

Understanding Design Thinking and People Centered Design
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Lecture – 17
Testing, Refining and Pitching
Testing your Design with People

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So, now we start with sub part 2 of our section 4 which is Testing, Refining and Pitching your design. And we understood in the last section what is the importance, why it is important to be testing with people and how much it benefits the design the end design as well as the in terms of you know the arrow iron the design by testing early and testing often with people. Now we will speak a little more about what it means to be testing your design with people.

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Why evaluate with users

~~USER YOU~~

- Nobody gets a design right the first time
- Know thy user....

....for it is not thee

- Saves time
- Gives confidence in design
- Ensures quality
- Ultimate sales pitch



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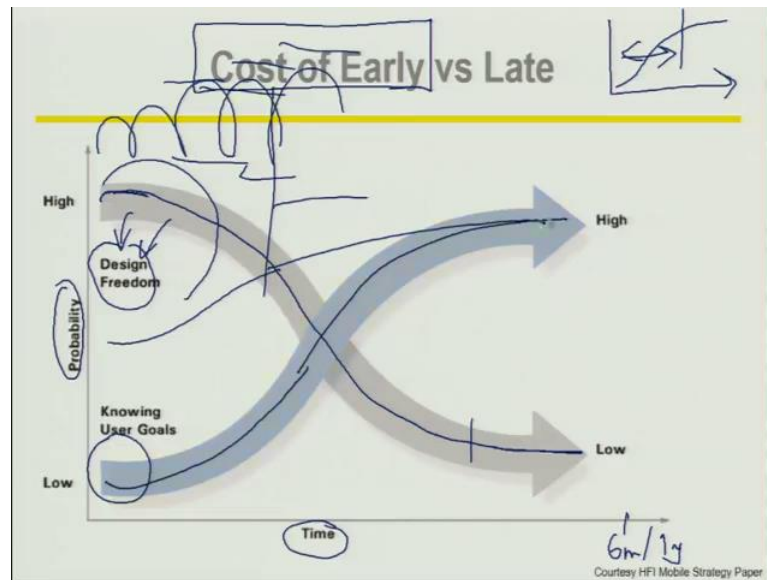
So, why are we evaluating with users again because as I mentioned nobody gets a design right the first time that is you know you accept that and please create early prototypes right and test with people take my word for it. You have seen this is our view of looking at it as knowing your user why because it is not you. The user is never you never ever is the user you. So, know thy user for it is not you.

Evaluating with users helps save time because you iron out a lot of the bugs early it gives you a lot of confidence in the design remember the slide that talked about the heart attack induce emergency that might happen you will sleep much easier at night if you will have gone through these iterative testing not just testing, but testing with people and it at the end of it you will have a lot of confidence in your design that you done the right thing you made the right design. It ensures quality yeah why is quality linked with ease of use or usability of being people centric because if it confirms to what people want then it acceptance is higher its error rate is lower the time it takes for people to you know get things going is much lower and your dropout rate will be lower.

So, all of those reasons which all actually connect to quality, and it is an ultimate sales pitch what does it mean that it is an ultimate sales pitch. So, for those of you who are working in organizations you know sometimes it is really hard in fact, a lot of times it is very hard to be able to convince upper management about your designs or any ideas that you have right. So, if you will have an idea that you will put forth and along with it you

would say this is my idea and this is its benefits, it is this is why it make sense. And I have tested it with users. And this is what it came back with out of 5 users that I tested 4 of them were able to be successful I can bet you your design, your idea, your proposal, will get taken a lot more seriously.

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So, it is an ultimate sales pitch and you know speaking from experience I can tell you that it really makes a difference. We have been talking a lot about testing, early testing your design, early testing as much as possible, early in the process right. Let us look at this diagram. This diagram on the X axis it is got time right. As time goes by and on the Y axis is probability. Probability of 2 things right corresponding to the 2 arrows that are shown, probability of design freedom and probability of knowing your user goals from low to high.

So, what this means is that let us say in the early days of the project when you are just you know starting to get an understanding of the problem and your kind of figuring out and reconsidering and thinking about the problem and everything. At that point you know very little information about your users you are still trying to understand it you just been given the problem for example, and you know you are just trying to figure out the problems. So, you are the your probability of knowing your user goals is very low as time goes by and you get deeper and deeper and deeper into the project you start to

understand better and better and better what your user goals are. So, you go from a low to high and the probability at this point and time so much.

So, let us say this is you know 6 months or 1 year whatever the time frame maybe at this point overtime the probability that you will know much better what your users goals are is very high right. You know much more about your users at that point then you know about this point at this point. Now let us look at design freedom. What does design freedom mean? The freedom to make changes the freedom to keep conceptualizing, keep ideating. The ability to keep designing because we all know that at certain point in the game it is done you cannot design anymore right. This is your window of opportunity to design after that it goes in to final detailing and production, prerelease and all those kinds of things when you cannot make design changes.

So, the design freedom that you have at this point is very very high you can do whatever you want in this point right early in that process. As you go further and further and further in time in your development cycle, in your engineering cycle your design freedom keeps reducing.

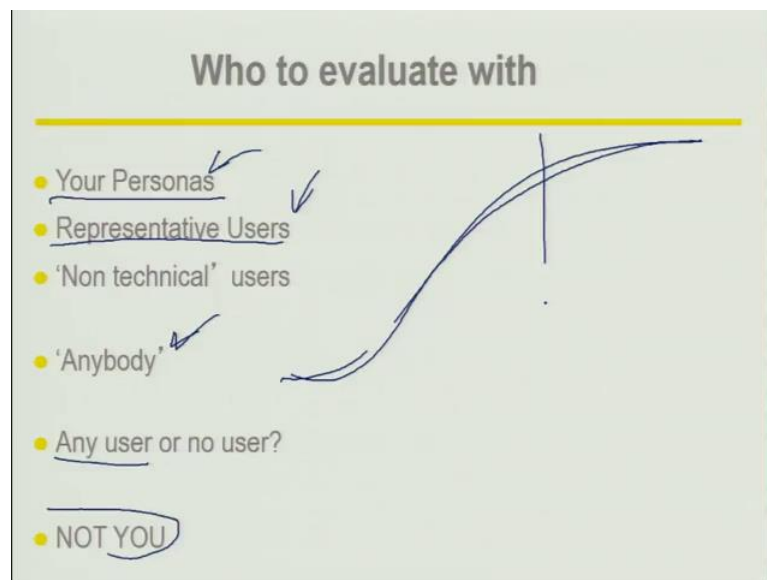
You may come up with the most brilliant idea over here sorry it is too late we cannot put it in this product sometimes it fits a you know soft product you may have the ability to put it in a next release, but you miss the boat essentially you miss the boat. So, the point is that at this point in time in the development cycle your freedom design freedom the ability to make changes is very high over here as you go with time your ability to make changes gets lower and lower and lower and lower.

Therefore, cost of early is very low this is also corresponding to the cost if your design freedom is very high and early in the cycle your costs are very low you have very little invested as time goes you have invested more and more and more into the design and at one point you invested so much that is too late you cannot earn back right. So, as much as you can use of the design freedom, as much as you can use of making design changes making you know trying to make your design better and better and better the better of you are. So, therefore, the cost of early is very low and it is definitely in your best interests to do as much of your design iterations as early in the cycle as possible. So, therefore, you know if you can do like with your paper prototypes within say this period

you can have done you know 4 revisions in which you understood you made your product better and better and better.

As you gone with time you are in very good shape. So, by the time you know one third of the way you already have a lot of confidence and as a result you will have a lot more knowledge of your user goals as well because you will have done all this early research all right.

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Now, the question that often comes and the concern that often comes particularly in corporations is you know who do we evaluate with what is this going to mean how many people do we evaluate its going to cost too much it is going to take too long. So, this lot of objections and if you are equipped with this information you will be in a better position to do that kind of objection handling. So, let us look at who to evaluate with now. You should be evaluating with the personas you created the people whose descriptions you wrote as the typical groups of people the typical types of people who are representative of the kinds of inputs that your design need right the kinds of people whose perspectives you need that you have defined through your personas.

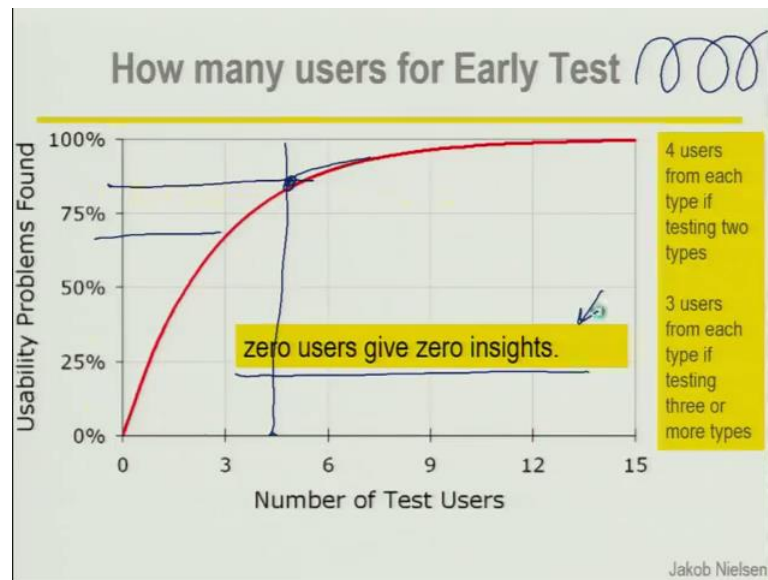
So, this is an example where you know we are looking for people who own very very small businesses sometimes home based businesses and then you know working on like a digital based application for them. So, if you are able to get exactly a personas that is very lucky there are times when you may not get them when it may be difficult they are

un-available they are let us say you are looking to talk to the head of surgery in a hospital you know that person is very very busy and it is not going to be easy to get them.

So, in those cases you try and get representative users' maybe you would talk to his junior or you would talk to that doctors you know the nurse or some people around them who would be able to fill you in on some of the information and then you do a very quick interview with that real person. But this is your ideal this is the next best next is non technical users as much as you can please speak with non technical users because technical users often times are so familiar with technology that it is not a problem for them. When a product is designed to have inherent difficulty of use designed into it miss designed into it I should say non technical users may not find that a big problem and you will never know.

So, you think your product is in great shape, but then the minute its put in front of the people who are not as familiar with technology it would bound. So, the next best is non technical users anybody should you test with anybody or nobody that is the answer anybody any user or no user. So, always any user if you really arrange such a bind that you cannot get anyone, but not you. Again and again I emphasize that you are not the user please do not give your feedback your inputs, your thoughts, about I think this is fine I think this is very easy anybody can figure this out well guess what you are not anybody right. You are very special if you are part of the design team because the graph that we drew you know knowledge about the product and the domain and the project you are getting better and better and better by the time you are half it through you are a (Refer Time: 12:56) expert in the field.

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So, this is who you need to evaluate with how many users right. How many users should you evaluated for an early test? Now Jakob Nielsen research suggests that if you have 2 types of users like 2 personas right. Then 4 users from each type is good from each type pick four users.

So, let us say you are talking about an E learning platform your faculty is one type of user students are another type of users there might be others, but in this case you decided to focus on those two users. So, in that case you know four users from each type is quite good and if you testing 3 or more types of users you know 3 or more personas then about three users from each type why. Why do these numbers come because you can see by the time you are at 4 or 5 users you already have identified 80 percent of the usability problems. And there is no additional value to testing more users if you will have tested 3 you would have already identified about 70 percent of the problems right.

So, there is no additional value you are much better of testing 3 users making a revision another 3 users making a revision another 3 users making a revision. So, instead of testing nine users in one shot you much better off to do 3 rounds of users in sets of 3 and between those rounds of testing you refine your design you improve your design you enhance your design. So, then by the time you get to the third set of users your design gotten 3 times as better.

So, this is again the objection of you know it takes too many users we need to test 100s of users you do not this is all you need and again remember we are not doing this for a research report we are doing it just to inform our design. And choose your user as well make sure you try and get representative users at least if not the actual personas. And zero users give zero insights never forget this statement zero users will give you zero insights you will not have learned anything and all those problems that you have designed into your product continue to live in it like little bugs inside and surface at some point later when because you have lot of grievance. So, that was about some thoughts about testing your design with people.