

Understanding Design Thinking and People Centered Design
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Lecture - 04
Introduction and Problem Discovery
Examine and Reflect on the Problem

All right, now we are on to sub part 4 of the first section which is introduction and problem discovery.

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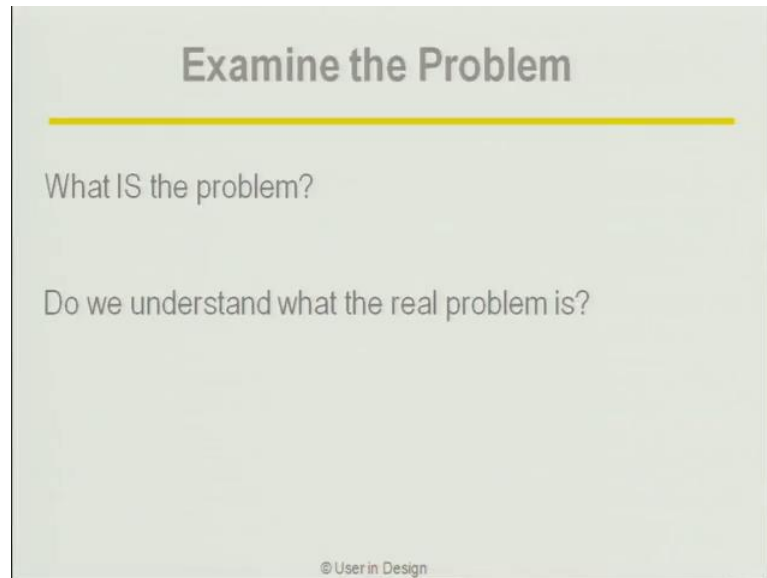


So, we are now going to be working on the problem discovery part. We start our journey of design thinking and people centric design and we begin with examine and reflect on the problem. So, let us say you given a particular problem to solve, what is the first that happens that you do very common and very typical in a lot of situations, we tend to just jump into creating a solution and that solution is based on what we know, and what we think is the right solution. What we think is the problem and perhaps it is what we face as a problem in that situation.

So, in subpart 4 and 5, we are now going to be looking in to taking that problem and then, examining and reflecting on it, reconsidering, looking at it from different directions, looking at it you know from question with a questioning mindset, with the wandering mindset and then after all that arriving at the right problem to solve which

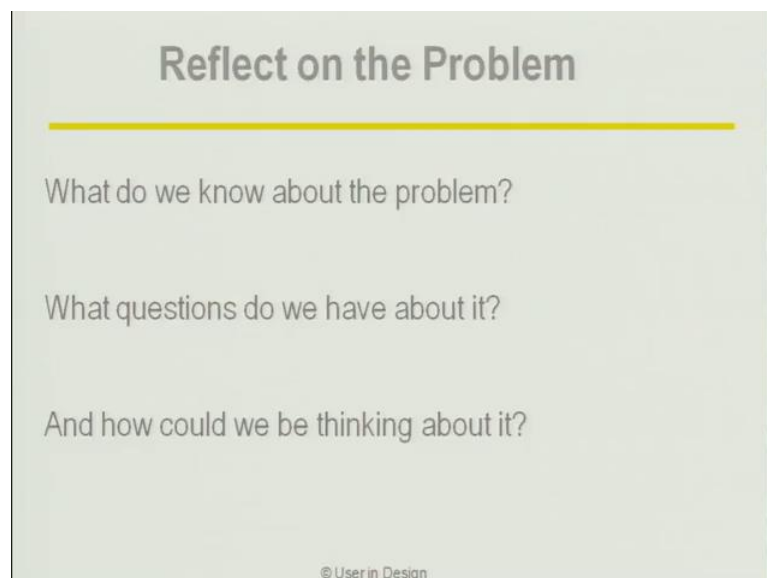
may or may not be the problem that we began with the problem that were perhaps given to solve.

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So, first half is examining the problem, we look into what is the problem do we understand what the real problem is, what is the deeper problem? What is given to us sometimes maybe at a very surface level, very face value do we take it at face value and run with it or do we examine for the and trying understand what the real problem is, what the deeper problem is.

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And then, we reflect on the problem, we trying introspect, and look further out what do we know about the problem. What questions do we have about it? What do not we understand, what are we wandering about and how could we think we be thinking about the problem? How could we perhaps broaden the whole thing sometimes maybe perhaps narrow it and then, think about the problem further and through the reflection and this examination process. We come out perhaps with a better problem statement and by better problem statement what I mean is something that is perhaps closer to what the user needed; however, we doing this internally we doing this within the team.

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The slide is titled "Example - What is the Real Problem?". Below the title is a yellow horizontal line. Underneath the line is a dark brown box containing the text "Design a vase". Below this box is the text "I THINK this means.....". Underneath this text are three yellow boxes, each containing a different perspective on the problem: "Design a container to put flowers?", "Design an object that holds flowers together?", and "Design something that provides floral beauty?". At the bottom of the slide, there is a small copyright notice "© User in Design" and a small text "Vase example Marcelo Soares".

So, let us looking at an example of what is the real problem. So, let us say I ask you to design a vase right, one of the first things and one of the most typical things is you will sit down with the pen and paper perhaps, draw an s shaped object something that sits on a table and you will say here is my vase right. Let us look at it a little different way. Now if we examine this a little more we say I think this means, perhaps I need to design a container to put flowers container could be anything right then, you think further and say maybe perhaps it is about designing an abject that holds flowers together. Remember we changing the prospective the view a little bit every time perhaps we look at it some more, think about it some more and say maybe we should be designing something that provides floral beauty.

So, I am sure you can appreciate the difference that is happening as we go along this path thinking about the vase and saying well, what it really means that I need to design a container an object that hold flowers together, design something that provides floral beauty and then you might say I wonder. Now I wonder I do not know whether maybe it could be something else.

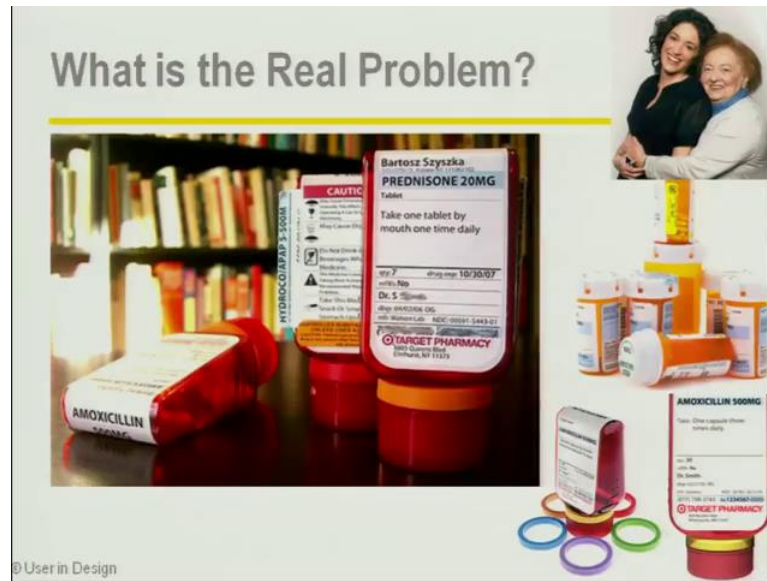
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The slide is titled "Example - What is the Real Problem?". Below the title is a yellow horizontal line. Underneath the line, the text "I WONDER if it could mean....." is displayed. Below this text are four boxes arranged in a 2x2 grid. The top-left box is yellow and contains the text "Design a way for people to enjoy flowers in their home?". The top-right box is yellow and contains the text "Design a way for people to enjoy flowers?". The bottom-left box is dark brown and contains the text "Design a vase". The bottom-right box is dark brown and contains the text "Design a way for people to enjoy flowers in their home". At the bottom center of the slide, there is a small copyright notice: "© User in Design". In the bottom right corner, there is a small vertical text: "Vase example Marcelo Somers".

So, this is the questioning kind of approach the wondering the thinking the deeper the examining kind of approach that you go through, now you say how about maybe I should be designing a way for people to enjoy flowers in their home I am sure, you can see that starting with design a vase we have come to design a way for people to enjoy flowers in the home. If you take the second as the problem statement is very likely that it opens you up to think of very different possibilities for design that it helps you a think along a much broader prospective perhaps come up with various solutions.

If you started out with designing a vase probably it is limiting the solution right you might take this further and say I wonder if could mean designing a way for people to enjoy flowers it could be anywhere it does not have to be their home right. So, this is how we examine the problem we introspect we read revisit it and we reflect on it and then try and figure out what is it that I should be designing what is it that, that is the right thing to design. So, this is how we go about this.

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I would like to show you now an example of this project by Debra Adler who was a student in a university in California and she found that she was looking at her the way her grandmother and her grandfather take medication and by the way this what you see on the right over here is how medicines are dispensed in the US. Over here in India many times we have medicines being given it to us in packets maybe brown paper packets or news paper packets or plastic packets in the US. They dispense in this containers.

So, what she found and this is Debra Adler and that is her grandmother what she found is that her grandmother was taking her grandfathers pills by mistake and as you know as a youngster you can imagine how alarming that could be. So, Debra Adler at that time was in design school. So, what she did is she took this on as her master thesis and she worked on it for a period and then she came up with this as her design solution. A design solution that there after target pharmacy purchased and it became you know it went to the market and it went big.

So, if you look at how she has considered this whole thing you can see the big space over here where very clearly the person, whose medication it is able to see what tablet, they how many tablet they are supposed to take and at what frequency you can see that the name of the medication with the strength is very clearly labeled on the tablet, you can see the date and the doctors name and all these other details and of course, the pharmacy name right and then you can see the bottle is shaped in such a way that, it stands on it is

head and you can also see that when it is lying on it is side even then the label is designed in such a way that you can still read the medication, the name of the medication and beyond that what she did is the colour coding of the ring around the lid. So, her original design actually had the entire cap in different colours to denote different medications and different people's medications, right?

However, if you remember we spoken the last section about feasibility and viability. So, what is found during manufacture prior to manufacture, it was found that it was getting very expensive to have different coloured caps for these bottles. So, what they did is they a kind of did a compromise design where the bottles were all the same and this ring was different for the different medication that different people might think. So, this was her solution.

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Now, what is the real problem was it redesigns the medicine bottle if that had been her problem statement it is very unlikely it would have ended up been the design that it is. Perhaps her problem statement was broadened and understood as ensure that, people do not take the wrong medication and there is a significant difference between the two, perhaps redesign the medicine bottle would have been just making it in to a more modern shape or more attractive shape. Where, is in this case a lot of thought has been given to every little element of how the name is displayed and then some of the details in the back cover which you know, I am not may not be the details may not be legible, but some of

the caution around the medication. So, everything is you know visible as well as the cap is easy to open especially for elderly folks who may have you know difficult body control right.

So, reflecting thinking examining and saying, what is the real problem and this is all internal reflections and internal examination that we would do as a team.

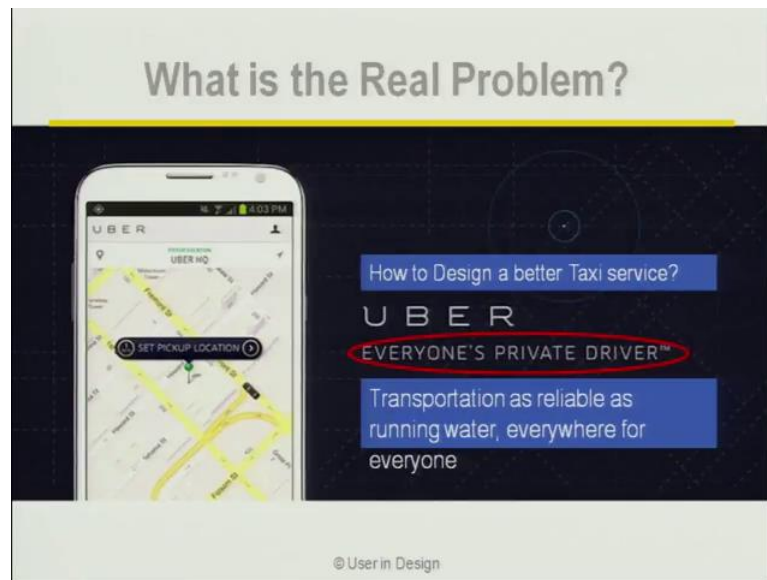
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Now, I did a work shop in rural Maharashtra with about eleventh twelfth standard children and these youngsters, I gave them the exact same problem the exact same problem that Debra Adler faced and that she solved through the master thesis except that I told them that you need create your design with the single sheet of paper. So, these youngsters went about it. Very honestly the kind of things I am telling you about they spoke with their grandparents they you know tried to understand what are the issues are around people taking medication and this was there one of the early solutions and this was in Maharashtra. So, it is all in Marathi saying Sakaal Dupar Sandhyakal and they have marked on this when a particular medication needs to be taken.

So, this was an early concept and then I gave them colour paper and I ask them how you would design change. If you have to do this in colour paper and so, you can see there is a little container taking shape where they would separate the medications for the different times of day.

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So, this was a very simple kind of solution for you know these kids in the rural school, but it was the same problem of how people make mistakes taking medication all right. An example much closer to us now everybody is talking about Uber right, the excellence service that has been created, so in looking at Uber I do not know what there in (Refer Time: 12:48) problem statement was, but perhaps maybe starting out with how to design a better taxi service with that have led them to where they are today probably very, very unlikely right.

So, I would imagine they went through a lot of introspection and reflection and thereafter, I am sure field research and everything and I looked up what their initial statement is and this is what it says transportation as reliable as running water everywhere for everyone, this is what Uber's machine statement is and this is that tagline everyone's private driver. So, I am sure you can understand and appreciate how it makes a big difference how you frame your problem. How you define your problem statement whether you take it at face value as is or you examine it spends some time reflecting on it look at it from different directions and then say I think this is what we should be designing right. So, this is this whole exercise this whole activity is the starting point of the design thinking process. Where you start with the problem statement and then internally you first look at different possibilities.

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Example - Examine the Problem

Problem: Design a service that will utilize the professional experience of elderly/retired people

I THINK this means (they).....

have many years of experience	want to share	want a sense of purpose	want to connect with people
need our patience and time	have limited tech abilities	cannot spend long time at a stretch	maybe wants to learn new skills?

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Let us look at another example. So, this is a concept that we were looking at in designing a service that will utilize the professional experience of elderly or retired people. So, we all know elderly retired people they go through a very you know illustrious career many times in which they are extremely busy it is full of self respect and you know self fulfillment and all of these things and then one day they retire and then everything comes to a close and it often times leads to a period of loneliness of you know not knowing what to do with that time and then need to connect with people and all of those things and at the same time they have spent many years in their career.

So, perhaps they have a lot of experience that could benefit different people. So, this is the problem reflecting on it you know what does this mean? We could have just runoff and said let us design a service the service is going to be like this we create an app and then this person is going to call and da, da, da, da, da. So, instead of that we try and think about it, examine this and say I think this means that they the Elderly's they have many years of experience true I think it also means they want to share. They would love to share what they have their experiences and communicate and give to other people. I think it means also that they want a sense of purpose they feel the vacuum in their lives now and they are longing for a sense of purpose, a sense of having an opportunity to do something meaningful opportunity to do something that engages them with people with meaningful work etcetera I think this means they want to connect with people right that they it gives them an opportunity to talk to people etcetera.

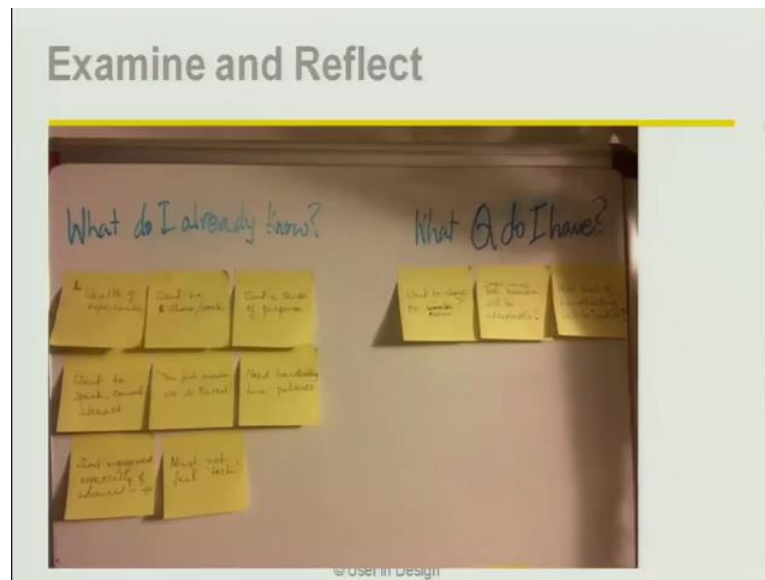
So, looking at this problem and you know thinking further about it we come up with a bunch of a bunch of sort of considerations related to the problem. Further, we think that perhaps they need our patience and time they need a lot of time, perhaps they also have limited technology abilities that is something that we need to keep in mind. They perhaps cannot spend long time at a stretch doing whatever task it is given their advancement in years. Maybe they want to learn new skills possible. So, these are the different things that we sit down and try and think about of the problem right.

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The slide is titled "Reflect on the Problem" in a large, bold, grey font. Below the title is a horizontal yellow line. Underneath the line, the problem statement reads: "Problem: Design a service that will utilize the professional experience of elderly/retired people". Below the problem statement, the text "I DON'T KNOW if (they)....." is written in a bold, red font. Underneath this text are four light green rectangular boxes, each containing a question: "want to share or also earn?", "will have a very low technology threshold?", "will need a lot of support?", and "want to just gain respect again?". At the bottom center of the slide, there is a small copyright notice: "© User in Design".

And then the next thing we think about is I wonder or I do not know I am not really sure or would they also want to earn this has an impact on the; obviously, the business the definition of the business. We will they have a very low technology threshold I do not know perhaps it needs to be very, very simple technology if we thinking of the technological solution will they need a lot of support will it perhaps be more support than it is worth it would they want to just gain respect again is that perhaps one of the needs that they have that there able to share and get the kind of respect regard that, they had at their work place.

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So, these are the difference things we think about and as we examine and reflect on the problem and as you can see this is you know when we are actually doing this exercise during the project on the left showing what do I already know? What questions do I have and we were doing this on post it notes which I showed you as well you know on this screen. Let me speak briefly about post it notes. As design thinkers that are one of the most important tools you will use and post it notes are really powerful because, they are small and therefore, they hold one idea at a time. They are easily sharable you know you scribble something and you can put it up and quickly share with other people and they easily they are very flexible, you can move them around create different clusters etcetera.

So, this is one of the tools that I might encourage you to consider bringing stack of post it is and then when you think about ideating on something when, you think about reflecting on a problem or any of those try to use post it notes and you will find they work really well. Remember to write one idea only on one post it, one thought, one issue on, one post it then, it makes it very easy to pull it all together. When you are you know putting it up on the wall and then sharing with everyone and of course, not to mention the other thing is that you can take parts of it. Where is if you create things on one big chart then it becomes difficult to move that chart around and you know you need to move the whole thing whereas, with post it is you can pull out parts of it and work on it.

Thank you.