Understanding Design Thinking and People Centered Design
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Lecture - 07
Research and Analysis
Question framing and conducting Research

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We, in the last section understood how you research with users, how you explore their contexts and how you understand by getting into their shoes or speaking with them, or observing them, what their needs are and what their priorities are right. Now we are going to speak about conducting the research through some more direct techniques like interviewing. We will spend some time in interviewing and we will learn about question framing how do you frame questions. So, you need to remember that you are going to get what you ask depending on what you ask the answers will come to you. So, it is good practice for you to do the due diligence to frame your questions very, very carefully to give due thought and frame your questions on the basis of what do I want to know what is it that, I am wondering about what am I curious about right.
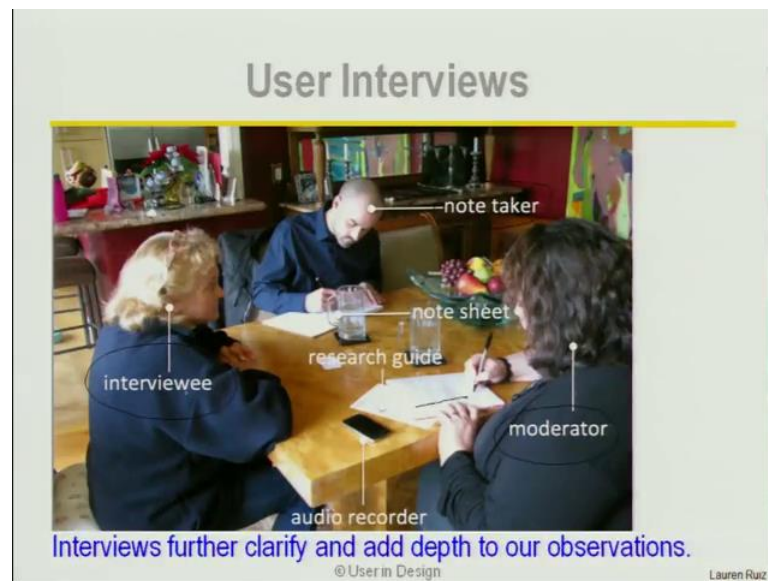
So, those are the things you know need to frame questions on. So, user interviews you probably done interview of different kind of jobs interview etcetera. What are user interviews like? So, ideally you go in a two person team right, you would have one person who is the moderator, who is the person who has all the questions and who is interacting with the user and their the note taker the second person who is just listening who is taking down everything, that the user says and this is a interview the person who is being interviewed. Now you can see also that they are sitting in a comfortable environment which is probably this person's home. It is a good idea to interview in settings like this which puts the person at ease which makes them feel comfortable makes them much more open to sharing with you, more comfortable with sharing with you.

Now, the moderator ideally must not be the note taker why because, the moderator is interacting with interviewee there are making eye contact they are doing active listening what is active listening? Active listening I where you are completely focused on the person who is speaking to you and you are listening to everything they are saying you are taking at in the other thing at the moderator needs to do is as they are thinking, as they are observing, they are probably forming other thoughts in their head and they have to think on their feet. So, they need to be thinking if, there are something important that

comes to mind and then ask of course, go you can see that she is come with all her prepared questions, but then as needed to jump in and ask some extra questions that seem like very important to ask that you may have forgotten to note.

So, it is very important that the moderator not be distracted with anything else would be able to give complete attention to the person who they are interviewing and the note taker is taking down everything that is going on. So, interviews what do they do they further clarify and add depth to our observation. So, you been in the field you gone and observed you probably done some secondary research you done some literature research and at the end it, now you are to hear it from the horse's mouth right you need to actually find out from the actual user what the issues are.

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So, let us understand what framing questions is all about. First thing you need to set proper expectation, tell the user why you are there tell them what you are looking to do, tell them how much time it will take, tell them briefly about the project, tell them that you are going to take notes if you can I mean ideally you should video tape, if not at least audio tape. So, tell the user you are going to do that tell them that they that information is not going to be used anywhere else except within the team and it is for the purpose recruit or record keeping only because, many times people they get very uncomfortable

when you are taking their interview and they want to know where this is going everything that they are telling you where is that going? Is it going to appear in the news paper tomorrow morning? So, it is understandable that the people are uncomfortable. So, set all those expectation and tell them exactly what you are going to do and how long it will take that also the right polite thing to do.

The next thing you need to do is shut up and listen, this is extremely important you gone to the user to listen to their perspectives to gain as much as you can and to draw out all the inner most thought problems issues and the ideas that they might have. So, go with an attitude of active listening and just throw to them, an open ended question or maybe a specific question, but give a question and then keep quiet and listen to everything they are telling you sometimes may be prompt them, and what else why right we will talk about some of those thing some more, but listening as much as you can is extremely key minimize biased question do not ask leading questions and I will show you some examples of what leading questions are because you will have defeated the purpose of the question.

If you kind of put and answer into the users mouth then that is what they feed back to you will have nothing, be friendly very friendly very, very important be friendly be warm empathetic avoid generalization. So, the reason you cannot do this is because you know you have not been through the entire education process. So, whatever it is something that is that maybe demeaning or generalizing about everybody. So, all women think like this or you know all elderly people are like that. So, avoid making comments. So, statements like that generalizations just listen right.

And do not forget the non-verbal clues what are the non verbal clues the frowns and the smiles and the thinking you know if they are for long time you could ask what are you thinking about. So, you know all of those kind of non verbal clues that you know that that if you are alert if you are sensitive to observing them you will get those non verbal's clues right be very alert to them. So, that you can ask them I notice that you are thinking a bit or I notice that you frowned when you looked at this what was going on through your mind thinks like that. So, here is some example how did you like the login screen what is wrong with it? What is wrong is, you assumed that the they like the login screen

better would be to say what did you think about the login screen is the feature helpful to you much better way to ask is the feature helpful or not helpful to you, why would this be the good idea instead ask how valuable would this be in to you in your job.

So, these are very important points in how you frame the question about you know not having biased questions not leading the user and you know not putting words in their mouth interviewing is both and art and a science you need to carefully, write down you need to very diligently go through the step by step process, but also need to think on your feet if you also need to be cognizant of the other nuances of the user and aware of you know a lot of the non verbal things that you know you can pick up if you are in tune with them alright.

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In interviews one of the most important questions you could ever ask is the question, why let us look at an example; why did you select those wedding invitation rights this was the exercise in which they were trying to select from among the bunch of wedding invitation. So, why did you select those wedding invitation means what did user say I really like the traditional design and the hard card stock you could have stopped right there and then, you would have gone away saying this is the design they choose and they prefer the traditional design in the heart heavy cards stock, you ask them why is the

heavy card stock important to you only, if you ask the question why will you get an answer? If you do not ask it ends right there remember that.

So, probe as much as you can what does the user say then the heavy card stock makes the events seem more formal and substantial it makes the event seem more formal and substantial the quality of paper is, reflecting in the quality of the event that she has in mind. Why is it important that the wedding be more formal and substantial? Remember you are asking why again, if you have stopped right here, you would have said that she just want to wants the event to feel formal and substantial, why is it that important right and then what does the user say my friend my friends have fabulous weddings and I really want to.

So, something on par with them there comes out the deeper human sort of motivation criteria and the fact that she wants to be as good as her friends now not be in any way inferior to her friend's weddings. So, it is important to understand these kinds of deeper issues that are in the users mind and you will never find out unless you ask the question why. Now Donald Normans, say try asking why 5 time, 5 times to find the real problem, if you do that then you will have gone deep enough to know what the real problems.

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There are the some other ways to ask you know, if you are sometimes you are at loss of words how to frame a question, right? What are your thoughts on this that is good way to ask rather saying do you like this right, what are your thoughts on this any other piece of information you think may be useful. This is an extremely important question to ask because when you think you are done and you the user also thinks that they are done you ask them, anything else that you can think of anything else that you can think of anything else that you would like to add and some time the best the most useful nuggets come out then, when they say oh yeah and you know when I was going to the grocery store and I was doing such and such this is what happened and then, bingo there is some very important nugget of information that comes out would it be helpful, it there were a way to whatever it is the project that you are working on for example, annotate your files right.

So, then they say yeah that would be extremely helpful right, then you need to ask if you stop right there you say oh, they thought it would be very helpful to have a way to annotate the file and then you know you lost a beautiful opportunity to get their expectation of it what would you expect at of it. If there were a way to annotate your files what would you expect of it? Would this information be useful to you right. So, that is another important way to ask.

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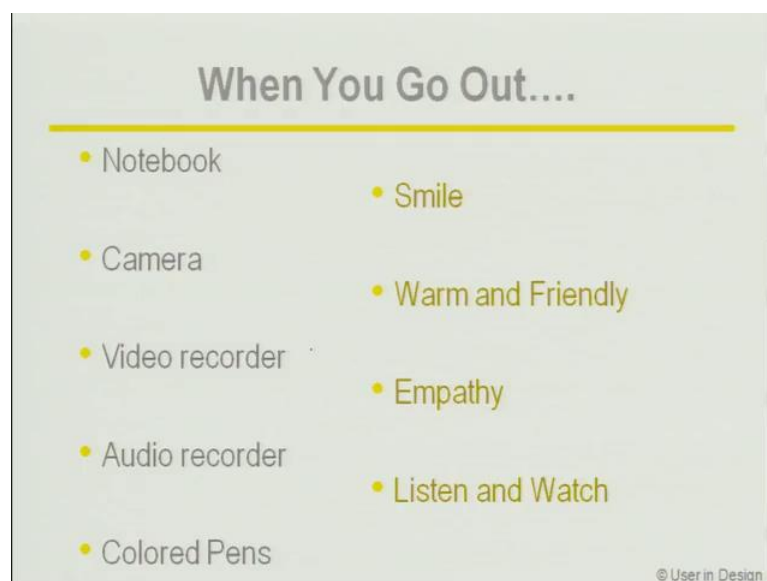
Now, when you go out when you out for the interview what all should you take with you, must go very well prepared, sit down and prepare your questions and your questions should be the answer to what do I want to know? What am I confused about, what am I what do I not know? What am I wondering about all of those things based on that based on those questions on your head write down the question, you want to ask to the user right you need to go with notebook or the camera video recorder audio recorder color pens all of those things what else very important go with a smile be warm and friendly go with your whole bag of empathy. Try and get into their shoes try and understand the pains that they are going through and then the ability to listen and watch listen and watch not to be passing judgment.

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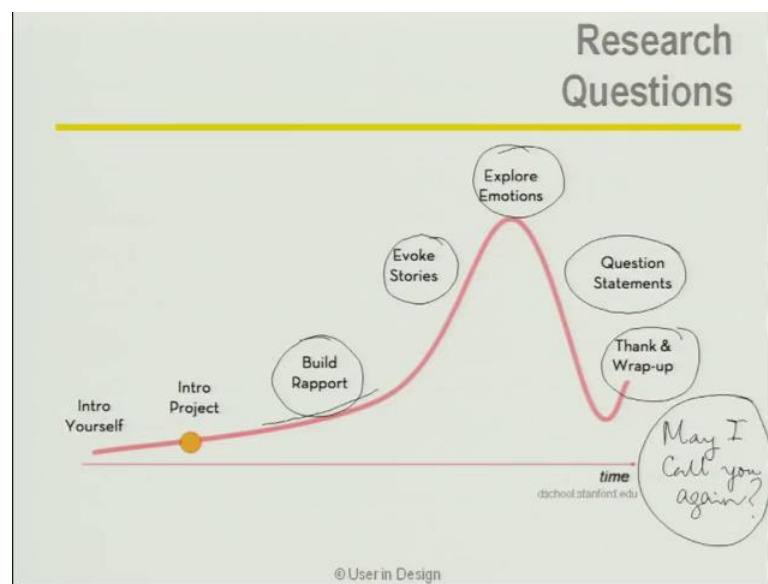
One of the most important thing that, you should not do in an interview is ever to pass judgment. So, let us look at this from the b school that talks about, if you were to look at your interview visually what would it look like right this is how over time it would look like over time and the amount of time you spent on it right. So, first you introduce yourself then you introduce the project then, you build a little bit of rapport with them you know ice breaking some warm up questions how long have you lived over here how long you have been in this job and do you enjoy you know the area of work that, you are in things like that just general things to warm up the person to make them comfortable

because you are the random person who is gone into their office in their home and asking then a all kinds of question.

So, give them an opportunity a little bit of time to get comfortable with you. Then evoke stories can you share with me a time when something worked really well or can you share with me a time when you know, something can you share with one of your really good days can you share with me really bad day can you tell me you know the first time you interacted with this all the first inter, you know first opportunity you had when you thought when you heard about this.

So, evoke stories right ask them to tell you stories then explore their emotions, what did it feel like how did you react when such and such happened when, you know when things went wrong the bad day what did you do what did it make you feel how did you kind of manage this situation right. So, these are more exploring emotions and then questions statements some of the things they said some more questions you know to probe and kind of finish up some of the things and then thank them and wrap up thank you is very important right. Thank them I will also ask also tell you that may I call you again in case, I have another questions in case I have something else that I remember may I call you again very important keeping that door open and particularly; you know, you maybe interviewing people who are very busy, who it is taken you sometimes two months to get that interview right. So, once you establish the rapport of course, for interviews like that even in general your must be excellent. So, you do not have this situation, but just in case you do keep that door open.

Right here is an interview guide that you could use that I will share with you and it is a template that let us you helps you to plan in your interview right. So, open or general questions what are some broad questions, you can ask to open the conversation and to warm people up. So, think about the questions you want to ask and right them down and then go deep what is some question in case that can help you start to understand this persons hopes, fears and ambitions hopes fears and ambitions. You are going deeper now you are getting to understand the deeper emotional issues that, you want to design for right it in the creation of the excellent design you invariably will have understood these deeper issues and then for you design comes excellent the deeper issues of you know, why people like to manage their music the way they do that was understood.

Therefore, the excellent product resulted why people are struggling and what are the deeper problems and issues and aspirations with getting good transportation service that they do not have to break their head over and get into a real stressful situation trying to get somewhere therefore, because those deeper issues were understood. Therefore, it resulted in the excellent product like you know; obviously, the first one I am talking about iPod the second on e I am talking about Uber much quoted example today with good reason.

So, there you sit write down all of these before you go to the person do not go blank and make sure do not write as you are in the bus about to reach that door, do not do that this a very important and precious piece of information that you are going to get out of this person do not take it you know frivolously because, then you might as well not do the interview. So, spent you do not need to spend lot of time, but you do need to spent time calmly in one place before you get to the interview. So, sit and write these down.

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Let us look at an example in this in this example this team was trying to understand saving behaviors among the low income communities. How do they manage and save their money. So, let us look at some of the general open questions that they ask what kind of job you have how they are paid, right. How do you save for the future these are open general questions then how do you allocate your money. Now asking some deeper questions how do allocate your money now where do actually keep the money you want to put aside when you want to put aside money what would actually do what helps you save money. So, motivations you are trying to understand the motivation if you visited a bank tell us about your experience.

So, very interesting deep questions as you can see and these it very unlikely that if you are writing this at the door step of the person you were going to visit you would probably

have come up with this questions alone there is no way you would have been able to come up with these questions. So, therefore, I emphasize once again please give little thought to arriving at these questions.
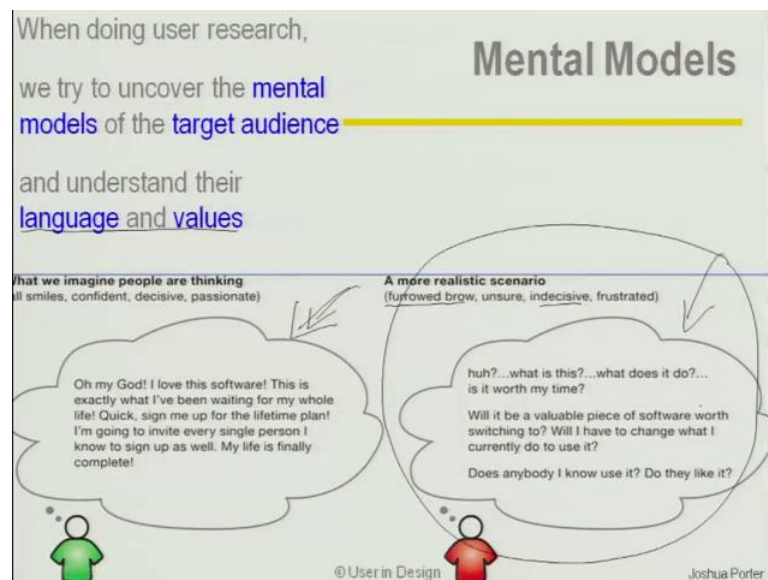
Mental models the reason we doing all this the reason we are probing users the reasons we are trying to understand what is in their mind means is because we want to define the model we want to understand what is in their mind. So, we can design to that we can design online with what they are expecting right remember the question. When we ask what was you expecting right when doing user research we try to uncover the mental model of the target audience, that is the whole purpose of research to uncover the mental model and understand their language and values their language their terminology.

So, here is an example what we imagine people are thinking that they are all smiles they are confident they are decisive they are passionate and what are they saying? Oh, my god I love this software this is exactly what I have been waiting for my whole life quick sign me up for the life time plan I am going to invite every single person I know to sign up at as well my life is finally complete. This is what we think as designers we think that our users because we are in love with our products we are in love with our design because, we are spending. So, much time energy and effort on them.

So, we imagine that this is exactly how the users feel well what the reality a more realistic scenario is. What is their expression furrowed brow unsure indecisive frustrated and what are they saying what is this, what does it do? It is worth my time will it be valuable piece of software worth switching to will I have to change what I currently do if, I want to use it does anybody I know use it do they like it this is the reality. So, be very aware that this is how the user potential feels and if you are able to understand this then we can design better otherwise we going to create better this and then it is going to bomb.

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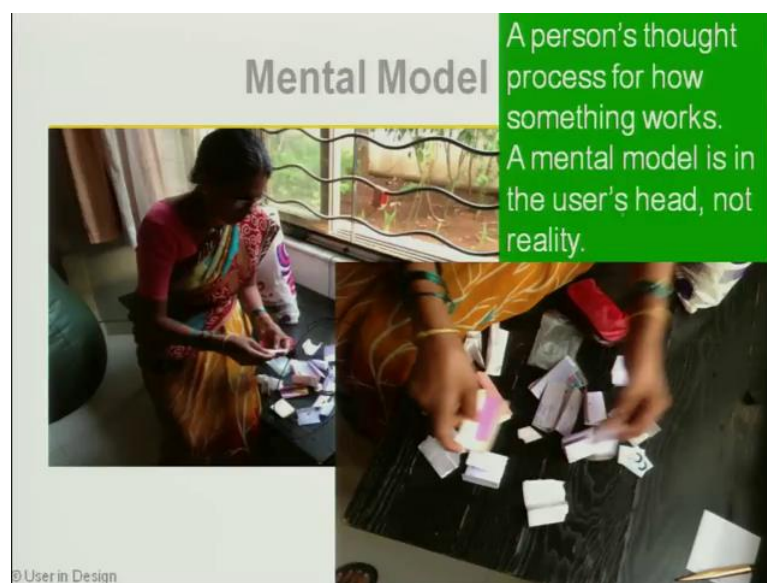
Now, I would ask u many of you most of you probably have cell phones. So, on the mobile phones think about how many contacts you have maybe 500 400 1600 you have all those contacts. So, when I say contacts to you your mental model is that that lines and lines of names that live in your phone now what is the mental model of the contacts of the person with low literacy this is how she stores her numbers in little, little, little, little, little chit is of paper in her purse and then when she needs to find a number this is how she is rummaging through the whole. Now if we in designing for kind of user which people seldom do if, we were cognizant of this then perhaps we would come up with very different model than expecting them expecting her to conform to the contacts the

way it is designed in the cell phone. So, this is her mental model of contacts very, very different from your mental model of contract of contact right.

So, what is the mental model it is a person's thought process about how something works a mental model it is in the users head it is not the reality it is what is in their head, what they expect, what they think it is. Remember in the first section I showed you right in the beginning that person and the microwave and it says one part of it is how it works how the microwave works and then the second part is how it works according to me according to me that is his mental model. So, the persons thought process of how something works how it works that is in their head, not necessarily how it actually works.

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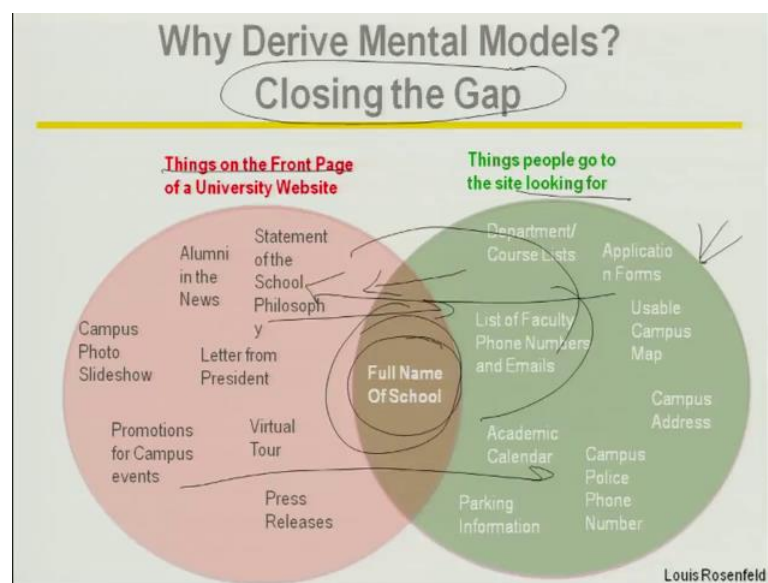
So, we research in order to derive mental models let us look at another example, this is the study that was done of things that were in the front page of the university website university website had all over these campus photo slide show letter from the president statement of the school philosophy alumna in the news virtual to our press releases promotion for the campus events etcetera. And what are the things people were looking for they were looking for applications forms usable campus map campus address campus police academic calendar parking information faculty department list etcetera. What was

the common the commonality between, what people were looking for and people that and things that were on the sight is, the name of the schools. So, it is very important that these two merge together and we have many more of these things within this. So, what is put on the product is what the user is expecting.

So, we begin over here we try and understand what the user is expecting and then we design the product accordingly, we design it to be this that is the purpose of mental models to close the gap the big gap between, what we think is what the design needs to be, we the designer, we the engineers versus what the user thinks the design needs to be that is the gap.