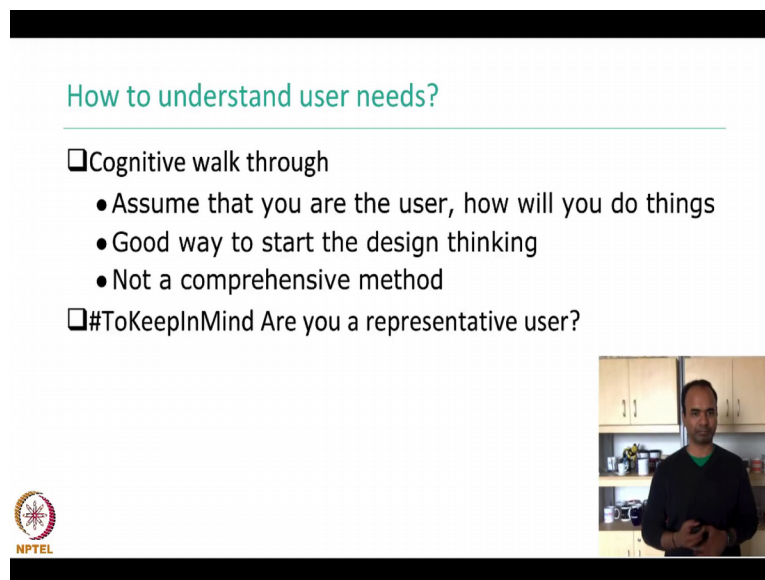**Introduction to Human Computer Interaction**
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Indian Institute of Technology, Madras

Lecture - 11
How to understand user needs? Surveys, Questionnaire

Welcome back to the course. This is week 4 on Human Computer Interaction. I hope you are having fun in terms of learning new content, new concepts through this course. I could also try as I said in the first lecture; this course is heavily dependent on things that you want to try beyond this lecture. So, video is ethnicity and listening how you are actually trying. Hope you are actually also able to learn from the process of fine things and that is why we have also kept this lab kind of sessions every week where you are also getting hands on experience, hands on tutorial on different tools, different methods and different techniques. We will continue doing that ah. Let me show you what I have for today.

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The first topic that I have already covered is actually how to understand user means, right. So, because meaning the topics that we have seen until now, contextual inquiry think aloud that we will be seeing very soon all of it is actually driven by what users want the goal is for us as a designer, for us as an administrator for collecting this data, for us as a researcher. You want to know what user needs are. That is the first fundamental

question that we have to ask. So, there are many methods that can be used for collecting data about what is this one. I am going to talk about few of the methods today.

The first one is called cognitive walkthrough. So, cognitive walkthrough is a method in which you as a administrator, you as a researcher, you as a designer what you going to do is, you going to think that I am a user. Now, what do I do in a given situation for example, again I will take a simple example of you saying designing here a remote for the slide changer. If I were to design this, if I were to make a better design or if the company that I worked for or if my customer who is actually paying me to do this has asked me to do a new design for this remote and the I will think of myself as a user and I will actually think a lot about the actions that I will do, right as a user.

I am trying to open where the battery is and I see that there is also usb dongle that I were to put it inside the laptop or the machine where I can control the slides and there are some buttons here to change slides ahead, slide backward and things like that. As I usually think, again let us go back to the example of uber. As a user you would think you have seen the app, what all decisions you can make, how we are looking at it, what things are you considering while making the decision that is the cognitive walkthrough methodology.

So, here what you are doing, you are actually behaving actually or the user and trying to collect the data about how a user will react and in the process, you are actually finding out what the user needs after because when you are explaining, you would say that oh another thing that I want to do is, when I am giving talk or a lecture, I want to actually point to some parts of the slide and I want a pointer to this. So, you can actually say that oh there should be a pointer; there as a user I would need a pointer in the slide changer.
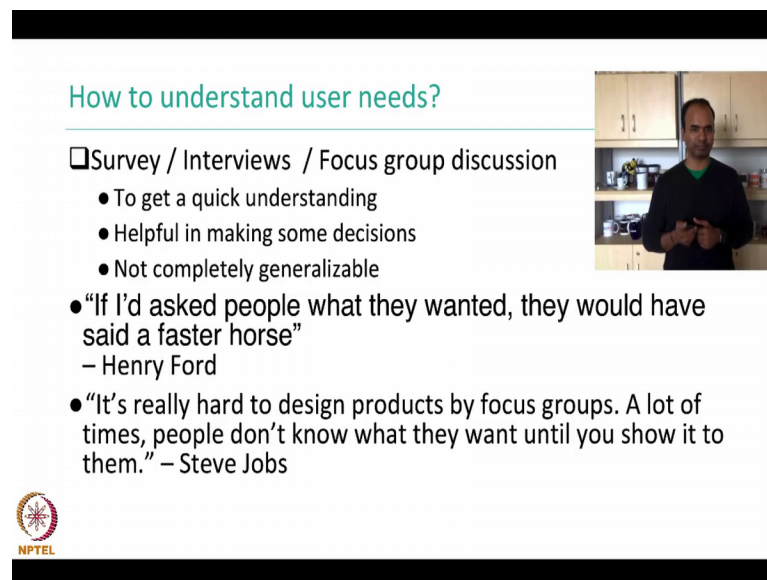
So, this is a good way to start the design thinking, right because you can actually say that you go, uber happens there I want to actually look at what the rating of the users are oh. I want to know whether I want to take this cab up. It looks like the driver may be shady. So, I want to actually cancel it or you spoke on the phone with the driver and he did not have a good opinion about the user. He asked you for when the drop off is before you actually started speaking to him and things like that, you want to cancel. That should be easier way to cancel the booking without having any after effects of it, all right. So, that is the user need and that user need is getting converted into a action converted into a

thought process for you as a user when you are doing a cognitive walkthrough and you are actually explaining it explicitly or think aloud which can be captured to build the user needs.

I hope that is getting cleared about what a cognitive walkthrough is and not a comprehensive method, right because your first of all I mean I think later would be the course will I also see about why considering yourself as a user is actually wrong because you are not the real user, you are not the representative of the user body that you want to study also, right. Let us say if you want to build an app which is for the cab service like uber ah, as a user if they want to do that I actually do not use uber so much. So, therefore, it may not be representative of the user body that I am going to study or for whom I am building if I were to play the role of a user, fine. So, that is why it is a hashtag to keep a mind that are you real representative the user.

So, that is basic about how to understand users. We will actually get into this more and more detail and the first method is cognitive walk through.

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Here are the other methods that we can use. I will go through each of these methods in slightly details which is to give you a sense of what are the different ways that you can actually collect data. Until now in the course, we have not collected a lot of data. If we have done this context inquiry which is asking users how to how they would actually

behave in a particular situation, but there are more structured, more unstructured ways of actually collecting data also.

Well, the three things that I will talk about and give you some details is in the slides. How do I actually go about doing these surveys interviews and focus group discussions and they go on following up on the cognitive walkthroughs to get a quick understanding of the problem of the situation that you are trying to study? It may be helpful in making some decisions and it is definitely not generalizable to many situations ah. None of these methods are going to be comprehensive in terms of actually collecting data. So, some parts of topics that I will not cover on this course is like sampling of subjects, right.

Sampling of subjects which is how do you go find which subjects to study, right how do you pick the user, all of that ah. Something I will not study ah, I will not talk about in this course ah, but quickly you want to be making sure that the users that you are going to collect, the users that you are going to study or some representative of the broader users that or broader population that you want to study ah, but it is actually hard, right. There are convenient sampling that are stratified sampling, there are many methods to do ah, design how to sample the user sample, the subjects from the population, but it is actually harder problem given a particular context that you want to study.

You know two interesting course that I like one is if I would ask people that people what they wanted. They would have said a faster horse. Well that was said by Henry Ford. Then, he was asked about why you will take this car, right? So, basically when you, the criticism or the way to look at this, look at the next code also it is really hard to design products by focus groups. A lot of times people do not know what they want until you show over to that both are actually of the same philosophy that is if you ask users what they want. Generally what they are going to tell you is probably not be great use, but if you show them something and ask them.

Now this is what I want you to give me feedback on, people tend to be being more constructive, people tend to be more giving inputs which already useful. So, just keep this in mind. We will look at these different methods as we proceed in the lecture.

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Interviews

❑ Next to Cognitive walk through
❑ Limited number of participants
❑ Narrow down the scope of options / directions

So, let us look at first interviews. I am also walking you through the topics in the order that I think works out very interviews next to the cognitive walk through. What is this? This is basically getting some set of users from your sample, from your population to study on the topic that you are interested in which is let us take building, next food rating app or a food service app. In this interview method, you generally have a limited number of participants because they are getting only like few users into the lab or you are going to the place and collecting some data from the users and just helps interviews are not generally going, you are not going to do interviews with like 400 people.

You are probably going to do interviews with like 10 people, right. So, therefore, the scope of this interview or the outcomes of these interviews will help you to narrow down the scope of the options or the directions, right. So, that is the reason why you want to do interviews and interviews can actually will help you to find out things that you would not know because when you are sitting and speaking with people, people are going to give, users are going to give you a lot of inputs which we may or may not be something that you thought about the form.

So, therefore an interview is an important method for collecting data from users.

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Focus Group Discussions

❑ Similar to Interviews, 8 – 10 participants together
❑ Helps in narrowing down further with arguments back and forth

Focus group discussions. Focus group discussions are also important is that it is the next level from the interviews, interviewers. During an interview with one person in focus group discussion, I am going to do this discussion with less than 8 to 10 participant and it is usually suggested that you want to keep the participants to 8 to 10 because otherwise that when you can do a focus group discussion of 20 people, that is not going to be very productive in that sense.

So, what does this focus group discussion FGD? So, to say helps FGD helps you to narrow down more from the conclusions that you got from interviews because what is going to happen, just think about this, right. Methodologically think about how it is working first. I want to do a design, I want to develop something I started doing my cognitive walkthrough which is me as a user I am trying to speak about what is going to happen on inputs from the user. Then, next I do interviews, I am going to get speak with one by one the participant.
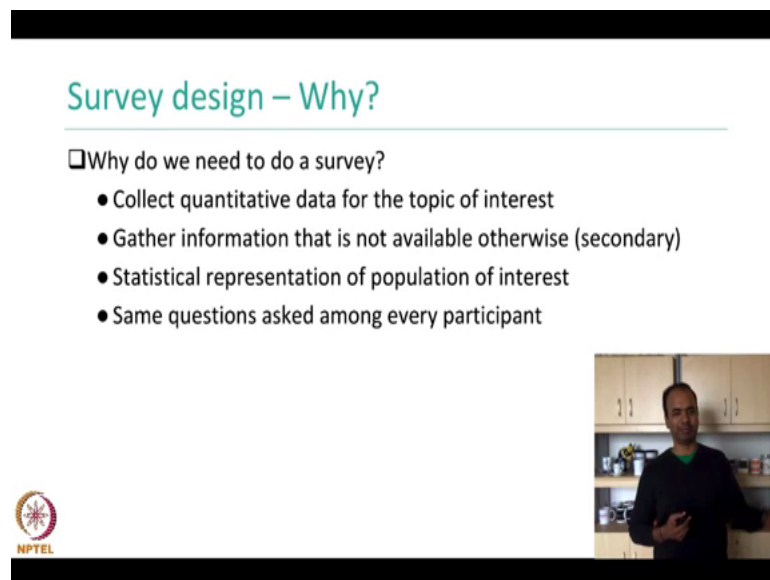
Now, I am putting 10 people to 10 different people, not the same set of people. 10 different people into a room and speaking about the inputs from them. Advantages of doing focus room is that let us take that is a person saying a view, there is another person who make compliment or contradict and have discussion through this process. You will end up actually learning; what are a set of users that you are interested in, have in mind in terms of developing the user needs. Again the code for this lecture or this week is to find out what users need help ah. Again helps in, FGD helps in narrow down further with the arguments back and forth between the users and it has some question that I will give

you for. FGD you want to be careful about some users not taking away the discussion in one direction, right. They will hijack the discussion into a view that they are interested in or be you that they think is the right view.

So, you want to be very careful when such things happen. That is when a moderator as an administrator or researcher review inside the room should be able to actually control the discussion and bring it back to the questions that you are interested in answering. So, that is one key thing that you want to keep in mind and focus group discussions is that the moderator should be able to bring back the discussion, bring back the conversation into the topics that you are interested in.

Finally, the questions that you have because again you will not want to spend the focus group discussion for like 4 hours. It is like you are going to probably spend an hour or and half probably maximum 2 hours. So, you want to get everything that you want from the set of users by asking the questions by making sure that the conversation goes in the direction that you are interested in.

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The next thing and the potentially the last thing in this line of thinking is the survey design survey. So, why should you actually to a survey? Why surveys are important because if you really look at it, cognitive walk through mean interviews set of people focused group discussion still a set of peoples. So, I am yet to figure out what a large set of population, large set of users actually think about the design, think about the way that

I wanted to design, think about user needs. Basically I still do not know what a large set of users' needs are. That is why I mean survey design.

So, it basically collects quantitative data for a topic of interest. It will help you to say 64 percent of 600 people that we studied said this whereas, in the interview and focused group discussion, all of it you can see if that 60 percent of the people that we interviewed said this, but that is it is only 6 people. If every to be 10 people and other way in the interviews and focused group discussions ah, in the focus group discussions at least you really want to make sure that you do the focus group discussion that at least twice or thrice which is you want to make sure that it is done by a group of 8 another group of 8 or another group of 8.

So, it also helps you to collect information that is not available, otherwise which is secondary pieces of information which is you are studying. Let us take a doing the next carpooling app, but in the process when you ask people, when you ask large set of people as simply interviews as in the focus group discussions, you are going to get inputs which are also sort of secondary types which are not the primary ones which may be useful to you can represent again 64 percent. Statistical representation of population of interest is through only survey. Survey is the only way by which you can get that.

So, sometimes what is going to happen is an interview in the focus group discussions, it may not be that you have protocol and you will keep asking the same questions the way it is, right. In an interview, it is going to be a flow. You are going to get the user, you would not possibly get the user to speak and then, the process you will probably end up modifying the questions a little bit or not probably asking the same order that because otherwise it is going to disturb the process in which the user is also thinking. So, in the survey, but that is not the way it is going to happen. It is the same set of questions among every participant, every person was failing the survey.

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Survey design

❑How does it relate to what we covered until now in class?

So, survey design, right. So, the question that I wanted to pose to you is that how does it relate to what be covered until now in class? So, the way that I think about survey design is that it is important to do this survey design very well. Actually the way I am going to justice it may not be just a survey design, but I am just going to make, give next few slides and just how to create good questions, right because in the interviews, in the focus group discussions, in the user needs data collection process, you have to actually collect data, you want to ask questions, right, you have to ask questions. So, I want to just discuss some ways of asking good questions.

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Survey design - Modes
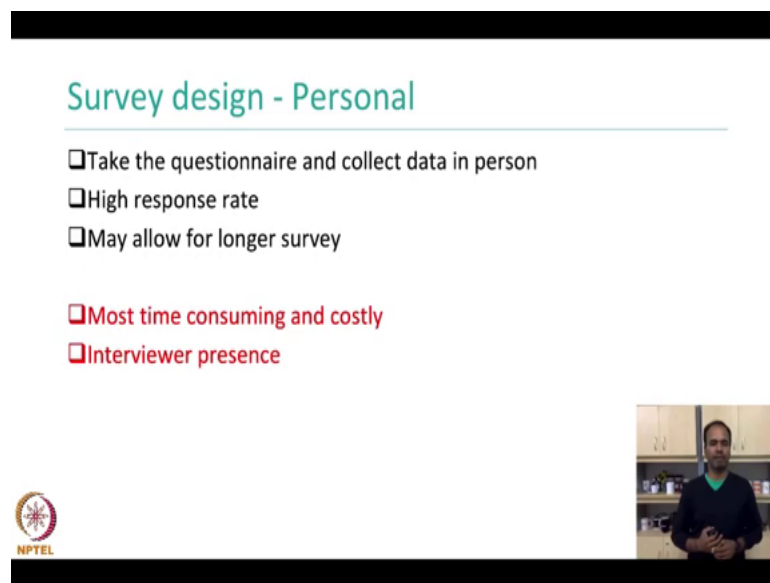
❑Personal
❑Telephone
❑Mail
❑Web
❑Hybrid

So, in the survey design modes what all you can do, you can actually do personal which is that I have a printout, I have my I pad in these questions are and I am going to take the I pad to make. I am sure many of you would have filled these kind of surveys ah. Let us take when you are standing in the metro. Actually recently I saw people asking us questions on a top, right where they are saying of how many times do you take this rule and they were having a sheet of paper because they filling the answers.

Well that is like personal or you could just call up and ask people the same questions and mark the answers yourself. You can send it by mail, you can do a web data collection and you can probably think of hybrid also. I have done some studies. We have done hybrid data collection which is one study collected data for 10000 people, but they use many different methods from this. Let me just show you briefly about each method. So, you can actually think about; what methods will you use in while you are making the decision on what type of method will be useful for the data collection.

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Now, let us look at some ways by which we can actually collect this data through survey. First method is personal. So, we are design personal, right. So, in this method the way that they will collect data is in person that is you take the questionairre and collect the data and person since I have a questionerre of data to collect, I will actually go in person, meet with people, ask them to fill the survey and we like to get response from them meaning, I am sure you would have been ah, you would have been part of such kind of

studies where people would stand in a mall, people would stand in a railway station and ask you for the survey, right.

When you are doing this, the response rate is very high because I think we going to be in person, people are going to be generally obligated to fill the survey and therefore, your response rate may be very high and may allow for longer survey which is said you can actually do a 15-20-25-30 different questions where you can actually get people to fill the answer and among the methods that we will talk about, this is actually the most time consuming one. It is also very costly because it is the time of the administrator and this time when people who are going to go collect this data and it will also have there should be a person walking around and collecting this data. So, that is the first method which is personal.

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Next one is telephone. So, if the telephone one what the way it would work is that I am sure now you would even have methods like even the YouTube video, watching a video you will actually end up getting some surveys for you to be filled. That is also another method that one could actually use in the method random digits dialling which is that the peak they will have all the numbers that to call. They are going to call the people and ask for responses for the question.

I am sure you are getting some calls. I have gotten calls like saying they want somebody needs blood, somebody needs information, all of these kind of calls come in to your

number and similarly, you can actually call people to collect data and myself have done studies where we have created these IVR kind of system where we call numbers and ask them to actually punch different digits for different answers for the question. This method is definitely less expensive than personal shorter time than personal. For sure interviewer administration still there because I think the person is calling them and asking somebody is calling them, calling the user and asking for the response, but then there is also bias in the data that is being collected because it is actually having, it is only looking at people who have access to phones. I think it is the same kind of criticism you will have when you see studies where the data is collected to mechanical Turk, right.

So, there the response rate is coming from only people who are on mechanical Turk or only people who have access to the internet. So, that is the methodological constraint that you have in terms of actually who is the participant who is getting access to this data. I think then another constraint in the methodology of telephone is that the complex questioner is hard to ask, right because you can say that oh if you have answered 4 in the question number 3 which is the option number 4 in the question number 3, jump to question number 7, right. These kind of complex jumping is hard to ask and probably also asking sensitive informations probably difficult to get through a telephone study.

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Mail one. So, right it is a low cost and personal and phone because you are actually sending it by a physical mail. Data can be collected for population that is difficult to

reach and locate because now you just have a set of address sending it to, then you are hoping that some people would respond and you will get some responses and in this method, it is not like in the phone where you are calling and then, they have to actually answer the question while being on the call you are just sending the questioner and they are going to fill it whenever possible.

Probably this is one of the least response rate and slower data collection than telephone because it is least for you to collect some set of data. It is going to take a lot more time and sending the question to a lot of people and expecting them to respond, there is going to be a slower data, slower time in terms of collecting this data, all right. So, hopefully that is making sense of what all we have seen, you have seen like personal.

So, before that we saw personal, telephone, mail whether hybrid methods, I am just going through one of them personal, a telephone, mail.
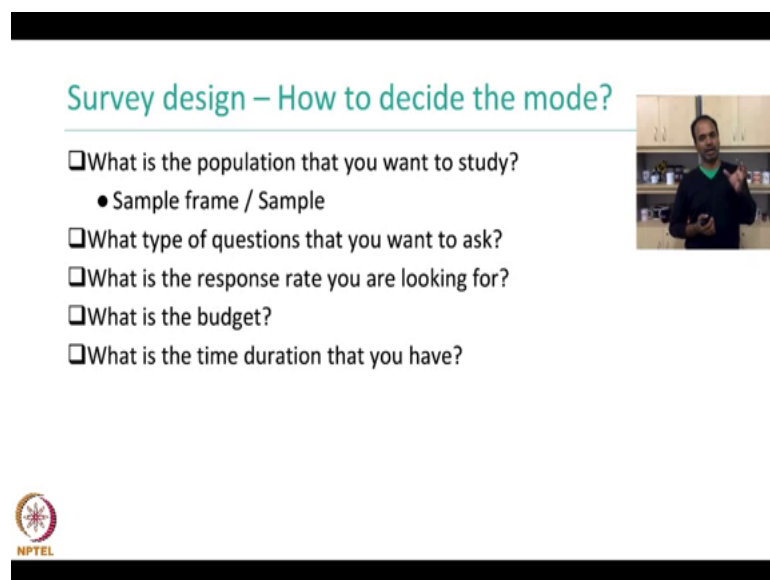
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Web is the one that is mostly done now because if you have a survey questionnaire to connect data, you will probably put it in google and collect information having a google questionnaire, throw the questioner to your friends in social network, link it to some web pages and get people to fill the questionnaire. When you do this web, again you the participants can be international, you can connect to anybody who has anywhere in the world and anybody who has connectivity to internet and you can also build some complex patterns in asking the question. That is something I have also tried before where

complex skipping and complex algorithms. So, to say how the questioner should flow, it is actually pretty easy to go through several monkey or other forms, other services that are available to create these kind of questionnaire and in this case, only people with a computer or only people of the phone, only people who the internet are actually able to fill the survey.

Because of different operating systems, different browsers, there may be the way to showing up the questioner may show off differently in different browsers, probably differently in different OS and all that. Those kind of constraints are also there in collecting the data.

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Some of the reasons how you can actually decide which method because now that you know there are many ways of collecting error which method to use witness being a hybrid. Hybrid method is one where it could actually give a combination of this. For example, one of the study that I have done in the past where we collected first normally we did the mail and we did the web also.

So, that is like that the hybrid method, but it is not necessarily that every method has to be used in a particular scenario or as a researcher or as a person designing the system, you should not be thinking always only using. I am sure one of these methods will become your favourite method of data collection because I have seen many people having a favourite methods for data collections like interview, right. Interview is many

people like doing these interviews because that just let them do here people out and it gets a lot of other directions, other responses that they would like to see.

Now, let us look at how to decide the more of which method to use in collecting data and the methods that we have seen now not necessary that all methods can be used in a given scenario and I am sure you will also see that you will get more ah. So, we say closer to a particular method in one of the methods will becoming favourite methods anytime. You want to collect data, you will probably end up collecting data through that methodology. So, let us now look at how to actually decide on which method to use, right. So, first question that you want to ask is what is the population that you want to study sample frame or sample that you want to study because if you remember some methods have actually constraints about how large the data collection can be, what type of questions that you want to ask if it is complicated and then, you can actually use.

The telephone one if it is complicated, then it is probably a better approach to do a physical one or through the web, what is the response rate that you are looking for. If you are looking for very high response rates from the physical is a better one, what is the budget that you are you have infinite money which is probably not the case in many of the situations, you want to look at the budget and then, make the decision on how much you want to spend, on which method you want to actually use, what is the time duration that you have because as we saw in the physical mail, it is going to take a long time in the web. Probably it is going to take a lesser time because you probably putting it on your social network, you put it on different websites. So, some people will look at a time even though the response rate is very low, but it can actually reach to a large people very quickly, right.

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Questionnaire design

So, now what we will look at is, we will look at how to actually create good questions, right because see one does not methodological strength on what method to use, what are goods and bads of each method of collecting data, right.

The next one that we will see is how to write good questions itself, how to develop these questions and what kind of pitfalls that are there while asking some type of questions, what kind of methods that you need to take, what kind of ways that you need to create questions together actually sometimes good response and not just good response, I think response which are useful for what you are looking for.

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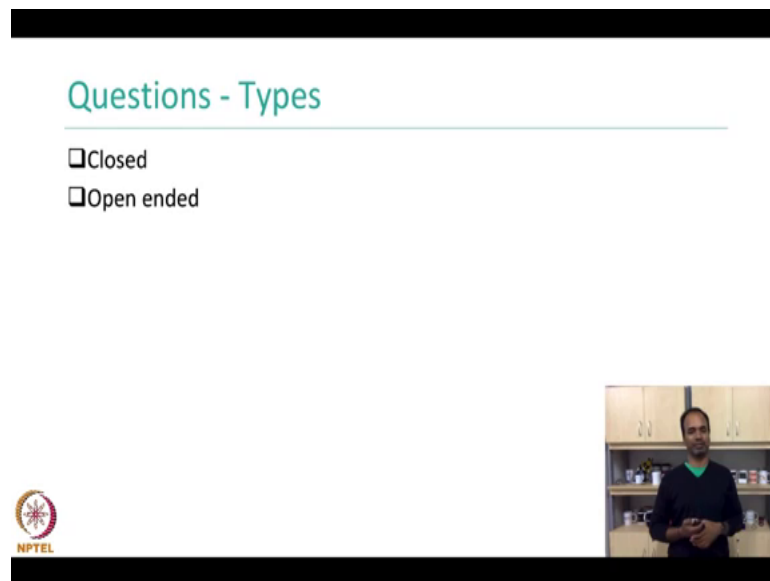
Why create a questionnaire?

❑Collect qualitative or quantitative data
❑To understand respondents' views
❑More information from the respondents is good for research

So, why create a question and collect qualitative and quantitative data to understand respondents view? More information from respondents is good for research, right. So, that is the, it is very intuitive that we need the questionairre to collect data about what our goal is, what users are thinking. That is what the user needs or is the goal that we have.
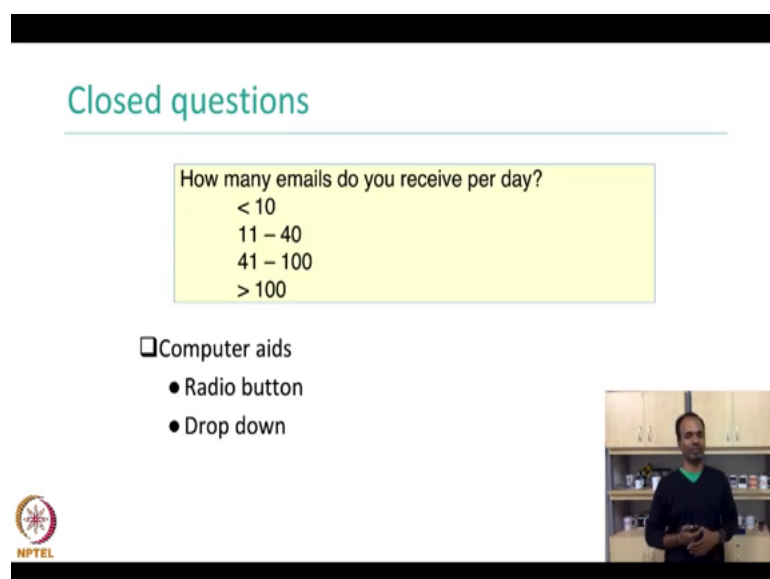
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Some type of questions I think I have some examples later in the slide. They just give you how you can actually create some questions. So, question types closed one open one.

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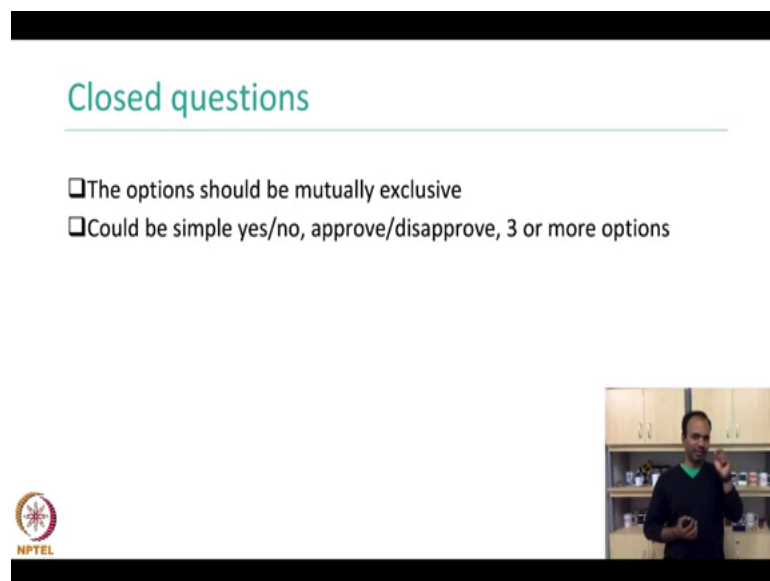
Closed questions how many mails do you receive. All these questions are used in my studies in the past. So, it is real examples of what I have actually used, how many emails do you receive per day? Less than 11 to 41, 1 to 100, greater than 100 ah. So, in the way of asking the questions, the way that you can do on the web at least is you can have a radio button for all the four options and then, somebody clicks one of them or you can have a drop down with all the four showing up and then, you can actually pick, the respondent can pick one of them.

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Closed questions

❑The options should be mutually exclusive
❑Could be simple yes/no, approve/disapprove, 3 or more options

The thing that you want to keep in mind is that the option should be mutually exclusive. That is why if you see here, it is less than 10-11 to 40-41 to 100, right. You can write 10 to 40, 40 to 100, right could be simple yes or no, approve or disapprove, 3 or more option. So, you can actually think of it. Close questions is having short responses, but if it is a long response, think through it. Radio buttons and drop the buttons, you can actually set it up.

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Closed questions - Advantages

❑ Restricted to finite set of responses
❑ Easy to answer
❑ Quick to answer
  ● More questions can be asked in short time
❑ Easy to code and analyze the data

Advantages restricted to a finite set of the responses because the users are only made to think in that set easy to answer because I do not have to apply my head, what the answers are. It is quick to answer because I just have to look at the four things and I have to click what I think that is appropriate answer, easy to code run nice because it is at the end of the day some option may a, b, c, d you will use it in your analysis that you, right. So, those are the advantages of actually having a closed question.

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Closed questions - Disadvantages

❑ Introduce bias
  ● To choose from given options
❑ Do not allow for creativity
❑ Does not allow respondent to qualify the response
  ● Number of emails (Ham/Spam/Phishing)
❑ Skills to create questions
  ● Mutually exclusive

Disappointed is because it introduces bias to choose from given options because there could be another option that user would like to add now. Meaning in the web you can actually have others in a question form, you can actually have others, but the problem

with the others is that whatever you get there the way you want to analyze it, the way you would like to analyse, it will be actually pretty hard. Do not allow for creativity, right because it just allows people to only look at those options, does not allow respondent to qualify the response number of the emails, right. Number of emails they get, they cannot really say where, how much of them are ham spam and phishing.

Skills to create questions is mutually exclusive because it is not that easy to actually create these kind of mutually exclusive questions. The example that I have is pretty simple, but if you generate more these kind of questions, you will realize that the problems are not that simple.

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Open ended questions is what do you like most about this course, all right. So, that is an open ended question where NPTEL is also sending out some questionnaire every week to get your feedback on the course. You are filling out some responses, right. So, that is the feedback mechanism that NPTEL has for the course and in one of the questions, there also what do you think, what do you like most about the course and it is a text box that you can actually fill.

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Open ended questions - Advantages

❑ Express respondents ideas in their language
❑ Very useful in exploratory studies

Advantages express respondents ideas in their own language, very useful in exploratory studies because it is helping asking you questions, you can get answers in different directions which will help you to make think well through the point that you are interested in collecting error.

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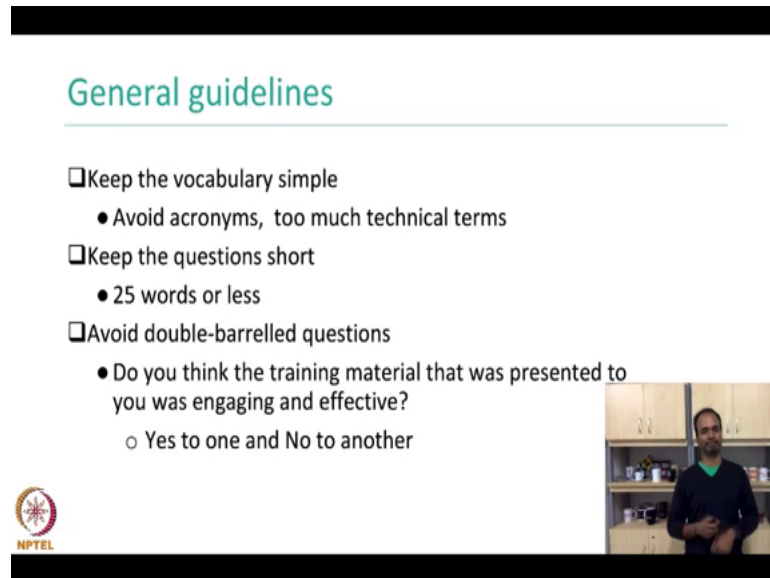## Open ended questions - Disadvantages

❑ Difficult to respond
❑ Difficult to analyze
  • Coding of data
❑ Handwriting may be difficult to read

It is difficult to respond because if you are asking about; what do you think about the course, I say they are good, sometimes nothing, right. You would not be able to actually. So, to say normalize the response of different respondents difficult to analyse which is exactly the point that I was saying. Handwritten may be difficult to read, to write because

if you are making a data collection method to personal interactions, then I think whatever is written in hand will be actually hard to be.

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General guidelines for creating good questioner keep the vocabulary simple, avoid acronyms, too much technical jargons, keep the questions short, 25 words or less, avoid double barrelled questions. I think double barrel questions is one type of error that you will see many questions have do you think the training material that was presented to you was engaging and effective and the responses will be yes or no, but then if I give you yes, am I giving it was engaging or what is it for effective. These are called double barrel questions when two things are measured which is one response which is actually a bad way of asking questions.

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General guidelines

❑Avoid hypothetical questions
  ● Would you use Latex for writing HWs in other courses?
❑Don't tax respondents memory
  ● How many hours have your spend reading research papers in the last month?
❑Avoid double negatives
  ● Students should not be allowed to speak in class
    ○ Agree / disagree

How are hypothetical questions, right? Would you use latex for writing home works in other courses, right? Meaning if that is not the situations that we are trying to study, do not create hypothetical questions, do not act respondents memory, how many hours you do you spend reading research papers in the last month, how many hours do you spend reading the research papers in the last month.

So, that is basically saying that oh I have to think, ok. We want this four weeks. The one week, there are 168 hours, so many hours. So, that is like too much of work for the respondent, avoid double negatives, students should not be allowed to speak in the class, agree or disagree, avoid double negative questions that is students should not be allowed to speak in the class agree or disagree meaning disagree is going to be a double negative here.

So, it may be hard for what am I agreeing, what am I deciding for will be hard for the respondents to decide on.

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General guidelines

❑ Avoid overlapping response categories
- 10 – 20; 20 – 40; 40 – 60 years

❑ Avoid leading questions
- You wouldn't say that the training material was poorly designed, would you?

❑ Be as clear as possible
- What do you think about IIIT-D? ✖
- What recommendations would you have to improve your experience at IIIT-D? ✔

A wide overlapping responsible just like before 10 to 20, 20 to 40, say more the responses which one do I prefer? Avoid leading questions you would not say that the training material was poorly designed would you, right. So, you are kind of this I think later also will see in the course it is called priming literature. A ready priming the person saying was poorly designed, right. Be as clear as possible ah. What do you think about triple IIT, Delhi? What recommendations would you have to improve your experience at triple IIT Delhi, all right? So, those are the kind of questions that you should ask which is more recommended, be more specific which is what recommendations would you have to improve your experience at triple IIT Delhi, what experience, what recommendations would you have to increase the, to increase your experience, increase your understanding of the topic through this course.

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General guidelines

❑ Keep demographics at last
❑ Ask some critical questions in multiple ways to check for
   consistency of response

Keep demographics at the last. I think this is a general guideline that I have which is that do not ask this question, but particularly some of these sensitive questions, right, gender, a salary, all of this when it comes in demographics, it is better to actually keep it at the last and another one that you want to do generally is that you want to actually make sure that you ask some critical questions.

There are also many methods to ask these kind of questions, place them differently in different places in the questionnaire and you can actually get the same question asked multiple times to see whether they are getting the same response. What this will allow you is, this allow you to check whether it is today to me, whether it is a bot or something like that, but at least the user is reading the responses and not just taking whatever you or she finds as first one, the second one any random one that they are taking at least that will be avoided from this asking the same questions in multiple places, ok.

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Checklist for questionnaire

- Will the question provide any useful data?
- Is the question unbiased?
- Is the response at the level that is needed for analysis?
- Do pilot run with the questions
    - Will respondents understand the questions
- Will respondents provide answers?
    - Sensitive / risky

Checklist for some questionnaire when the question provide any useful data, make sure that you ask these questions when you are actually collecting the data because these are the ones that will help you to say whether we want this question at all. What kind of questions you should change?

Well, the question providing useful data is the questions unbiased, right is the response at the level that is needed for analysis, right you looking for because you may be looking for some data that is more fine grain, but the question that you are asking is of course or the other way down you are asking a very fine grained detail, but the analysis that you want to do is only as they were aggregate level. So, you want to be very clear on what response do you want and accordingly actually pitch the question.

So, one suggestion that I generally give to people for this also is that please do pilot studies. Pilot studies are super important for collecting data because I think it is necessary to do pilot study is because when you do pilot study, you will understand the mistakes that people are making while filling the answers or the mistakes that you have made in the questionnaire that you have asked, will the respondents provide answers, right sensitive wise. So, therefore do you think the respondents will provide answers to the questions that you are asking, you want to be clear about some of these questions, you want to have these checklists while creating a questionnaire.

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That is a question have any reading questions which I was saying only, right leading questions. Is the language clear and simple?

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Demographics, gender demographics that people collect over age, gender highest education, occupation, salary all of that.
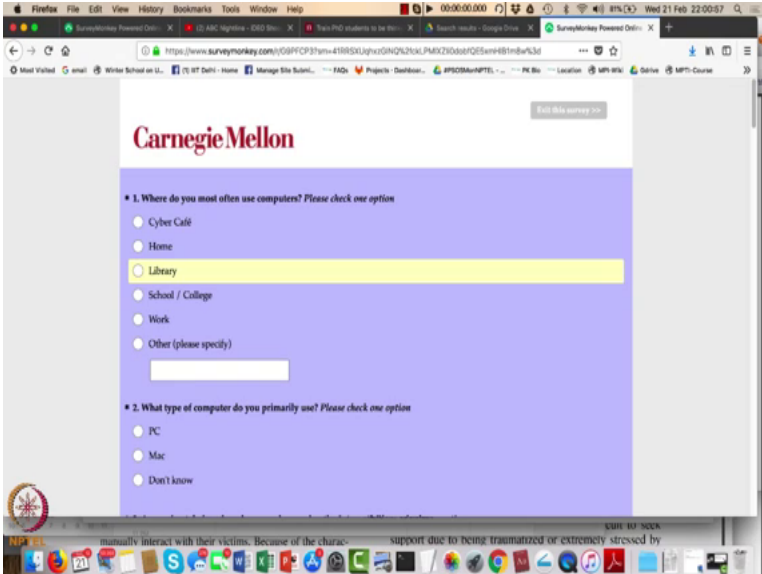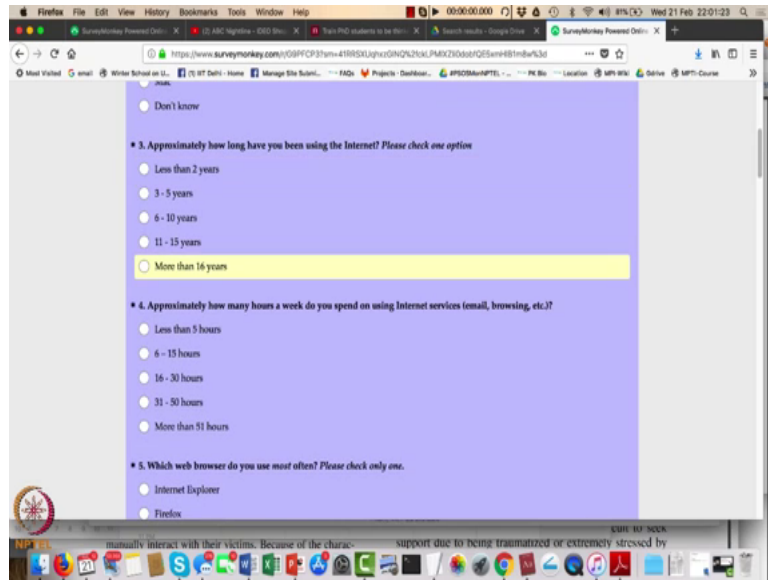
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So, what I will do is, I will come back and show you the survey monkey approved. This is the survey that I actually did for IRB study that I was shown you earlier. I have a u r l here. I would let you two go, look at it also, but I can also show you quickly; what is the question I have. So, now what i will do is, I will actually show you the actions away that I used while collecting data from the IRB study. If you remember the IRB approved documents application that we saw from that study, I am going to actually show you a questionnaire that we used for data collection.
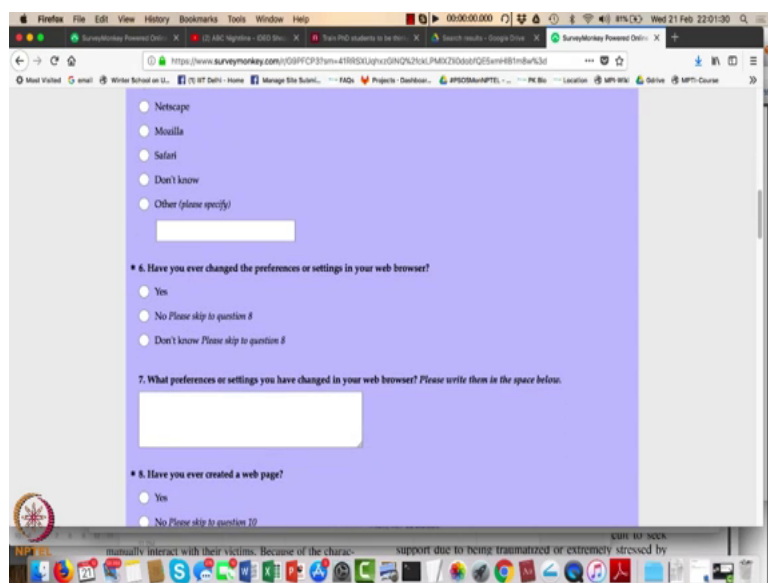
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So, this is the questionnaire that I will show, I was wanting to show you which has the questions exactly from derived from IRB applications and proposal that we saw earlier in the course. So, here where do you most often use computers?
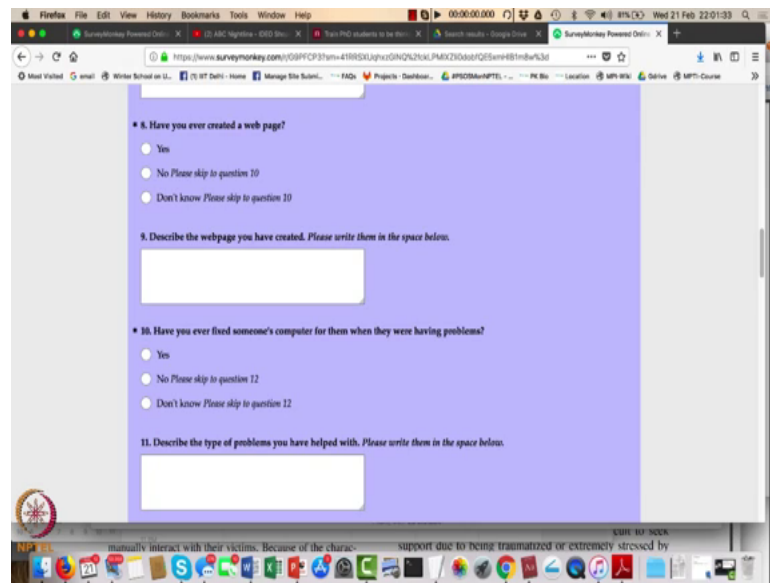
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What type of computer do you primarily use? Approximately how long will you be using the internet? Approximately how many hours a week do you spend on using internet services?

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Which web browser do you use most often? Have you ever changed the preferences?

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So, if you see these are the kind of questions that you can use given that the link is on the slides, you could also go try take a look at it. So, this is also slightly complicated if you see. So, if you see here, have you ever created a web page? If it says no, please keep to question number. So, if its 10, it will jump to question number on we are asking you to jump to question number 10. There are some online tools where you can actually set this question. So, it automatically jumps to question number 10 also.

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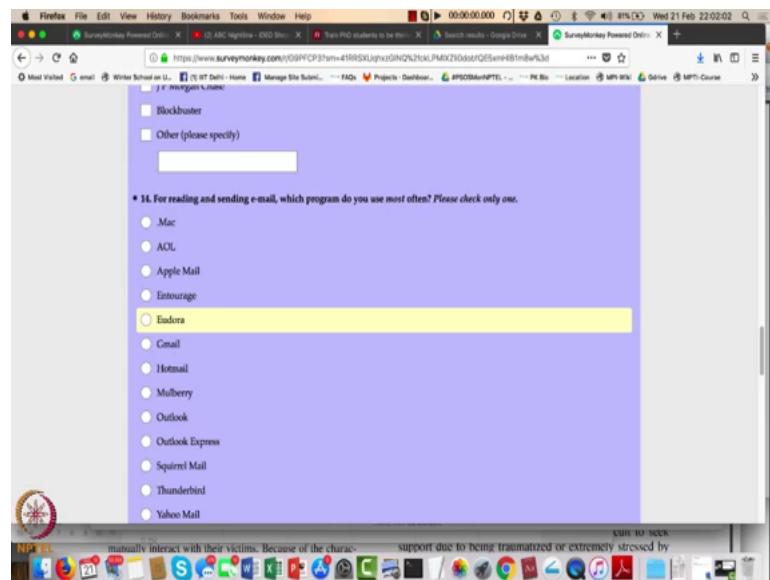
I will let you to go through it yourself and take a look at the questions that are available and how you can actually make use of it in your own studies.