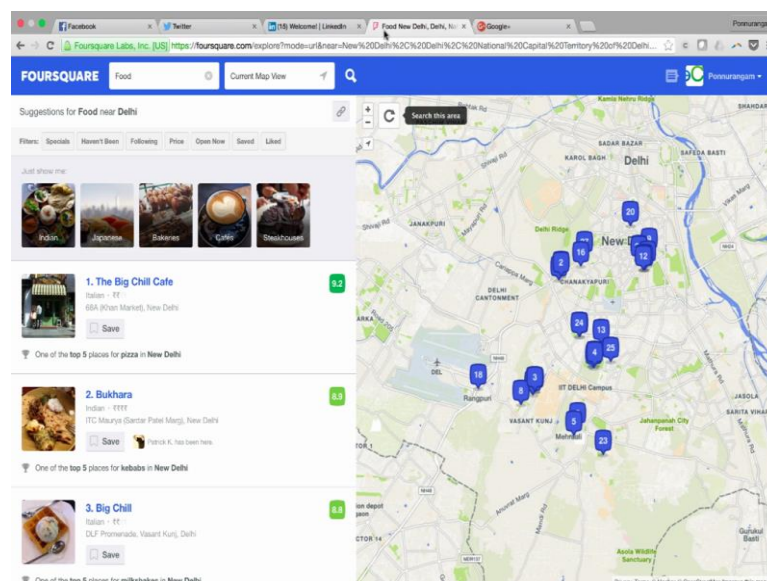
Again I am going through some other basic things, which you will actually look at while collecting data and analyzing. So, Twitter is a unidirectional network, it is a micro blogging site, the interactions that users could have is post a text, image, video links, and things like that. Here, it is reply, retweet and like and also talked about hashtag also. Now, let us look at the third social network. So, first we did Facebook, which is kind of more interactions with friends and it is a combination of many things, type of content. Twitter is micro blogging and now we look at LinkedIn, which is more like professional networks.

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So, this is how LinkedIn looks, LinkedIn basically works on connections. The term here in Facebook, it is friends and Twitter, and it is followers and followings. In LinkedIn it is more likely connections. Here, I mean, you will rarely find people posting on LinkedIn and saying I am having **vacation** in Kerala. So, that is not the kind of post that people will, people here are more serious. They are going to talk about their job activities, they are actually looking **for** people, there lot of recruitments that goes on on LinkedIn these days, right. So, now, let us look at a social network called Foursquare.

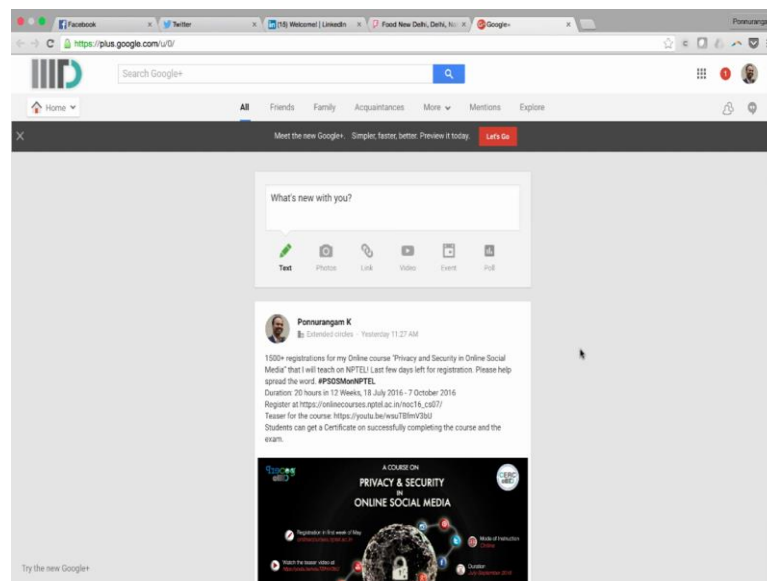
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Foursquare is primarily a location based social network. This network is based on locations. Users go to specific locations and they do something called as check-in. Check-in is the basic function of Foursquare. Check-in like check-in into the hotel, check-in into the airport. When you check in, the Foursquare system understands that you are in that location and your friends get to know that you are in this location. This can be used in multiple ways, for example, for the search that I have now on the screen, which is food in New Delhi and it is showing me some restaurants that I can go **to** with the rating and you can actually check into the restaurant. You can actually give the tip in a location which is saying the food is good and things like that. So, that is the tip that you can leave.

So, that is Foursquare, again, building blocks is location based networks. There **have** also built into this things about commenting, and there is also done in Foursquare also which is like comments in other social networks.

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So, the ones that you are looking at, as I said is only the popular ones that we are looking at Facebook, Twitter and LinkedIn, Foursquare and now this is Google Plus. I did the same post that I showed on Facebook. In Google Plus interestingly they have the friends called as circles. So, you actually add people into your circle and you get added to their circle. So, that is what Google plus is, again, the same things like other networks, you can add text, images, you can add a link to the video, and here it's called +1 this post,

which is similar to likes in Facebook, similar to retweet in Twitter, and again in LinkedIn also it is 'like' a post and you can actually comment in LinkedIn also.

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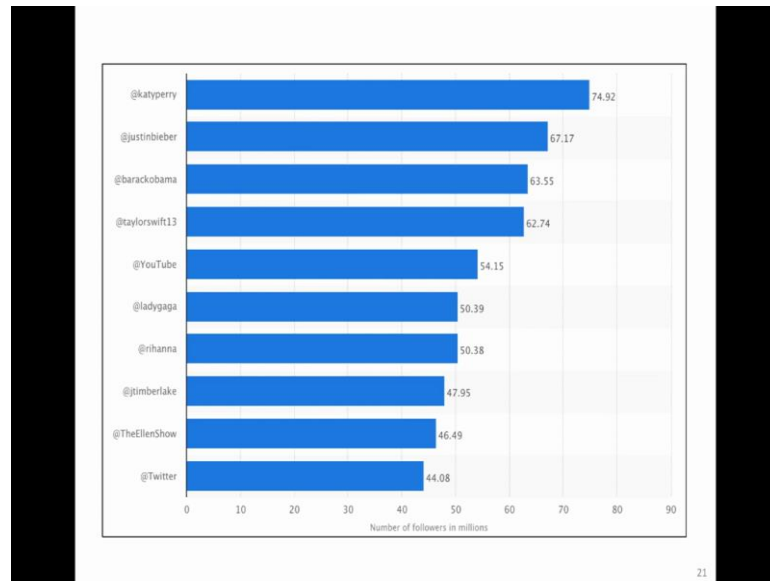
That is what I want to do, actually, talk about different networks. Now, I am actually showing you here in slides, the top 10 popular people on Facebook, interestingly all of them are either sports related people or music related people.

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This is Twitter and number of followers in terms of popular accounts.

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Again, same trend as in Facebook, here you get accounts which are related to sports or in music.

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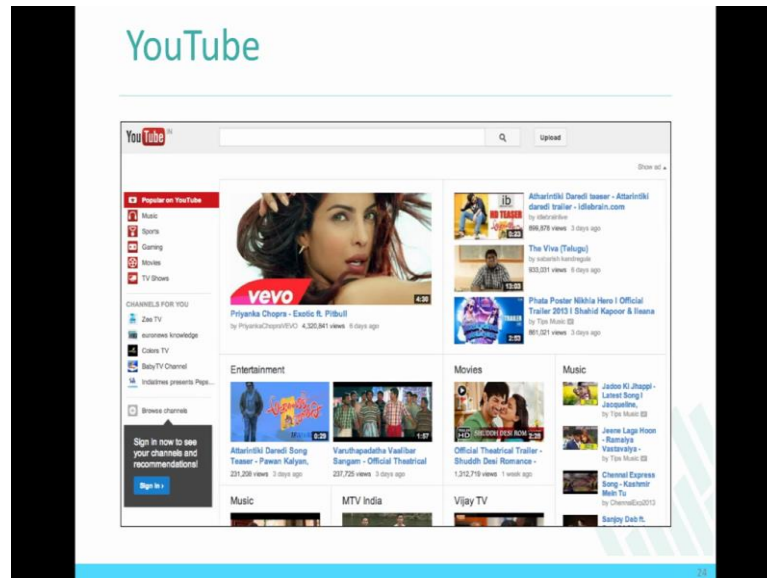


And terminology in terms of Twitter, tweet, retweet, as I said. 'Like', I said, hashtag, I said earlier, replies I said, one thing that I did not say before which is called mention.

Mention is a when you do a post you actually mention a person like going to my, let me go to my Twitter account and this is if I want to do if I want to actually mention the Prime Minister I can actually hashtag narendramodi and do a post. So, this would

basically have a notification to the handle Narendra Modi saying that some post has been done with his handle.

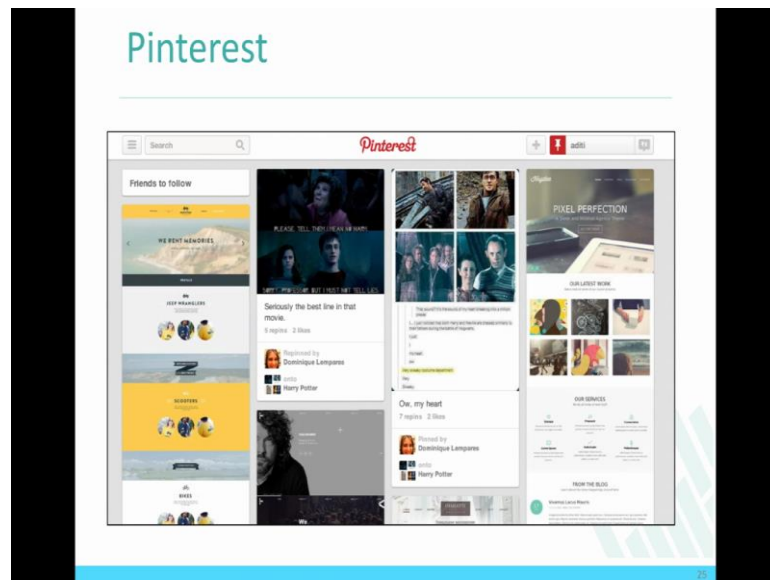
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YouTube is another popular video sharing website. As I said, given that I understand majority of you would have used YouTube, I am not going to do a detailed review of YouTube. Here, again you can do, you can upload a video, you can actually like or share a video. You can create a channel, people can subscribe to your channel, you can report a video as spam or malicious content, and you can actually post comments to the video. So, essentially many things that we've talked about on Facebook can also be done, Facebook and other social networks, can also be done on YouTube.

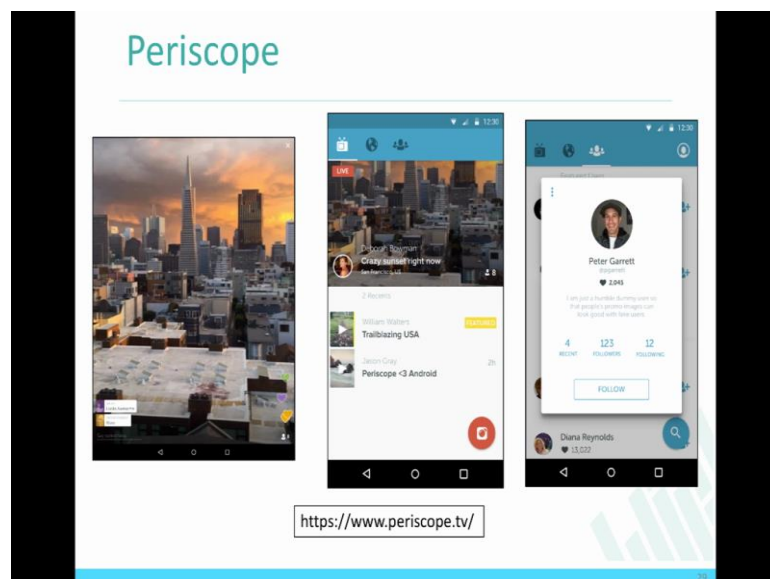


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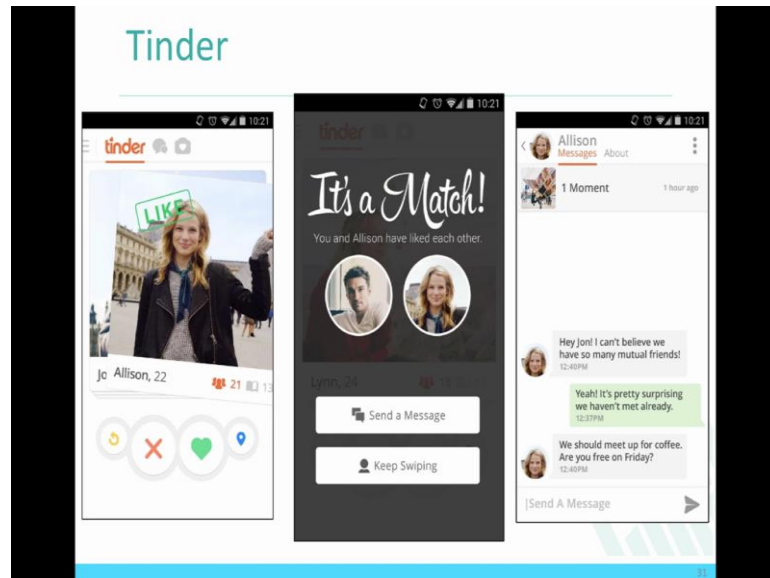
Pinterest is another popular social network, which is one of the most fastest growing social networks, so to say, when it started, which is the **first** one million users came in quickly in Pinterest. So, this, the basic building block of Pinterest is an image, where I actually take a picture, post it in Pinterest, my friends get to see the pictures, and they are all attached to boards. Boards is the basic way by which the images are connected. I already said about LinkedIn, Foursquare, Google Plus, Periscope.

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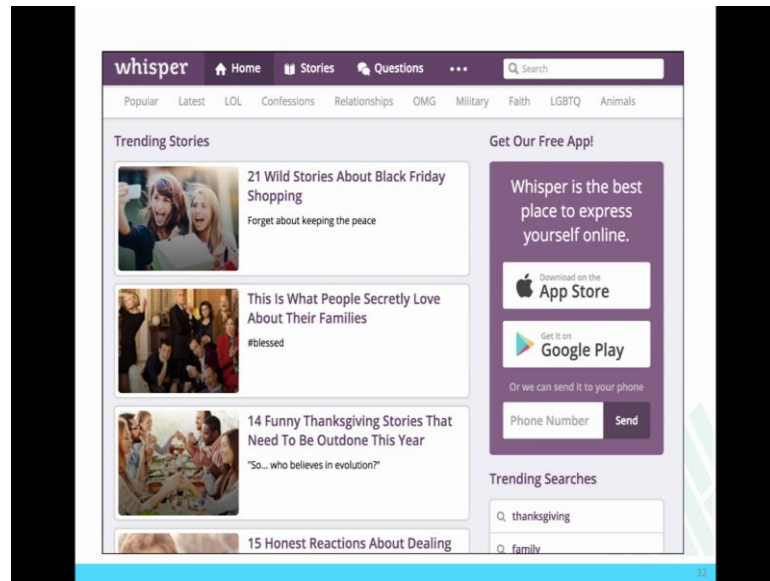
Periscope is another interesting social network, where the basic building block is live streaming of videos. YouTube is more like you upload a video and it gets stored there. Here it is something that is uploaded in real time; it is live. Here is a simple example of Periscope. Here we go, we are up, we are in island, Italian hey guys (Refer Time: 22:23). So, that periscope and now let us look at other popular social network which is Tinder.

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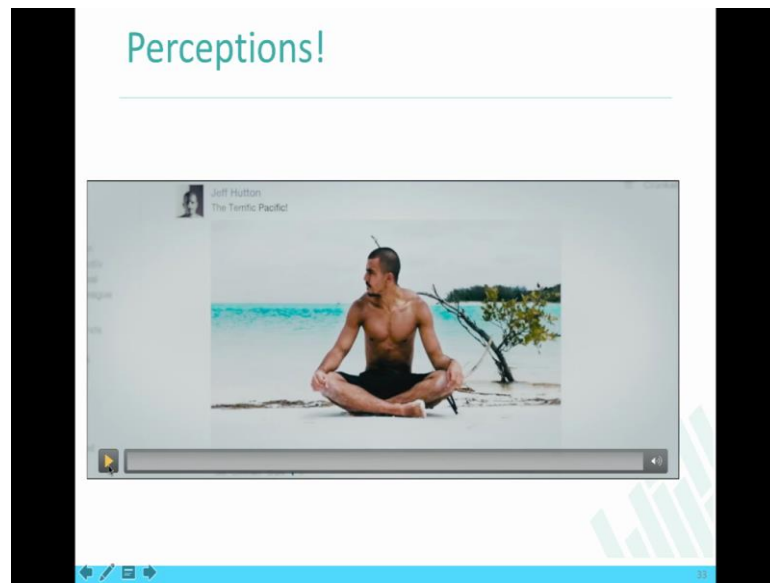
Where it is mostly the left swipe and the right swipe for the activities that people do, which is to connect with people in a particular location, given that, let us take I am travelling to Chennai and I want to find out and meet the people who are in Chennai who are very similar to my profile. I start looking at them on Tinder and I connect with them. That is the basic idea for Tinder. It is one of the very, very popular social networks among the youngsters now.

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Also, if you remember in one of my first two slides, I talked about different types of social networks, which is traditional networks, where I put in Facebook, Twitter, LinkedIn, and all that and then I talked about ephemeral social networks and anonymous social networks. So, Whisper is one of the anonymous social networks where the content that is getting uploaded is actually anonymous, it is hard to find out who has posted it. In the, now when you do it, this is the way that Whisper actually collates and puts the contents; popular, latest, LOL, confessions, relationships, OMG, military and other topics. Here, the idea is that you actually upload a content, but it is actually anonymous post.

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Now let us look at the difference between the reality and the perceptions from the social media, given that we have already discussed about, what social media is? How much of data is getting generated on social media? What are the different popular networks? What are the building blocks of social networks? I thought it would be good time to take a look at this video which actually **conveys** the message, the content that is getting generated on social media, you should not believe them completely, that is, there is a difference between reality, what is happening and the perceptions that you get out of the post that you see.

So, the idea here is that the things that he is posting on Facebook is very different from what he is actually **doing**. You saw that the post that he did about food, you saw that the post that he did about the presentation that it went great, while people were actually sleeping, here is actually posting that he just finished **his run**, whereas he actually going around in his car. So, that is a difference that I wanted to **bring**.