

Online Privacy
Professor Ponnurangam Kumaraguru
Department of Computer Science
International Institute of Information Technology, Hyderabad
Week 1
Online Privacy

Welcome NPTEL students, this is Professor PK from IIIT Hyderabad. I am going to be teaching a course called Online Privacy on NPTEL this semester. Thank you for joining. I am sure you are super excited about taking the class. I am very very excited about teaching this class on NPTEL.

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The slide features a black background with white text. At the top left is the NPTEL logo, and at the top right is the IIIT Hyderabad logo. The title 'Online Privacy' is centered in a white box. Below it, 'Week 1' is written. A box on the left lists the course introduction topics: 'What is Privacy?', 'Why study Privacy?', and 'Fair Information Practices'. A box on the right lists the professor's name and credentials: 'Ponnurangam Kumaraguru ("PK")', '#ProfGiri CS IIIT Hyderabad', 'ACM India Council Member', and 'TEDx & ACM Distinguished Speaker'. At the bottom, there are social media icons for Instagram (@pk.profgiri), LinkedIn (/in/ponguru), Twitter (@ponguru), and Facebook (Ponnurangam.kumaraguru).

This slide is identical to Slide 1, showing the course introduction topics and the professor's credentials for Week 1.

Who am I?

- Assistant Associate Professor of Computer Science
- Ph.D. from School of Computer Science, Carnegie Mellon University (CMU)
- Research interests



So, the content for the week 1 is just getting an introduction of what the course is? What are the content that we are going to see across the semester? Just get a sense of what is privacy?

Why study privacy? I think I am going to get you to watch few sets of videos outside the lecture also to understand why studying privacy is important and we will also look at fair information practices which leads into privacy policies, why privacy policies are written and and topics around that is my goal for week 1.

Let us see how much we cover. It also depends on the kind of content that we are covering as part of week 1 and if any of you are interested in connecting with me on outside just the class material these are my social media handles Insta, LinkedIn, Twitter and Facebook. Feel free to reach out and connect, I generally talk about some of the research work that we do, some on this space of privacy also it may be of interest to you.

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The slide is titled "Who am I?". It features the NPTEL logo on the left and the IIIT Hyderabad logo on the right. The main content is a bulleted list of information about the speaker:

- Assistant Associate Professor of Computer Science
- Ph.D. from School of Computer Science, Carnegie Mellon University (CMU)
- Research interests
 - Social (Societal) Computing
 - PSOSM
 - Computational Social Science
- Courses I teach
 - Privacy and Security in Online Social Media (8), 4+
 - Designing Human Centered Systems (5), 4+
 - Research methods / Advanced research methods (2), 4+
 - Foundations of Computer Security (5), 4+
 - Big Data & Policing (1), 4+

There are red annotations on the slide: a circle around the "25" anniversary graphic, a circle around the "Courses I teach" header, and a circle around the "Privacy and Security in Online Social Media" course entry. A video feed of the speaker is visible in the bottom right corner.

Who am I? As I said I am a faculty at IIIT Hyderabad. The 25 number here is basically this is my 25th semester teaching on campus as a faculty. I have been teaching on NPTEL for about 5, 6 years now. Two courses called Privacy and Security in Online Social Media and another title called Introduction to Human Computer Interaction on NPTEL. I am generally interested in doing computational social science, social computing and anything around social networks gets me excited, I am generally active on social media also, so that is my primary interest.

I teach PSOSM, I teach, I am actually teaching Online Privacy, I have been teaching Online Privacy also and Research Methods is a course that I used to teach sometime back. Foundations of Computer Security, Big Data Policing these are the courses that I have taught and the first number is the number of times I have taught the course and this number is the number that students feel how the course was useful, effective and the rating that they did on the course.

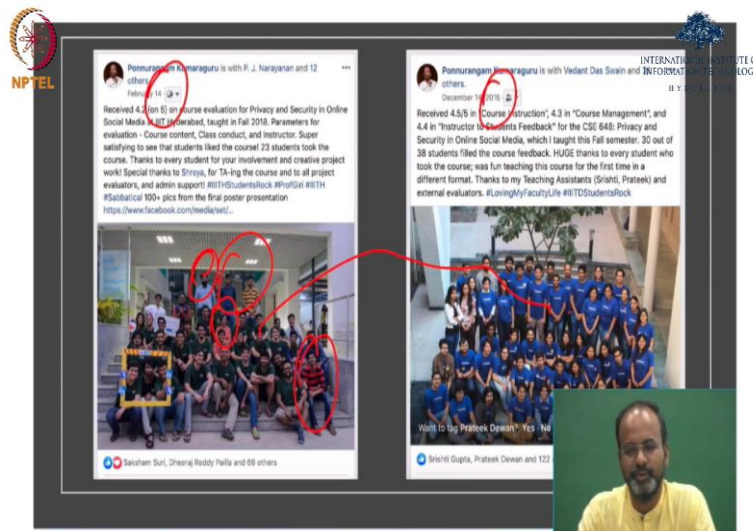
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So, these are flyers that I have made in the past for NPTEL, I am sure some of you have seen the flyer for Online Privacy also, so these are courses that I have taught in different as I said I have been teaching for a few years, so these flyers are coming from many years. I think this was the first one that I made but this is for the HCI and this is for the PSOSM.

At some point in time I was also tracking the number of views on all the YouTube videos that are uploaded for NPTEL, for the course that I have been teaching. I think in about 2018 it crossed about 100,000 I do not know what the numbers are now, but it is always super satisfying to see large number of people consuming the content that we generate as professors and courses that we teach, content that we deliver.

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For those of you who I have taken classes online now I think this is all the courses that you must be doing even regularly is on online but in the physical world if this course I was teaching I would actually have at the end of the semester something like a poster session where projects, students who are doing projects will showcase what they have done and they would discuss the projects with the evaluators either from inside the campus or from outside the campus, and probably even other students from the campus or even outside.

I actually make all this more public and you will also see that there is some coordination of students this is actually of different years this is 2015, I think this is 2021. So, these kinds of activities are actually super helpful to generate student's interest on the topic and they are also sharing what they have done to others on campus and outside.

So, I would highly recommend you to also think of projects ideas that you want to do as part of this course, because I think it helps you to take some idea from the course and apply it in real world and use it do something and do some exciting things and particularly for the topics like privacy which anyways that you are going to be facing in your life in real time. So, keep that in mind I am going to do a plug for thinking of ideas later also, but I think working on some ideas specifically that is picked up from the course is always fun.

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Post Conditions


- List various online privacy (anonymity, behavioral advertising, identity theft, etc.) concerns
- Describe different methodologies used for reducing online privacy concerns





What are the post conditions for the course? The two post conditions for the course is list various online privacy concerns, anonymity, behavioral advertising, identity theft, etc. Describe different methodologies used for reducing online privacy concerns, so what is the idea? The idea is to get a sense of the various privacy aspects which are anonymity, behavioral advertising as I said privacy policies, other topics, I am sure since many of you may be on Facebook and Twitter or WhatsApp, you will also understand what privacy is, there are multiple privacy concerns that you would also have as we go through the course.

Describe different methodologies used for reducing online privacy concerns given that we understand some privacy concerns what are the methods that you can follow, are there tools to use or methods to use should, you actually build technologies for avoiding the problem or should we train the user, should we build user interface solutions, should we make the privacy policies different better, all these kinds of questions is what we will actually address as part of the course. So, my goal for the course and the content that I am going to be putting together for the course will be based on or will be derived from these two points.

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Why study Online Privacy?




INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY
HYDRAABAD



What is Privacy?



INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY
HYDRAABAD



Why study online privacy? So, I did a simple google search for online privacy while I was putting these slides together, I am pretty sure you can do the same thing right now. Stop the video go to a search for online privacy right now and go to the tab and google call news and you will see how many articles have been written on the topic of online privacy, how recent it is also at least when I looked at it so for example this one says four days ago. Four days ago, also seems to be a little little longer but I am sure you will find something more recent than four days ago. Just to show that the topic is very relevant and very around us always.

Pause the video right now and think about what is privacy for you, what are the words that comes to your mind when I say the word privacy? Just think about some words and I would recommend you to post it on the mailing list in the class you must be already part of a

mailing list in the class, so please post all the words that you think of the word privacy and keep the subject line as what is privacy and post it in the class. I will be active on the mailing list and I will also be getting some teaching assistants who will be active on the mailing list.

So, it will be fun to actually talk about these kinds of topics there, so please share the words that you think of privacy. For example, when I think of privacy I can think of Facebook or my web browsing history, or my health records, books that I read, all of these as of now I can think of what are the words that are coming to my mind as I think of the word privacy. So, I would like to know what you think of the word privacy.

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What is Online Privacy?



*FB
web browsing
Health records
Books that I read*



What is Online Privacy?



Now, that the first exercise is done, let us keep it as what is privacy. Next one pause the video and think of online privacy some of words probably must have overlapped here, some of the

concepts Facebook probably is online, this is probably online, these two does not look like online privacy.

So, think of two think of a couple of topics around online privacy and share it on the mailing list again with the subject line what is online privacy for you, and just keep a watch on what others are saying on the mailing list also I think learning also happens not just only absorbing the content that we are generating in the videos but I think being part of the mailing list, being part of the discussion that goes on among the students that in the class also are a great way to learn.

I would also like, I mean depending on the demand I have done this in the past I will be happy to do so to say one-to-many discussion on the topic of the students in the class on let us take a call, on a meet call or zoom call or something like that we can actually do a session where all of us on the call discuss about the content, discuss about the topic, because I think it is it is absolutely necessary for the learning so we can actually do that kind of a session and for people in Hyderabad if you are taking the class and if you want to actually stop by campus sometime I would be more than happy to actually chat with you too, feel free to let me know as we progress in the semester think of actually stopping by the campus if you want we can chat.

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Pedagogy



- Learning

- Lectures
- Reading research papers (Videos)
- Online discussion: Mailing list

- Learning by doing

- Highly recommend taking up some ideas during the semester and trying it out
- Some of the best students can come and work with me later / internship / project



TAs



So, what are the things that we will actually cover, how the content will be covered in the class is of course lectures I will get you to read research papers, I will also make you to watch videos and those are the ways by which we will actually give you the content of the course and mainly the discussion will be on mailing list, which is on the NPTEL platform.

This is not as part of your evaluation for the course, the course is based on the content that we have in the class, the papers and the videos and I am getting you to watch, will have questions around it as a quiz, you answer them you get some marks, finally you have an exam you write the exam you get some marks and then that is it done.

That is the required part of the course I am going to propose that you do something beyond, that consider some ideas because I think some of the students who are taking this NPTEL class are super smart, you can go much much beyond the just the course content that we are covering. If you are some of them who are interested in it please do it take up some ideas, I will be happy to actually interact with you as part of the course itself to take it further, I think NPTEL also has some mechanism by which some of the good students in the class can actually come and do internships with the faculty. So, I am happy to explore that too. We will announce the teaching assistants as the semester, as the course starts and as we get closer to the content.

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The slide features the NPTEL logo on the top left and the International Institute of Information Technology Hyderabad logo on the top right. The main content is a list of topics under the heading "Topics to cover". A red box highlights the first six items. Handwritten red text includes "Strava" pointing to "Image & Location privacy", "AOL" pointing to "Data anonymity", and "NETFLIX" pointing to "User behaviour & Usable privacy". The word "Bill" in the seventh item is circled in red. A small video inset of a man in a yellow shirt is visible in the bottom right corner of the slide area.

- Definition & forms of Privacy
- Privacy Attitudes & Awareness
- Social Media Privacy
- Data anonymity
- Image & Location privacy
- User behaviour & Usable privacy
- Ethics around studying privacy
- Aadhaar, NATGRID, PDP Bill / Sri Krishna commission re
- Non Personal Data

Here are the topics I will spend a little bit more time on the slide, which is to the topics that we will cover as part of this course. First definitions and forms of privacy, what is privacy the things that I asked you to think about, we will also discuss about some formal definitions of privacy, some different forms of privacy, also how people in the past have thought about the word privacy, what are the theoretical concepts around the word privacy. Then we will look at privacy attitudes and awareness meaning pretty sure what do you think of privacy is not the same as what your parents think about privacy.

I am sure you have your Instagram protected account or a private account, why? Why do you have it as protected than private account compared to some of your friends who may have it as a public account, for example I have my Insta account public. So, why you and me different that is one aspect of attitudes and awareness, the other aspect is you yourself may be very different in thinking of privacy in different contexts, which is for you to take the class right now think and listening to this class let us take you may be at home listening to this class versus you go to a mall, what is your privacy versus you go to a theater, what is your private versus you go to a relative's place, what is the expectation of privacy they all change depending on the context that you are in.

They are all change depending on what you want from that context and situation, so that is what is about attitudes and awareness. So, it will be fun to study how you think about privacy also. Then the whole social media privacy will cover which is about what Facebook settings, what is Facebook privacy policies, how does it work against other companies or what are the kinds of studies that have been done on Facebook, on Twitter on privacy, any other social

media I am just using, so please replace every time I say Facebook or Twitter just replace it with any social network that you want to replace it with.

So, that is what we will do, social media privacy is all about understanding the privacy topic around the social media platforms. A little bit of data on already which is okay now I want to share, so you have data or you run a company, you run an analytics company and a healthcare provider, hospital wants to do some analytics on the data that they are getting that the patients are coming and what kind of surgeries that they have done all that data they have, but they want to do some analytics around it to make their policies and systems better.

What kind of analytics should they do and they do not have the expertise, so they would actually come to you who are running a startup on an analytics platform to get advice from you. So, how much data can they share, what should they share, can you actually come up with mechanisms why would they share some parts of the data or not all data and give you the data and still you are able to.

But the influences that you are providing should be useful for them, that is where the data anonymity idea comes in. How much should anonymize, what method to anonymize the data, so that hospital gets what they want, but they do not actually leak the information or give the information about patients that they have come to their hospital to the data analytics company, so the data analytics company actually can misuse it that is the idea.

We will also see some interesting incidences that has happened in the past which is like there was an incident of AOL sharing the search queries and how people de-anonymize data, there was another Netflix challenge that was there for recommendation system and for what movies to recommend and researchers actually use that to de-identify users from that data.

So, this kind of things also happen what has happened in the past, how people reacted to it, what techniques can you actually build on top of it is what we will see that. Image and location privacy is about, so all of us upload pictures on social media, all of us use social media platforms to say where we are, take pictures in front of let us take cricket match, in front of Taj Mahal, in front of historic locations and post it on social media and actually sometimes even tag the location.

Even without tagging what can be done can you? Can somebody actually pull all this, download all these images that you uploaded and actually see what is your home location. There is a social network called Strava, which some of you may know which is to use for

people who bike or run or walk do use the Strava to say how much kilometers are they doing, what path are they taking, all of that can you actually use that to figure out what is the home location of this person. That is the kind of topics that we will study in the image and location privacy.

User behavior and usable privacy is about how people, what are the user side of the questions, for example what are the privacy settings that people have, what makes people to change the privacy settings, and there is also one another study that we will look at which is to they used to actually create nudges for to change user behavior, like for example when you try to post something it actually stops you to say that what you are going to post is actually going to be visible to a lot more people.

So, do you really want to post it or it will stop you for saying I am giving you 10 seconds if you want to fix the post, please fix it or to look at sentiment of the content, let us take you in the heat of the movement you are pushing some content and this nudge would actually stop you to say that wait this it looks like this is very negative, do you really want to post it? That kind of a nudge.

These kinds of techniques have been developed in the past to have to change the user behavior, what has worth, what does not worth, what do we what can we learn from it is what we will see in this. Ethics around studying privacy, privacy by itself is an interesting topic and now more and more now this idea of ethically doing all these studies have become also interesting for students to know where is the line that you should be drawing, which is can you actually take pictures going around in campus saying I am doing actually a privacy study, privacy course can I just take some pictures generally of people in the campus and use it for face recognition and and re-identify people in the campus and things like that.

So, those things where do you draw the line, but can you actually push people taking their information from social networks, phish them as though it is coming from one of your friends one of their friends and then do some study, so understanding what is the ethical aspect of it, what are the problems that have happened in the past, why ethics is very relevant in studying in the context of privacy, is what we will cover.

Then we will actually look at the government aspect a little bit of legal regulation aspect of privacy which is what are the discussions that has happened in Aadhar, NATGRID, now the PDP bill, Personal Data Protection bill, Shri Krishna committee's report we will see actually what is going on in those discussion on this topic, it is actually very exciting because a PDP

bill has been around for some years and it has gone through lots of modifications in the past feedback from public have changed some of the aspects of the the bill also.

Last, we will see about non-personal data, so this is the word personal data, generally when when privacy topic is talked about it is about this personal data. my cell number, my home home address all of that, but there is becoming a more and more necessity for also to study the non-personal data of non-personal data, which is non-personal data example could be the Uber trip from home to the airport, let us take.

Uber knows that you are taking this trip, but can that information that as of now from IIIT Hyderabad to Hyderabad Airport there are n number of Uber cabs cars on the road with customers. Can that information be given to somebody so that they can actually make a choice of how the signal should operate on the road?

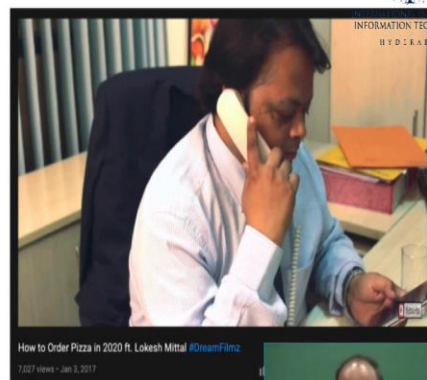
So, things like that can, so using non-personal information for actually business is also becoming interesting. So, I will actually share about a non-personal data report that has been generated and we can talk about what all is in the report and how how this topic of non-personal is also becoming interesting to study. That is what the content that I will be covering and I am sure be given the topic as and when some interesting things happen as the semester progresses we can actually start covering it, we can start covering it or have discussion in the class, all of that can happen as we progress in the semester. So, those are the topics that we will cover as part of this semester for the course. If you find anything interesting that you want to cover let me know.

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Activity #1

- Watch the full video on YouTube (Mandatory)
- Please do not move ahead without watching the video



<https://youtu.be/vAXPzUrqBnI>



Before we move further in the content what I would request you to do now is to actually stop the video, go take a look at this video on YouTube which I think is about 5 minutes or 6 minutes. Watch the full video on the YouTube I think this is required and wherever you see this mandatory please consider that it is necessary for you to do. Pause the video go watch the video and then come back, watch the video, read the paper take a look at the document and all of that and then come back, which will make your learning much much better, that is the idea here. Watch this video and come back.

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What did we get out of the video?



- 3rd parties can / does have information about us
- Information about us can be used for making suggestions
- Access to information may be ok, how it is getting used it the question
- Do not try ordering Pizza :-)



I am assuming by now you should have watched the video, so what did you get out of the video, interesting again I would request you to again post these things on mailing list that what you are finding, so interesting observations that I have had when I have taught this in the past is that students actually get amazed about some things that are happening. I think it is some things we probably know, some things are evident that it is probably happening, but when it is actually put in black and white there is this understanding of topics which comes.

So, that I would like to see that happening in the class for you or at least would know if it is happening. So, what are the important things that came out of this video? Third parties can or does have access to information about us, in this video you would have seen the customer service is actually saying that or you what pizza should I recommend?

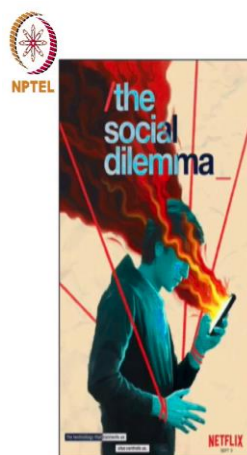
The recommendation of the pizza is dependent on his health records and then when he is trying to actually say that I can be pay by card there is the reaction saying that look you probably do not have the limits all that, so all that level of information is available to a customer service of a pizzar delivery. Can be used for making suggestions, which is probably

the pizza recommendations that was made, flat pizza you should add no, although do not have cheese in it, we cannot give you coke, because your dietary restrictions are there all that.

Access to information may be okay, so meaning if you think about it the pizza delivery, a pizza company having access to this information itself is a problem questionable, but if they start making decisions like what they are doing now as in the video that you will actually deny you giving this type of pizza that you want to eat, may be actually a concern.

I do not know how many if you are thinking about not ordering pizza anymore, or actually having a conversation with people when you are ordering pizza probably these days we do not order by calling on phone we probably do it on Swiggy or Zomato. So, therefore this interaction with the customer service may not be there but I am guessing that you would have realized the connection, even in Swiggy and Zomato you would realize the recommendations that they are making is kind of embedded in this video. In this video the customer service whatever that human being is saying, customer service operator is saying can be replaced by an algorithm very easily.

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<https://youtu.be/uaaC57tcci0>



Activity #2

- Watch the trailer on YouTube [Mandatory]
- Watch the full documentary on Netflix [Optional]
- Please do not move ahead without watching the trailer / documentary





Next, so again pause the video, so first week probably given that I would like you to get introduced to the topic, we will get you to watch some of these videos before moving forward. Activity 2 which is again, use some of this activity 1, activity 2 watching the video or what is privacy, what is online privacy in the subject line, so that the discussion in the mailing list also is interesting. If you feel comfortable just do only one email with all of this also that is okay.

Watch the trailer on YouTube for the social dilemma, I would also like to know if you have already watched the complete documentary, but YouTube trailer is mandatory because I think it is not paid so you should be able to see, but documentary if you have a Netflix account you should be able to see it, even if you do not have Netflix account please connect with some of your friends who may have a Netflix account and watch it.


It is an amazing documentary which will just give you an insight of what all is possible, what all is going on I think it is a fabulous video. Unfortunately, as part of the course I can only point you to go watch it separately. Stop the video now and please do not watch the rest of this lecture video without watching the trailer or the full documentary. I highly highly recommend the full documentary.

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What did we get out of the video?

- Networks have both good and bad effects
- "If you are paying for the product, you are the product"
- "Change in your behavior"
- These can destabilize the fabric of the society
- You may have understood how Ads & News are presented in your feed
- Echo-chambers
- EULA – Agree :-)




Phone
↓
notifications



What did we get out of the video?

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Phone
↓
notifications

End Users License Agreement

Now, that you have watched, I am assuming that you must have watched the video by now, if you watch the video some interesting things that came out of this documentary. It talks about these kinds of social platforms have both good and bad effects. So, I think it does nicely the recommendations, it does nicely connections with friends, I do not have to actually write any more letters to friends, I do not have to tell people that I am actually in Delhi now, I just have to do a Facebook post on all my friends or a tweet all my friends on Facebook, Twitter LinkedIn everybody gets to know that I am on Delhi.

You do not have to actually make a phone call to your friend or send an SMS or something like that or put it on a WhatsApp group that you have of your friends. It is much easier for us to do some of these things, some nice ideas that came out of this documentary is also if you are paying for the product, you are the product. So, in this case while using the social media we are the product itself because the recommendations are designed using the behavior of ours and we are presented without recommendations by which the platforms are actually making money. By the clicks that you make on these recommendations, by the products that you buy from these social platforms is what these companies are making money from.

Change in your behavior, I am sure you would realize how much social platforms have changed your behavior for example how many people wake up in the morning and look at the phone for notifications, these notifications can be different you can argue that I am looking for a WhatsApp notification versus SMS notification all that but when you do a post let us take a few hours before you did an Insta post you were constantly looking at the Insta post to see how many likes you have gotten, what comments that people have shared on it that is the change in your user behavior.

The platforms is engaging you so much that your behavior has changed in terms of, I mean just think about even WhatsApp, behavior of your parents, behavior of groups that you will get messages of good morning and if it is a festival, how many people are actually doing the post about celebrations or thank you messages for something, wishes all that you can argue that it was there in the past, but the behavior of sending it to hundreds of people it was not never before. We never called 100 people for Diwali and said that Happy Diwali!

These can destabilize the fabric of the society, these meaning here these is referring to the activities that was shown in the documentary, which talked about how user behavior the boy in the video actually goes to a event at least he is been manipulated so that he goes to that event. So, which is what the point here is can destabilize the fabric of the society and there

are numerous number of examples we can talk about it later in the class about how social media is actually getting farmers protest recently in Delhi is one great example, where social media was involved in elections, social media is playing such a huge role in elections.

So, all of this is critical where social media is playing a big role that is what our documentary is talking about. Interestingly this documentary also is very powerful is because the people who are speaking there are the people who actually developed all this at some point in time that is the very very strong point about this video is that the people who are saying that look how these technologies are being used today, what it is being used for was not the way that it was conceived, which is I think very frequently we hear about networks like Facebook, because it was developed for people to connect all of that, it was never designed for fake news.

So, to say propagation, it was never designed for election, misinformation and then destabilizing the election all of that, election outcomes so to say, Cambridge analytica a kind of a topic. Echo chambers, echo chambers is another topic that comes out of this documentary which is, echo chambers or topic where it is, why is it echo chambers?

So, people who were connect for example I connect with people who play let us take tennis together on a network or political affiliation is even more stronger or of my ideology then we are going to keep talking to people only who are like me, and the content that we are seeing is also from people like me. So, that is what the chambers are getting created and the echoes are going just between people who are at the same time and that is so much happening on social platforms.

This EULA stands for End User's License Agreement, one of the things that comes in the documentary, but it is also actually very relevant and it is been happening in our user behavior also which we will see later part of the semester that how many of you downloaded an app in the last, let us take a month or 6 months on your phone while installing how many of you actually either skimmed through the end user's license agreement or read the end user's license agreement before you click the button agree? Not much, we do not do that very common, unless you are involved in writing the EULA and making it very appropriate we do not read it.

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Activity #3

- Watch the trailer on YouTube [Mandatory]
- Watch the full documentary on Netflix [Optional]
- Please do not move ahead without watching the trailer / documentary



<https://youtu.be/iX8GxLP1FHo>



Here is again here is the activity 3 for you to look at. Again, I just briefly mentioned about Cambridge analytica which is what we will see in this video. This is a trailer again I am guessing that some of you may have watched this documentary before about the Great Hack, please go watch the Great Hack trailer and if it is possible please watch the full documentary on Netflix. Stop the video here and and do watch the YouTube trailer and Netflix documentary if possible and then come back to this lecture.

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What did we get out of the video?

- How users were polarised
- "we only need to manipulate swing states"



I assume you would have seen the trailer or the video now, the super important thing about this Cambridge analytica experience is that how users were polarized. The idea about look let me go study the people on Facebook and then see how they behave, what inclination do they

have towards political parties, understand people on who are on the middle, who not yet decide or on which side to go and just target them for presenting information and using that you kind of move people this side or that side.

So, that is like I think this happened like 2015 or something and after that viewers... meaning I am for a second just reflect on things that you are seeing around, where this polarization is playing a role on the things that we do. So, that is the the second quote is from the documentary itself which is talking about mainly the swing states, which is where the decisions are, where at least the Facebook users have not decided on which political party they are favoring, so we only need to manipulate the swing states.