

**Understanding Design Thinking and People Centered Design**  
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**Lecture - 06**  
**Research and Analysis**  
**Research with Users and their Contexts**

Hello everyone, and welcome back. We are ready to move on in our course understanding design thinking and people centered design. So in the last section, we of course, got an introduction to design thinking and people centered design. You understood what it means, you understood what it means for people, you understood what it means for products, you understood what it means for business and you know why it is so important to focus on people in the design of the product, and then bring them into the fold. Now after that, what we started with in actually creating the process or starting on the marking on the journey is we reconsider our problem.

So we took up our problem and then typically as a team if and most times we work as a team. So in the team we try and hash the problem, look at it, revisit it, think about it, reflect on it, push it, pull it, and then think of all the different possibilities and say what is the real problem we are trying to solve. So we did that exercise and then we arrive at the problem definition. Perhaps a new problem definition, perhaps the same one, so we redefine re-framed our problem and we arrived at that point. Now we move on to the next section, this is what we covered yesterday.

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And now, we move on to next section which is research and analysis. People and context research and design insight and strategy.

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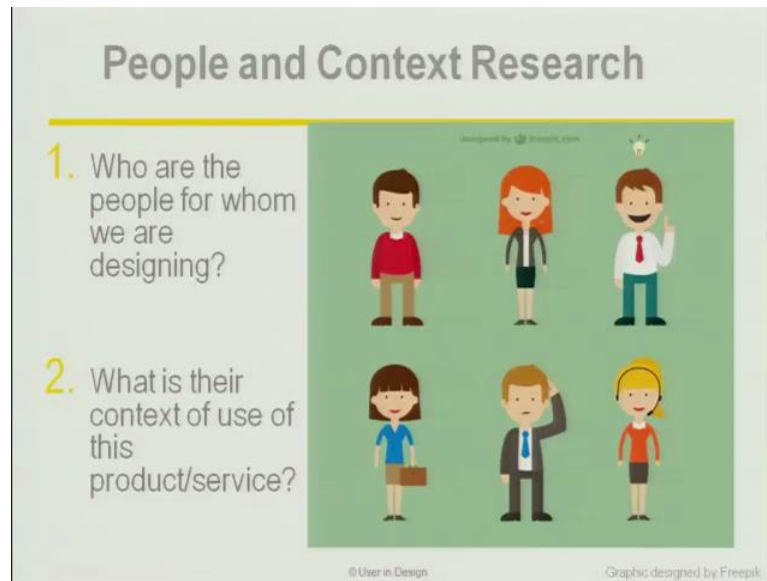
So, in this section, we will cover the following 5 parts. Research with user and their contexts, so we have been in a contained environmental now, we have been thinking

about the problem you know it been in our consciousness in everything, but this is all been happening inside, within us within our team, and all that. Now we are ready to go out. We are ready go and find out that the people for whom we are designing these solutions, who are they and what are their needs, and what are their limitation what are their constraints, what is context, what is the situation. So we in the first subsection, we will learn how do your research with users and their context.

The next part, question framing and conducting research, we will find out how do we actually conduct the research. When we go out to talk to people we need them to ask them question. What should we ask them? Do we just go with the a blank, just go without anything in our hands, or we just go with the blank note book, do we prepare questions, so those are the kinds of the things we will learn over here? Then in sub part 3 user stories and themes. We will see how everything that we have found out in the field in the user's home in the user's offices, wherever it is we gone for our research, what are those stories. What are the stories of things happening in user's life? You know how they are currently doing, what it is that we are looking to may be redesign or design for the first time. And what are their stories and what are the themes that are coming out of those stories. When we come up with you know multiple stories, then we try and understand what is that is that is a theme.

What is the theme for the design? Then in sub part 4, we will learn how to create personas and scenarios. Personas and scenarios are the ways in which we taking from the entire information bulk that we bring back from the field, from the users, we take and we typify it into certain specific types of the people, types of situation types of context. Etcetera so that is personas and scenarios where we defined it as the representative of the entire population. And then we arrive at insight statements. Where we use these 2 or 3 different approaches that we will learn insight statement, you know what are the insights from our research, and how might we question. How do we take those insights and frame them as question, so that those questions become the impetus for us to then create solutions? Then creating the design strategy statement, what is the overall strategy of our design? So that is the plan for this section research and analysis people, and context research and design insight and strategy. So let us get started with research with users their context.

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So, there are so many kinds of people out there. How do you understand what their needs are? Who are those people for whom we are designing, that the first step? We need to think about who are those people. If we know the example that we looked at yesterday, let us say the walking stage or the service that we would designing in order to engage elderly people who are those people. You know yes fine they are elderly people retired people their senior citizens, but exactly who are they? What are there what is their mind set, what are their priorities, what do they like what do they dislike. So that is the first thing we need to understand. Second thing is what is their context of use, of this product or service. What is the setting you know what is reason they do not like use the walking stick? What is the kind of social situations they go? How do they feel, right? Those are the kind of things that we need to find out. Where is this product being using where it is being kept?

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## People and Context Research

3. What are they currently using/doing in this context?
4. What are some expressed and unexpressed needs?



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What are they currently doing or using in this context. Right now, what are they doing? Are they managing without the stick? What is it causing them? How are they struggling? What are the repercussions of it, right? So what are they currently using or doing in this context. What are some expressed and unexpressed needs, so this is very important expressed and unexpressed? So you will ask questions and people will tell you answer right. Now we will learn this further, when we learn how to conduct an interview, but if that is all you do ask them questions they give you answer you come away you have only gotten their express needs. You need to probe for the perhaps while you know while their talking to a 3 other the things, which are outside of the questions you ask them. Perhaps you them an opening, that can you tell me you know if you want this all over again, what will you do. And you give them an opening and then they tell you their hopes their aspiration, their expectation, their problems, their desires etcetera. So that is what generally we try and find out people and context research.

Now, what is the difference between research for the sake of research and research for the design? When we do research like this research of the design, may be going out to find information about our user and their context situation, we are not looking into in general create a report out of it in order publish it, that is not the end goal. The end goal is take those insights and feed it in to our design.

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In research for design, we are trying to understand and needs characteristics of our users - who they are, what they need, what are their profiles like etcetera. We want to know what to do next. So the objective of research is not an end, but is the means. So the means is where through that research and through that insight we then have a better clarity about what to design in and it takes us further into the sphere of designing. It gives us a direction; it shows us a path it opens up the path for us. So what should we do next, and it must inform the design that we are working on right. It must shed light on the design that we are working on. So this research will help us come back with answers. Answers which will take us the next step say, I am know what they need, and I know what their problem are exactly, and now I am going to you know create a design, I know that the kind of thing they need. So that is research for design it is not an end in itself.

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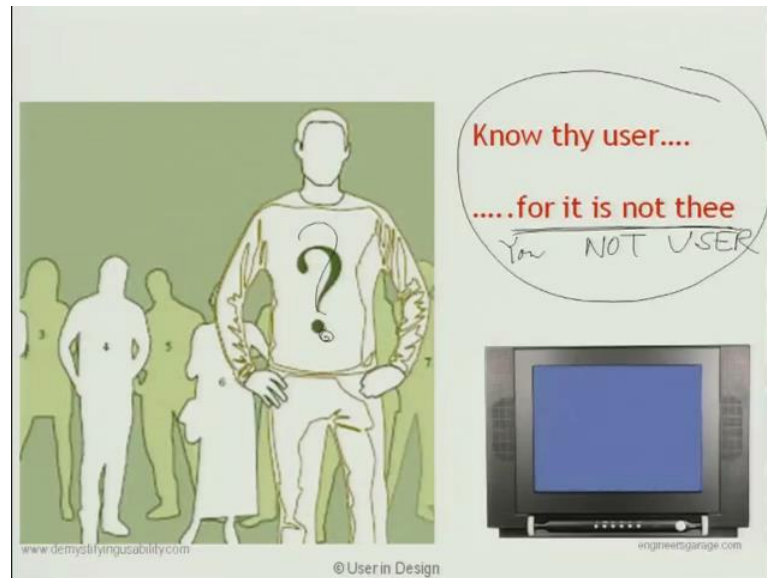


Now, what is the difference between market research and research for design? Market research also the research people; however, the difference is that in market research they do huge groups of people. They are interested in how many what percentage of people in the south west of India, are you know, using taxi services for example, what percentage of people what are more into liquid soaps in the state of Madhya Pradesh. So whatever it is, so how many numbers is what they are interested in. Whereas, the design research we are interested in the in question, why? Why, right? So for example, this might come back with 3 million people are classified as middle class. In design research we will have questions like why is this segment still not using this particular kind of product. So why are they not? Why is this ecosystem not producing a product like the one we are thinking of innovating? Why has it not been designed? This is a very important question regardless of this topic that I am talking to you.

It is a very important question you to ask when you start designing that why has this not when think you come up with the ultimate design with brilliant design idea. Why has it not done before? Has it been done before? These are important questions to ask, right? So that is the broad difference between market research and design research. And therefore, we work with much small number focused on qualitative aspect of the answers. So typically this would be like one standard question set at you know would be

translated across the different regions where as ours would be a customized, depending on the product, depending on the context depending on the user type, we would customize our questions, because we want to know exactly about that particular aspect of the product, or the aspect of the area that we are working on.

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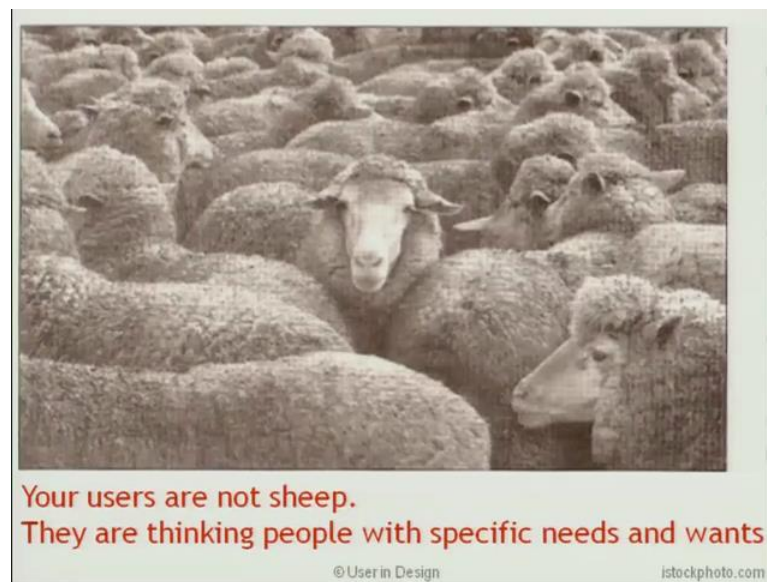
The next thing is who is this user? Who is this person that we need to find information from? Why cannot I just answer? You know I am pretty smart, I am pretty intelligent; I know so much about so many things, why cannot I answer that question? When I say I, I mean you. Why cannot you answer that question? And say well I am the user, let me answer that question. I think elderly people feel this way. I think children react so and so way. I think women's needs for snacky products like this. Well that the first thing you need to completely jump off of. And in this sense, know thy user for it is not thee. That is the first important thing you must know that, you are not the user, right? You are not the user. You are definitely not the user.

Anyone who is involved in the design of the product, and anyone who is involved in the engineering of the product, is not the user. So if you think of product like television say right, if I ask you whose is not the television user, let us say in the urban setting only, you would find little laughable right. Who is not television user, but believe me when I



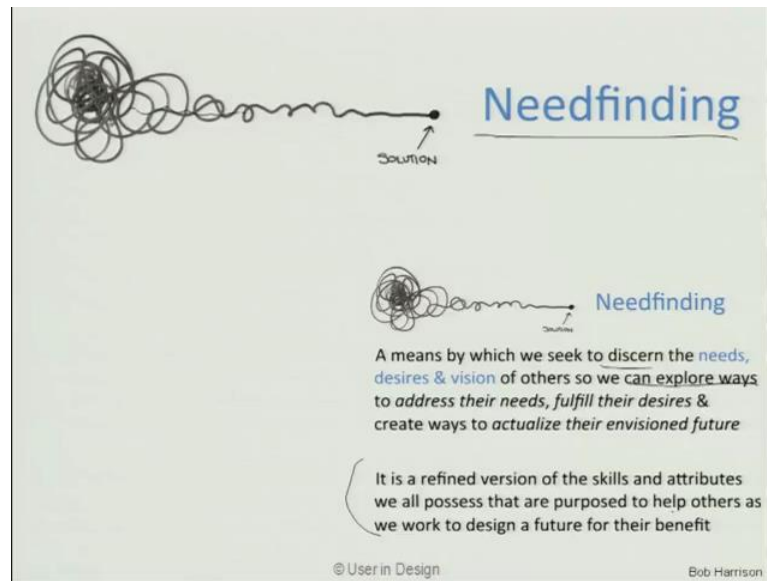
worked on these products, I found that when you are an engineer working on television product, versus when you are the TV watcher, they are 2 very different people. So when you are an engineer, you know that nitty gritty of the product. And those are the things we need to be not an expose to the user, not we need it to be hidden from the user. So lot of the technical mambo-jumbo is what comes naturally to us, if we are the part of the team. Then it starts reflecting in the product, so first and important thing to remember is, know your user because it is not you; definitely not you.

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So, who are these? These are herd of sheep. And what do you know about sheep? So sheep typically go in herds. They go together, they follow the shepherd, they follow the dog, the dog who I am not getting that name. But you know, they follow, they follow, they bundle together live together right. So remember your users are not sheep. They are thinking people, with specific needs and wants. You cannot expect at people will just, you create something; they will just blindly follow it. Particularly today those days are gone, where we are able to put things down people throats. And you know, perhaps designs that are not right ones, could also be pushed through. But those days are gone now. Your users are thinking people with specific needs and wants. They are thinking people, alright.

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So, now we need do what is called need finding. We want to find what they are needs are and if you look at this representation, it kind of needs. You see that it is a big jumble like a completely mangled ball of wool, and then it slowly started to unravel until this point where it all become clear right. So this is what the needs finding process is like. If this a you know nice visual representation, where a you know you start with this big jumble and when you start yours as you do more and more your thinking, what is going on I cannot make sense of this.

Trust me you will make sense of it. This starts to unravel to a point when you will understand start to see patterns. You will start to see the fog clearing and start to see what are the real needs of those people. So what is need finding? A means by which we seek to discern to determine the need desires and vision of others, so we can explore ways. That is what we are trying to when we design ways to address their needs fulfill their desires and create ways to actualize them envision future.

What do they see in the future, what do they see as far as their needs, what do they as an end to their problems right? So this is need finding is the means to determine that and giving us ways to explore those things. So we can define what a design is. It is the refined version of the skills and attributes we all possess, that are purposed to help

others, as we work design a future for their benefit. So as I told you design is a way of life. Design has the power to prove life. Design has the power to make a huge difference in people's life. That is what this is saying, skill and attributes we possess that are purpose to help others, as we work to design a future for their benefit. So when we design we are not creating for ourselves, we are creating for other people. So we need to do just that focus on those other people.

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The slide has a light green background. At the top, the title "Difference between User Requirements and UI Specifications" is written in a bold, dark grey font, underlined with a thick yellow line. Below the title, there are two yellow rectangular boxes. The first box contains the text "User Requirements = Needs. These are fixed". The second box contains the text "UI Specifications = A solution, there maybe others". In the bottom right corner of the slide, the name "Nathanael Boehm" is written in a small, dark grey font. At the very bottom center, there is a small copyright notice "© User in Design".

**Difference between User Requirements and UI Specifications**

User Requirements = Needs. These are fixed

UI Specifications = A solution, there maybe others

Nathanael Boehm

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Now, many few in the organization must be familiar with UI specification or user specification. And you would say what is the difference? You know, I in a document and give in the UI specifications, and that is what the user needs. No, they are different. User requirements are the needs, that these are fixed. This need that the person feels, where is your specification are a particular solution. They are one solution, there may be other solution. Through the need you are trying to find out what are the possibilities of solutions, so that we do not start with this one solution and end with that one solution.

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## Understand Landscape of People

1. Create a list of key people connected with the product/service
2. Draw key trait of each **person**
3. Write what they may say if they were to say one sentence about the problem

- Who is involved?
- What do they care about?



Courtesy LUMA Institute © User in Design

So as we embark on trying to find out about people we need understand the landscape of the people right. Who are this people that are involved in this project? So let us say you know when perhaps when Uber started what must they have done. They must have thought who are the people that are important in their ecosystem. It is probably a taxi driver, it is customers, passengers, and it is people with cars. So and then it is people perhaps other kind people who cannot drive at, alright. Who have car, you know that that the ones who can drive and the ones who cannot drive are two separate segments. So who, that is the landscape of the people the different type of people that are a part of this ecosystem within the problem that we are trying solve. Who is involved and what do they care about right? What is their pain, what is the pain they are facing today because there is not a good service that can take them from point A to point B? What is the pain that the elderly people are facing or young mothers are facing who are not able to drive, and the public transportation also is not supportive enough right.

So, in understanding the landscape of people, what we do is we create a list of key people connected with product or service just like I described to you. So for the elderly person we might say, you know it is the elderly people may be his friends his or her friends' maybe the family member family that he is staying with and so on and so forth right. And then try and represent this person right. So draw a key trait of each person.

So, first create the list of key people. Draw a key trait of each person and then write what they may say if they were to say one sentence about the problem right.

[illegible]

We call this a stakeholder map which is an entire landscape of the people right. Now this a stakeholder map that was created for a project in which we were trying to define a reliable system for coolies and passengers in a railway stations right. So taking that as a problem and looking at all different characters, the different people involved we first make that list right. So there is the passenger, there is the people receiving the passenger,

there is the leader of coolie union, there is the complaint authority person, there is a station master there is coolie of course, the union leader, the divisional traffic manager etcetera right. So these are all the people. And what do we do? We try and envision what they may be saying right. What is the passenger saying? She is saying I want a standardized coolie system which is reliable and upon which I can trust. If look at what the coolie is saying, he is saying I never get paid my worth.

What is the person receiving the passenger saying, oh everything is arranged, just come home now? So as you can see these are reflection of what is the person top of mind thought. What is there, what is on their mind in aspect of this particular problem that you are trying to solve. So this the stakeholder map and if you are so inclined you can try creating something like this, but as first step you know create your list of people, create a little representation of them, this your coolie, this your passenger with the bag, and then write a top of mind thought. What might these people be saying? This itself will give you a lot of thoughts about these people. Who they are and what they are thinking.

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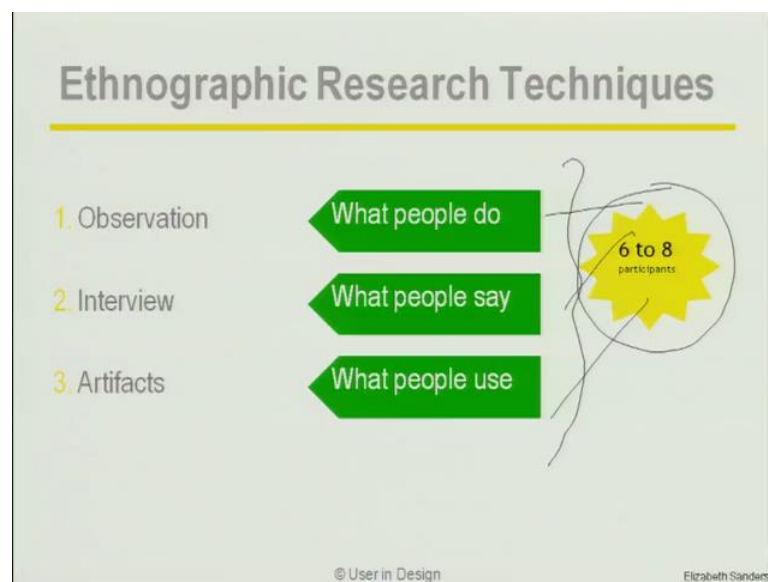


Now, let us move to ethnographic research. When we actually start to interview our user and draw out information from that. Now ethnography is a branch of one of the social science comes from the culture, anthropology, sociology etcetera. So one of things you

must know that design thinking, people centered design is inter-disciplined field. So it on the one hand it has the technology engineering science aspect, on the other hand it has the social science aspects. Sociology, psychology, psychology plays a big part, information science and all those things come here right.

So it originated from the cultural anthropology. I will just give you the brief about this and we will understand how it is adapted to the way we are doing this research. It is concerned with human beings. It concerned with people, right research on people. Focuses on cultures and behaviors over time, so originally anthropologist used to study the movements of tribes for example, when tribes move from one place to another, and they would study them over let us say period of 2 years, and see what changes happen how they behave behavior the characteristics the way of life change. So that is where it comes from right and studies are extensive description of few people. So this is what ethnographic research all about.

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Now, what are the ethnographic research techniques that we use right? We use observation, that is what people do, we just observe. So if you know stand in a bus stop or the say in a mall or in any railway station or public places just observe what people are doing. It is very interesting you will start to you know understand, and if you start to



think what they may be thinking why they doing what they doing also it very interesting. So this is observation right. The next is interview, where we are interested in what people's say when you them the question what do they say.

And then the third is artifacts. What do people use? So let us say you are in interviewing the call center operator, or you are interviewing the station master of the railway station. What kind of tool and techniques does she use? Does she have different forms? Does she use things on the computer? What are the artifacts she uses? Now why is it important to do all of these? Because they are different, and as we know from our experience well what people do, what people say, and what they say they do are sometimes very different thing. So that is what ethnography researches all about, in the context of the design thing and people centered design. And in case you thinking oh my god how many people do I have to go and research and find. The research in this area suggests that about 6 to 8 participants of the right kind will give you very strong good result will give you enough data for you to move on.

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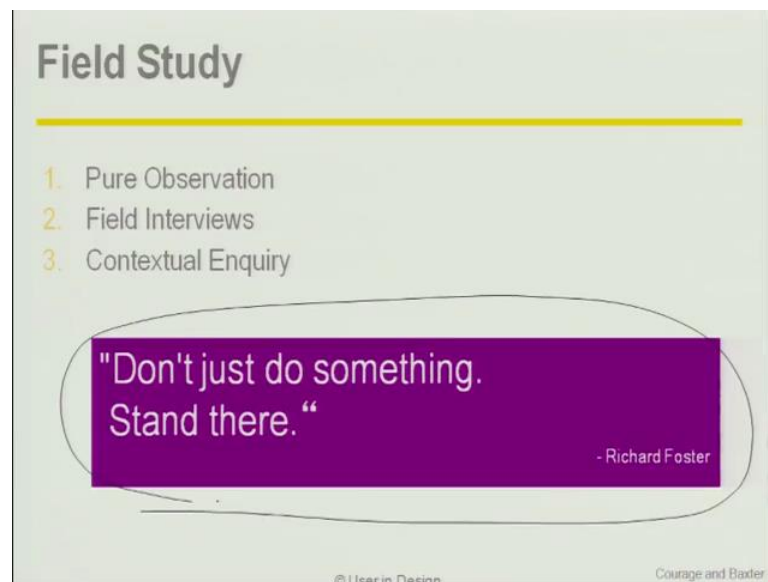


So, when you are trying to do ethnographic research, observe. You know if you are in the music store, observe how people are selecting CDs. How are they selecting music what are they doing? So you are in the field now and you are observing right. Observe from



the top maybe of a restaurant this in a mall you know how is the flow of food happening. How is the flow of the people happening? Where are the plates going, where are the plates going, where is the garbage going and how many people are alone how many coming as a family, those all kinds of things like that right. It is very interesting and off course this is assuming that this is your area of research right. At a checkout counter observe what is happening in the transaction, you know as she is paying, what happens. What are the steps that happen? What is the interface that happens between the customer and the clerk? In a shoes shop, observe how do people make decisions how do they make purchases right.

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So, that is what it is about observing. So this is also called field study. And you can either do pure observation. Just be there and observe and not be noticed. And all you can do field interview you go in the field and then you do on one on one an interview with person. Or there is another technique called contextual inquiry. Where you are asking the person for example, there is a travel agent and you tell the travel agent that you know show how you make the booking. And then she is going to through it and showing you and then you say why did you pick this option and not those options.


So that is the contextual inquiry. So this is a very nice quote by Richard Foster, particularly I am sure we all experienced when which are children our parent telling us do not just stand there do something right. And this in field study it is telling us do not just do something stands there. Just observe silently observe the people. And in the observation of the people will you get more aware and sensitized about people needs.

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**Field Study**



You walk around for a week at the airport observing people being picked up, dropped off, checking in, security checking, interacting with kiosks etc.



TravelSmart.com wants to build a travel kiosk at airport to print itineraries, e-tickets and get online help.

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So, let us say xyz company has asked you to design a travel key kiosk at the airport. Travel kiosk where people can walk up and print itineraries, print e ticket and getting online help. Well you could take this you could immediately start creating your screens right. Because you think you are the user. I would first see the bio-ticket print your (Refer Time: 31:08) blah, blah, blah, whatever it is you pick up from here. No that is exactly the opposite of what you should do. So perhaps you might want to go the airport walk around for a week if it is necessary as long as it is needed, and observe what people are doing. Do you see this very long line? Why is there such a long line? So what should kiosks be doing? This is the kiosks should be taking this long line away right. So how should be kiosks be designed, for whom should it be designed, for all this people. So you observe and then perhaps you start interviewing these people, start asking them questions.

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## Staples Field Research

- 4 months
- 'Life of an Order' project
- Internal Research
  - Staples Employees
  - Shadow driver for 2 days
- External Research
  - 23 business customers
  - 2 months planning and internal research + 1 month external research + 1 month to communicate



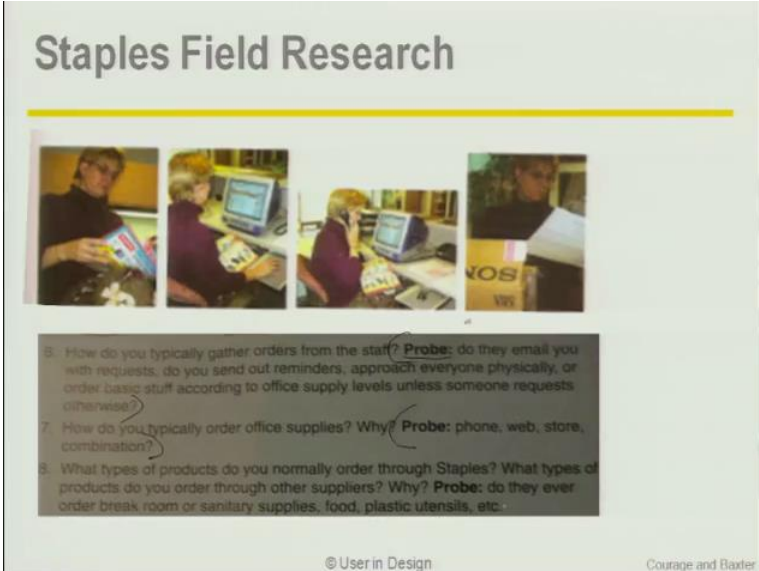
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One example of field research that I would like to share with you is this. That was done at staples several years ago, and staples as some of you may know is huge stationary chain. They sell stationary product. I am giving you all the details just for you get an idea of what field research might be right. So it is 4-month research, it was called life of an order project. So what is the life of the order project means, from the time I the customer place the order, what happens to that order. What are all the steps that it goes through before it the final order arrives at toaster staples on my desk right? So it was a life of an order project. So it involves 2 things. One was internal research was done of employees and shadowing the drivers for 2 days right. And this is you can see these are clips of how the driver was shadowed, the person who is the person who is actually doing the delivery. So the part once the order goes out, what happens when it is on the truck? What are the steps it goes through, so this the steps it went through in terms of the road part of the process?

So, shadowing is a very powerful technique as well. Where you go along with person the travel agent for example, that I was telling you know perhaps she is going around do a bunch of different jobs, say can I shadow you for half a day, can I be with you right. There is very powerful way to learn about the job of another person. Then what is the other thing, they did they did some external research as well. They did research with

business customer right .and they spent 2 months of planning and internal research plus one month of external research and one month of communicate. So that is what the 4 month was right that is for this project was like.

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The slide is titled "Staples Field Research" in a bold, sans-serif font. Below the title is a horizontal yellow line. Underneath the line are four small, square photographs showing people in office settings. The first photo shows a man holding a box of supplies. The second shows a woman at a computer. The third shows a woman talking on a phone. The fourth shows a man holding a box. Below the photos is a list of three questions, each with a "Probe" in brackets. The questions are: 6. How do you typically gather orders from the staff? Probe: do they email you with requests, do you send out reminders, approach everyone physically, or order basic stuff according to office supply levels unless someone requests otherwise? 7. How do you typically order office supplies? Why? Probe: phone, web, store, combination? 8. What types of products do you normally order through Staples? What types of products do you order through other suppliers? Why? Probe: do they ever order break room or sanitary supplies, food, plastic utensils, etc. At the bottom of the slide, there are two small logos: "© User in Design" and "Courage and Baxter".

## Staples Field Research

6. How do you typically gather orders from the staff? **Probe:** do they email you with requests, do you send out reminders, approach everyone physically, or order basic stuff according to office supply levels unless someone requests otherwise?

7. How do you typically order office supplies? Why? **Probe:** phone, web, store, combination?

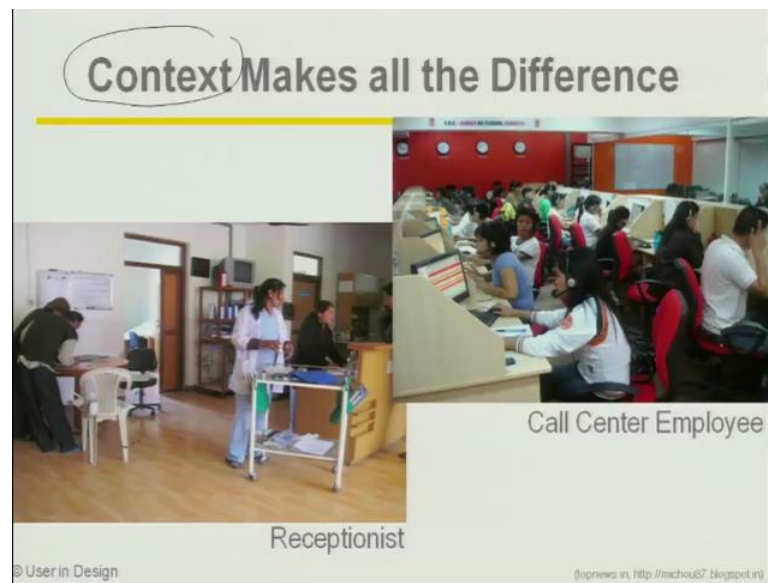
8. What types of products do you normally order through Staples? What types of products do you order through other suppliers? Why? **Probe:** do they ever order break room or sanitary supplies, food, plastic utensils, etc.

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And these are kinds of question that they were asking their customers, how do you typically gather orders from the staff. And there is probe; it is you do not just stop at that you ask them. If they no able to think of an answer, you say do they e-mail you with request do you send out reminders, approach everyone physically, do you order basics stuff according to office supply levels, unless someone request otherwise.

So these are the questions you are asking right. How do you typically order of supplies, why? Is it on a phone? Is it by web? Is it the store? So these are probes. And again when we learn how to frame questions, I will tell you that the probe is in brackets. You do not probe first, only you have these probes ready with. Only if the user does not have an answer, then do you probe right. What types of product do you normally order through staples? What types of product do you through others suppliers? And why what is the probe? Do they ever order bakery or sanitary supplies food plastic utensils etc. right? These are the things, so this, like typical field and internal research with people as well as in the field.

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So, context makes all the difference which is why we go out in the field. We need to understand where this product lives, where this user usage of this product is happening. So this particular application was meant to interact with insurance company. It was meant to give back information to the insurance company. And the same application was being used in call center as well as in doctor's office.

Now what was happening in is the call center application was working fine it was the identical application, but in the doctor office, that same application used to send in insurance claims back to the insurance company, there was big turnover of staff. People were not sticking on in the job and in the further probing, what did they find out that this is a very interrupt driven environment. So perhaps you know when this person was working, when the work at receptionist, they also attending to customer, they also taking to the doctor, also answering the phone, and in the process this particular application was not very friendly or comfortable with these interruptions. So perhaps they lost their work, perhaps they were not able to remember something they had entered earlier, so the context makes a very big difference. The same product that was very successful in this environment does not work in this environment.

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Alright I do not know if many of you had read the book by Kishore Biyani called, it happened in India. And it is an excellent book, while he is not a designer, some of the things he has talked about, interns of how he researched and arrived at big bazaar and food bazaar a very insightful. In that he approached this very much like a design thinker. So what he used to do is he used to be watching observing and listening to customers. Listening to what they saying and keeping making changes and as you know you know, the supermarkets, that, this, this supermarket was designed for India for the kind of people in the India population, that he wanted to bring in the supermarket, were the kind of people who are kind of people more comfortable shopping in bazaars.

He wanted to bring them into his store right. They were more comfortable with the bazaar environment and also they worked more uncomfortable being in an air condition supermarket. They did not feel that they belong there right. So his research and his studies and lot of introspection in led to the design of the big bazaar as it is. And he created what he called organization chaos. That sense of the bazaar you can see is very apparent here very different from the western supermarket. Where you have this you know straight clean sterile ill's where is over here it is the bazaar like environment here and you have the element of a bazaar.

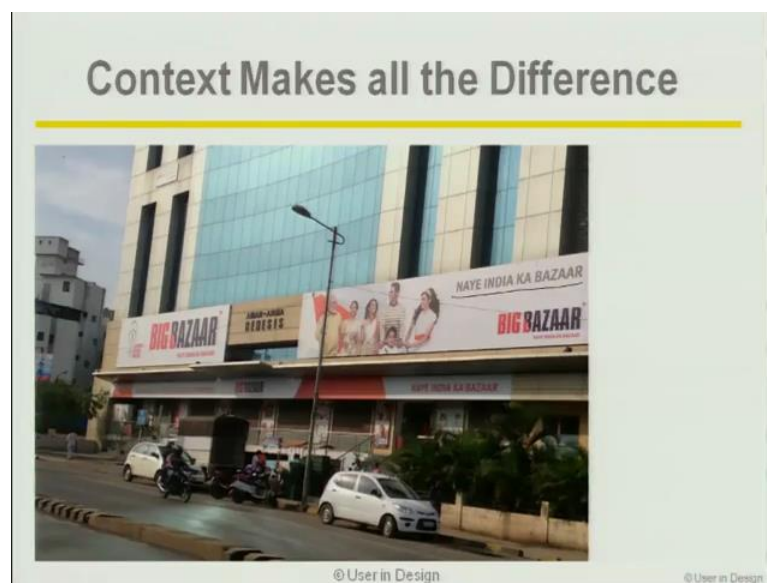


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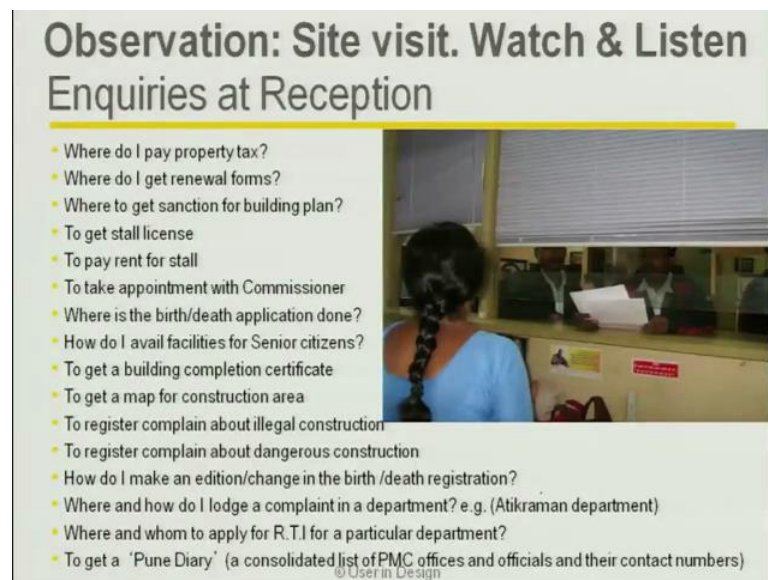
In there also, in the way the vegetable shopping area, you can see that tokri over here you see how it is all placed; you know the beans and everything. This all gives the comfortable to the user who we are targeting, who we are trying bring in who is going to be the part of that the design environment that we are creating.

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And with that came the tag line, which was brilliant tag line of that time called [FL] India [FL], so this how the new generation of India shops. That is what he was trying to say, so very interesting approach.

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So, this is an example, that I am showing you, on a project I worked on for the Pune municipal corporation right. And we were trying to help them with their public facing websites. And as the starting point was you know, I wonder what this people come to the website for. Why, so before we went to the website we said, what do people come to the corporation to find out? How do we find that out? We were really wondering how do we gather the information. What are people interested in when they come to the corporation right.

So what we did is we went to reception of the corporation building and we just hung about over there. We just stood the reception and in the very short time arrived with all these questions. This what people were and asking: where do I pay property tax, where do I get stall license, where do I get map for construction area, how do I make it change in the birth death registration, where and whom do I apply R.T.I to the particular department. So these were all the things that people were asking. These are very strong



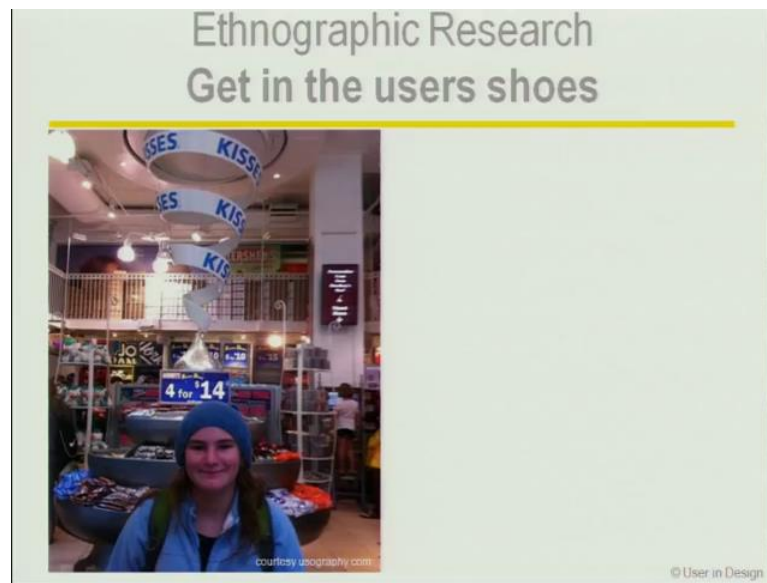
insights, how we should design this public facing portal that we are looking to embark on.

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So, I want to share with you some interesting stories about some people, and how they actually did this kind of research, so this picture of Henry Dreyfus. Who is very well known designer, and he is the designer who is responsible for working with singer, Sewing Machine Company. He worked on that product he became very famous for Honeywell thermostat. You know honey well had round thermostat that lived for years and years and years he might still live, but he was the person who designed it and many others. So now, when Henry Dreyfus discussed with designing of singer sewing machine company approached him to design for them what is the first thing he did. He and his team went and enrolled in stitching classes. They wanted to understand how do people learn stitching, how do people do stitching, how do people feel the stitching, what does the machine do, what does not do. In order to understand that product he put himself in shoes of the user, very important, to put yourself in the shoes of the user.

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This was the Hershey chocolate store alright in New York City. And the design team what they did was, in order to figure out how it should work for children, because they were really trying to appeal the children. They got into the user shoes, and what did they do the entire team they got on their hands and knees, and they spent their entire day on their knees walking around the pavements and around that general area. And what they were trying is to see and understand, how does the world look like from the 3-foot view, from a child's view. So that is getting in the user's shoe, as much as can, if you can firsthand experience your user contacts your user environment it will really helpful to you.

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This is the designer call Patricia Moore. And Patricia had been, she started working on a product for the elderly, for people with some kind of physical disabilities. And she used to get into this costume. She used to get and wear the kind of things that would restrict her movements make her not just look, but also feel like a really old person. She did this for a long while and she actually became one of the leading people with expertise in the area of the design of the elderly and she came up with some really good design, but she spent an extended period of time dressed like this, and also wearing equipment and think that would make her feel like her an elderly person.

So you do get things called empathy suits, you get pregnancy suits, so that make you feel like the person like for example, a person who is pregnant, or you get this vision reducing goggle which you wear and you feel what does the eye sight look like to the person who has limited vision. Or you know gloves that limit your motor controls, so these kinds of things are available that help you understand, how does it feel get yourself in the shoes.

So, recently I met with an upcoming actor, who is looking to become an actor. And one of thing he was doing trained by his mentor. He was going around and exactly doing this. So he spent half a day in the petrol pump. He was filling the cars with petrol, was doing

the billing. So he spent half a day, then half a day he went and spent in a vegetable shop, where he sat down and he tried to sell the vegetables himself. And the kind of exposure he got and the experience he acquired, I am sure is like none other. And you know as a designer this part of the whole empathy exercise. You need to feel what your user feel, how would you otherwise design the best for them, this is one of the best ways to do it.

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**BE the Customer...**

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1. Take a support call
2. Go to the warehouse and pack an order
3. Unpack and setup your own product

And you'll quickly discover things about them and their experience you would otherwise never have known.

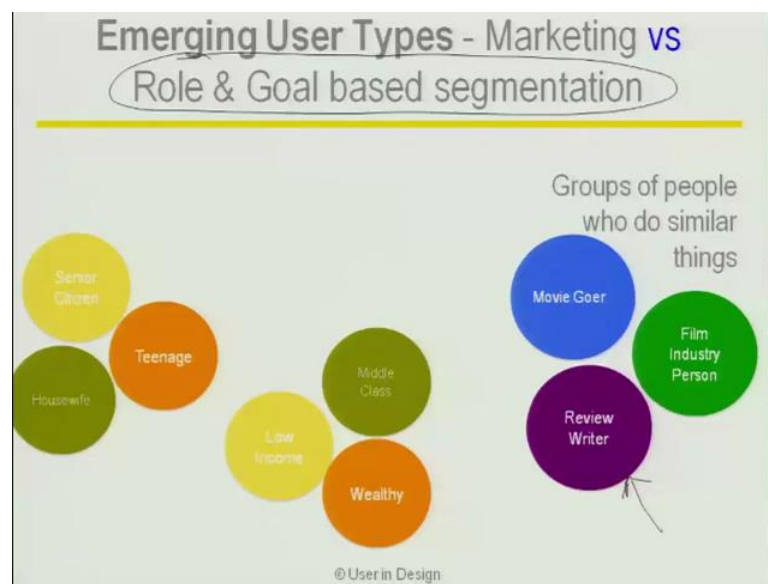
*Make this a regular event on your calendar*

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So, be the customer, take a support call you know, go to your support center your customer service center, and then be there are the end of the line when the customer calls, may be it is an upset customer see what it feels like, see the kind of things they ask, go to the warehouse and pack and order, try and see what is involved in actually packaging and order and trying to get it out to the customer. Unpack and setup your own product, or watch someone close to you unpack it right. It is invaluable the kind of feedback and information and inputs that that is going to give you. You will quickly discover if you are able to be the customer, you will quickly discover things about them and their experience that you would otherwise have never known. And ideally those of you who work in offices, working on product, working on you know designs that currently do not bring the user and the customer into the fold try, and make this a regular event on calendar.

When I was working in one of the company, I used to keep a list customer in my drawer. And every afternoon, not every afternoon every so often in the afternoon, I just get in the car and go visit a customer site. A 1 hour at a customer site can extremely, extremely valued. So as you go through this exercise, and you know investigating user and trying to understand their needs and everything, you will find at certain user types are emerging. Who are the types of the users, maybe the once who are eager to do something, the ones who are intimidated, the ones who are sheep you know like the followers, so those kinds of things. What I would like to emphasize at this point is that, this is not a marketing type of segmentation that we do. This I would like to explain to you the marketing versus the role and goal based segment that we do in design.

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Role and goal based segmentation, so a marketing segmentation might be something like this where you have senior citizen, house wife, teenager. Or you might have middle class, low income, wealthy. That gives us 0 insights for design. Whereas if we have a group like this, when we are studying you know different kind of people related to movies, we have movie goers, people who are you know who go to see movies. Film industry person who is a professional in the industry, a review writer who writes movies a movie reviews right, so if you notice a moviegoer could be middle class, could be

house wife, could be any of those right. A film industry person could be either of these. In your citizen middle class whatever it is.

Review writer likewise. So if they do not fit it into one of these categories, but what brings them all together is the fact that they are average movie goers. Is the fact that all write reviews for the movies? So it is role and goal based segmentation it is based on their role and their goal. And when we know what we need to know and about it is about review writer, it gives us insight for design. It gives us information about how to design for the benefit of this review writer alright.

Now, you have done you know research with users. You have gone out in the field perhaps you have spent time there you have come back with information. So that is one critical part of the research and the most important part getting in user's shoes going out in the field and actually doing all of this. Now there is also a lot of literature. Very big bodies of literature that are available that have done huge amount of research on how people behave in interacting with the product. So it might be a good idea for you at that point to also look at what are the different things available. Let us say you are working on something related to e commerce. Or you are related working on something related to banking, what exists say as far as banking user behavior what exist as far as e-commerce user behavior.

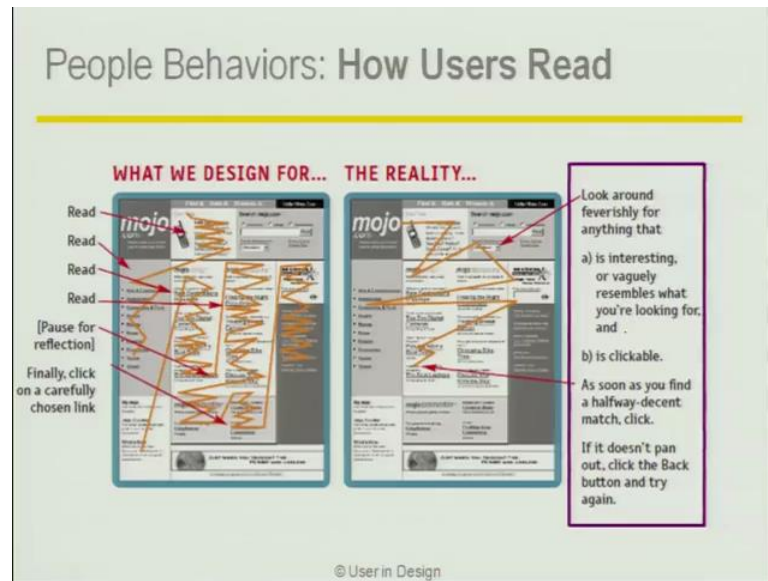
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So, these are the couple of sites that I have shared with you. And avidly follow nails in ungroup. Jacob nail and Donnell Norman, they are the 2 really a very big and senior people in this field. And there is ux matters, 52weeksofux, there are many others. So it would be good for you to look through these and see what kind of research exists. And of course, there are lots of books. One of the books I am going to now present you little except of the user research from is called do not make me think by Steve Krug.

Now this is nice thin little book and I would encourage you to read it, if you get interested and passionate about this subject. He talks about it as a common sense approach to web usability, but believe me lot of the principals really apply to design in general. I think this is a very telling title, as far as human center design and people centered design and design thinking goes do not make me think, do not make me think. This is the user telling you the designer, do not make me think make it obvious to me, what you want convey make. It in intuitive for me, so that I do not have to struggle when I look at the design I know what I am supposed to do. Let us look at couple of accepts from this people behavior how do users read.

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So, this is what we as designer imagine that the user is doing. There are reading from top to bottom, left to right, everything that is on this page. And then they pause for a reflection, they think oh, let me think of this, let me think of that and finally, the click on a carefully chosen link which is of course, the right link. Well what happens in reality? This is what happens in reality.

Zip-zip, jump here jump there, look for some thin look around feverishly, if there anything interesting or vaguely looks like what you think it is and it look clickable click on it. And as soon as you find in the half way descent match, just click on it. If it does not work, click the back button and come back again. So that is how user actually behave, they do not behave this way. This even though this is the way we would love if they behave that is not how they behave. So do not people to read everything or even half of what you write. So without all that how will you grab their attention how will you get them to get through what they need get thorough in the design that you are creating.



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How we use websites? What designers build? You know this neat little thing. And then what does the user see? Everything is all blurry and they just noticing a few things that they are interested in and he says I just want to buy a ticket. I am not interested in reading about all offers, this that and everything. I just want buy a ticket. How do I check my frequent confined miles? Look here, look there, look there, cannot find it, boom! Close the thing and leave.

So this how people behave. What we build and we think that they will honestly completely and full detail follows this how they actually behave. So users are whizzing by, and one of the things he says is that is like billboard. So let us say you are on the high way and you are driving on the high way and there is bill board coming right. How much of that bill board do you notice? Perhaps the heading, perhaps the picture that on them, so think of your design in that way. Think of it like a billboard. That if someone is passing by a quick glance what will he get? And if what they get is enough to help them do what they need to do then you have succeeded.

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## People Behaviors: How we watch TV



TV Viewers like to **"lean back"** and passively watch TV, rather than **"sit forward"** to interact with their TV. Designs requiring them to be **"actively engaged"** is therefore unnatural.

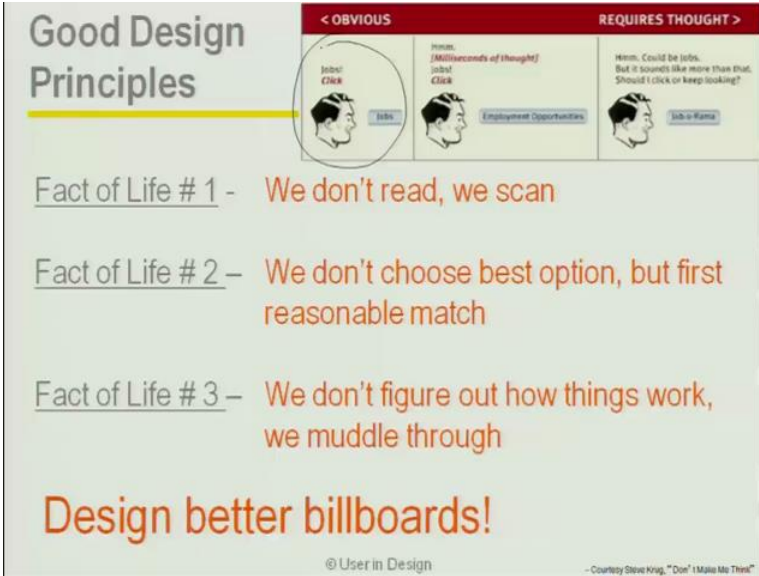
What Shall We Watch Tonight?  
Matt Jones, Neil Turner and Paul Cairns

UX Magazine, Volume 8, Issue 3, 2007

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How do we watch TV? This is the research that was done. And it says that TV viewers like to lean back and passively watch TV, rather than sit forward to interact with the TV. A TV is not a computer right? Even if there is a computer in the TV right now, there is so much program and so much information and so much decision making, but still when people are watching TV they like to be sitting back, and not sit forward. Designs requiring them to be actively engaged are therefore, unnatural right. They like to lean back they do not want to sit forward. So this is how people behave so as designers we need to understand that and we need to design accordingly.

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The slide is titled "Good Design Principles" in a large, bold, black font. Below the title is a horizontal line. To the right of the title is a diagram illustrating three different user experiences with a button labeled "jobs". The diagram is divided into two columns: "< OBVIOUS" and "REQUIRES THOUGHT >". In the "< OBVIOUS" column, a user sees a button labeled "jobs" and immediately clicks it, saying "Jobs! Click!". In the "REQUIRES THOUGHT >" column, a user sees a button labeled "Employment Opportunities" and thinks "Hmmm. (Milliseonds of thought) jobs! Click!". Below this, another user sees a button labeled "Job-o-Rama" and thinks "Hmmm. Could be jobs. But it sounds like more than that. Should I click or keep looking?". Below the diagram, the slide lists three "Fact of Life" principles in orange text: "Fact of Life # 1 - We don't read, we scan", "Fact of Life # 2 - We don't choose best option, but first reasonable match", and "Fact of Life # 3 - We don't figure out how things work, we muddle through". At the bottom, it says "Design better billboards!" in large orange text. The footer includes "© User in Design" and "— Courtesy Steve Krug, 'Don't Make Me Think!'".

**Good Design Principles**

< OBVIOUS      REQUIRES THOUGHT >

Jobs! Click!      Hmmm. (Milliseonds of thought) jobs! Click!      Hmmm. Could be jobs. But it sounds like more than that. Should I click or keep looking?

Jobs!      Employment Opportunities      Job-o-Rama

Fact of Life # 1 - We don't read, we scan

Fact of Life # 2 - We don't choose best option, but first reasonable match

Fact of Life # 3 - We don't figure out how things work, we muddle through

**Design better billboards!**

© User in Design      — Courtesy Steve Krug, "Don't Make Me Think!"

Good design principal from Steve Krug. A couple of principal shared with you. Here is an example that say, this is a button called jobs and it makes you think. Do not make me think, jobs is jobs. There is no ambiguity there. Here are employment opportunities. So hmm, I do a couple of milliseconds of thought and then I say oh that probably means jobs click. Here that one says Job-o-Rama, trying to be really cute and really funny. What happens to the users? Hmm it could be jobs, but it sounds more than that. Should I click or should I keep looking? You can see that the user is thinking. They having go through a thought process so this is the ideal right.

So, among design principle, what is fact of life number one? We do not read we just scan. Quickly scan. Specially, in today is information age, people are so overloaded with the information, they reading in depth less and less and less. Fact of life number 2, we do not choose the best option. But the first reasonable match, the first thing that looks kind of like around what we are looking for we will pick that. Fact of life number 3, we do not figure out how things work. We just muddle through them. We do not want to sit and think and analyze we just muddle through it. So since we do not bother to spend the time to figure out how things work and we just muddle through, somehow we need to design better billboards right. That is what it means. As I told you when you are driving through the high way, what do we see just the glimpse of what we get out of the billboard as we

are wheezing past it that is the approaches we need to take for design; you know what is more important information and what is the next most important information etcetera.

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## Good Design Principles

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**1. No Question Marks**

Where am I ?  
Where should I begin?  
Where did they put that there?  
Why did they call it that?

Question Marks take time, add to cognitive load

**2. Good Designs have to work AT A GLANCE**

User's reality is "Billboard going 60 miles/hour"

Very Important

A Little Less Important

Nowhere Near as Important

© User in Design — Courtesy Steve Krug, "Don't Make Me Think"

So, good design principal means no question marks. Do not make me think. Why? Because questions marks take time, they add to our cognitive load. Cognitive load is the load that we have when we need to have a need to think right. That is the cognitive load more time spent thinking is greater cognitive load. So no question marks, where am I, where should I begin, where did that put that, what did they call it that, etcetera; so good design has to work at a glance. So user's reality is billboard going 60 miles an hour right? So this is how you need to position the information. Very important big and right on top, a little less important next and now where near as important you know write down there. As your walking pass the billboard you will be able to read everything, but if you are whizzing past it rushing past it may be you will see this much.

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## References

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Slide 5, 6 - Graphic designed by Freepik  
Slide 8 - Apala Lahiri Chavan  
Slide 9 - [www.demystifyingusability.com](http://www.demystifyingusability.com)  
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Slide 11 - Bob Harrison  
Slide 12 - Nathanael Boehm  
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Slide 15 - Barbara Hall  
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Slide 19, 20, 21 - Courage and Baxter  
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Slide 30 - Tyler Hartrich  
Slide 31 - Indi Young  
Slide 32, 33, 34 - Steve Krug  
Slide 36, 37 - Steve Krug

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