

Understanding Design Thinking and People Centered Design
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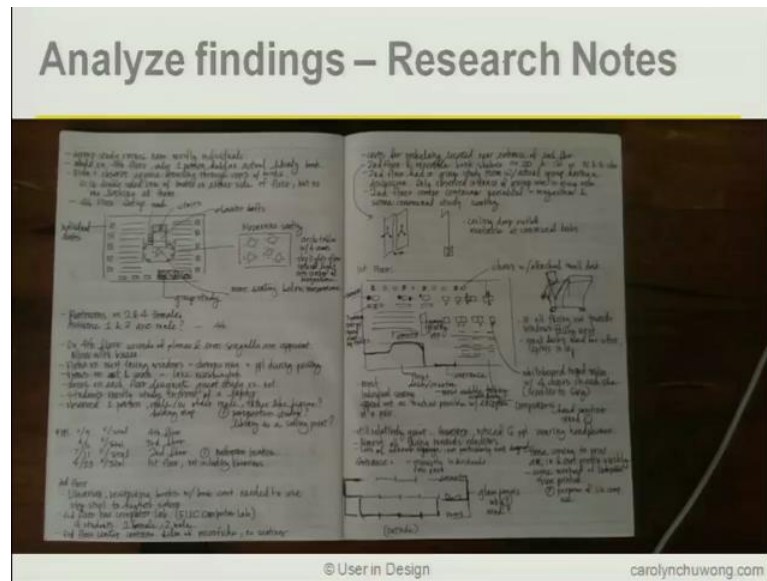
Lecture - 08
Research and Analysis - Analyzing user stories and themes

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So, next let us look at sub part 3 which is analyzing user stories and themes. So, your gone out, you conduct all these interview, you have made a lot of observations you have gone around, thought about it reflect it, gone back asked more questions and your deep into the users life now right. You know, you gotten the pretty good sense of what problems they have, what difficulties, what challenges and what kind of expectation they have. So, now, is time to bring all that back and trying make sense out it. It is a huge amount of information perhaps that you have and how do you come back analyze that. So, we are going to be analyzing of user stories and trying to make themes out of it. Because out of the theme, will emerge the direction for design, based on those themes will emerge your design theme, the theme for your design; so analyzing user stories and themes.

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So, you might go out and you will have taken note like this, right very detail notes you written a lot of thoughts in there. There are some diagrams you made sketches and then little annotation, question mark here, Question mark there, happy face over here. You have done a lot of notes right, you come back what do you do with it. You know this can sit very neatly in your note book, in your computer maybe you scan and put it on your computer, but its needs to come out; it needs to come out and be around you. So, that your thinking about it, you are reflecting on it. And also needs to come out and be shareable among the team. So, the entire team needs to be able to share this information, may be several of them have come back with several round of interview and how do you pull all that together, to make it visible, to make it shareable, to make it you know something that is in the front of every ones consciousness right.

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What Problems did we Find?

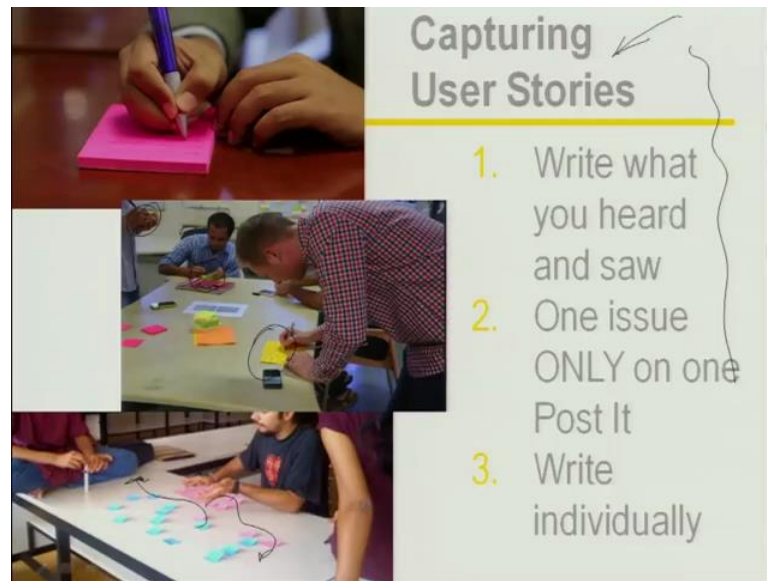
1. What did we learn about the actual needs of people?
2. What did we learn about their actual pain points?
3. What is the actual context in which our solution must fit?
4. Make LIST of ALL PROBLEMS

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So, that is what we are going to learn how to do. So, you know the list in trying to understand, what problems we found. These are the things, on the basis of which we have come back with data; what did we learn about the actual needs of people, what did we learn about their actual pain points. Pain points are the starting or the impetus for your design, their pain is your opportunity for design. Next what is the actual context in which our solution must fit? Right, so, the needs pain points, what is the actual context.

So, now you have a sense having gone to the user context of, if you create a design. What is the environment which it must be live? How does it fit in their life? So, make a list of all those problems, of these the needs the pain points; the context etcetera makes a list of all of that right.

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The image is a composite of three parts. The top-left part shows a close-up of hands writing on a pink sticky note with a purple marker. The middle-left part shows a group of people sitting around a table, looking at and discussing various colored sticky notes. The right part is a presentation slide with the title 'Capturing User Stories' and a yellow horizontal line. Below the title is a list of three steps:

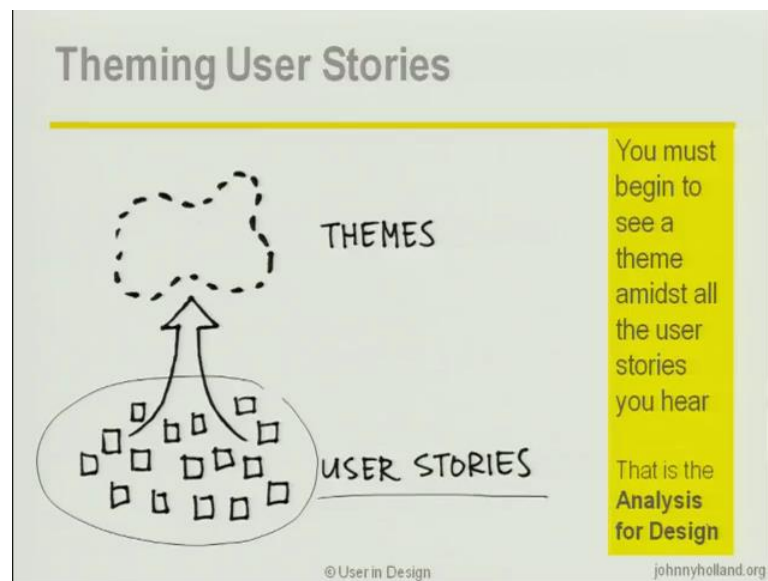
1. Write what you heard and saw
2. One issue ONLY on one Post It
3. Write individually

Then what do you do, how do you make a list of from that, you may make a running list, but after that what do you? Do how you make it shareable and men and the ash you know something that can be in your everyday sort of path of interaction. Again posted notes I spoke to you about them yesterday. These are very powerful tools and would encourage you to start using them. You have this long list of things that are sitting in your note book; start transcribing them on to posted notes. And you come back as a team, may be the team has gone in different direction and done user research and come and gone in tools. Right, you come back and start transcribing those on to posted note, each person is doing their posted notes; each person is writing their posted notes and as I told you yesterday the posted notes are very useful in that, you right one issue on one post notes. And then it makes it very easy to put it all out and to share and discuss to move them around and to cluster them and make group and pair and all kinds of things.

So, that is the power of taking your research and putting it into a form, that makes it possible to take it them to the next level. In order to see the pattern because now analysis means from the research you should be able to extract pattern, you should be able to see certain things naturally clustering together; naturally forming groups

So, that natural forming of groups is easily done with posture notes. So, this what you do right what you heard and saw, only one issue on one post it and write individually, this is something that; if you are working in team, do it individually, do it no discussion, everyone write that thought on the posted time for discussion is later right. So, now, you are capturing all the stories that your users told you, you are capturing the user story.

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And then you are going to be forming themes, these are your user stories and from these will emerge certain themes and this will naturally happen. You must begin to see a theme amidst all the user stories you hear, that is the analysis for design. That where you are trying to now drawing conclusions, drawing broad's generalization from all the smaller little pieces of information that you find.

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Observation: Site visit. Watch & Listen Enquiries at Reception

- Where do I pay property tax?
- Where do I get renewal forms?
- Where to get sanction for building plan?
- To get stall license
- To pay rent for stall
- To take appointment with Commissioner
- Where is the birth/death application done?
- How do I avail facilities for Senior citizens?
- To get a building completion certificate
- To get a map for construction area
- To register complain about illegal construction
- To register complain about dangerous construction
- How do I make an edition/change in the birth /death registration?
- Where and how do I lodge a complain in a department? e.g. (Atikraman department)
- Where and whom to apply for R.T.I for a particular department?
- To get a 'Pune Diary' (a consolidated list of PMC offices and officials and their contact numbers)




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So, if you remember you know by hanging around the reception at the corporation office, by watching and listening; this was the long list of things we found people are asking for right.

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Field Visit Analysis: User Types and Tasks

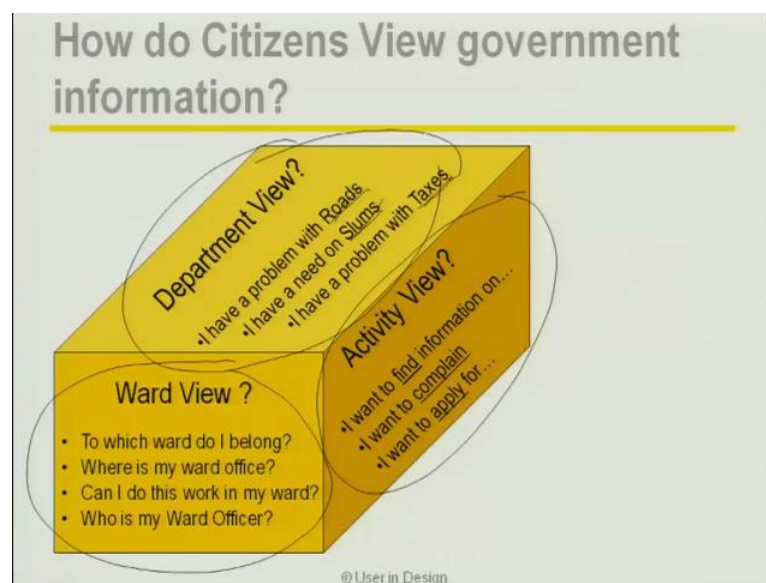


Senior citizen :	Journalist :	Other citizens :
<ul style="list-style-type: none">To submit the water billTo get his name transferred to the hospital nearer to his residence	<ul style="list-style-type: none">Know PMC officers contact detailsGet detailed info on current development plansGet general info about Pune e.g. travel, map	<ul style="list-style-type: none">Submit an application for bldg completion in town planning departmentTo know where the Accountant sits in the PMC building

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So, after coming back and taking that trying try make sense of it, we figured that there are among others you know this is 3 types of people that I am presenting to you, there is group of seniors citizens that comes there and what are the things they are interested in the kind of things they are interested in, they are journalist who come there; what are the kind of information that they are interested in and then other citizen that come what are the kind of the information that they are interested in. You can see how this has moved from this long random list to something that is more sense making that is something that is more you know categorize classified information.

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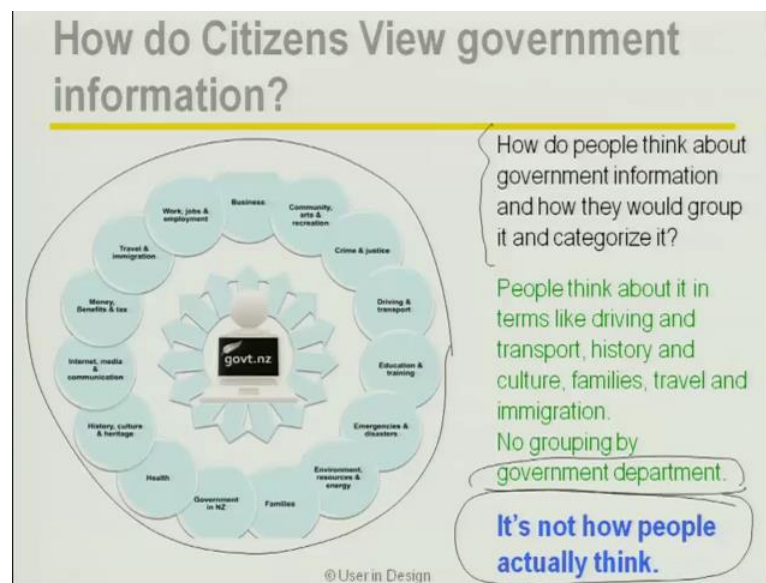


Now, while we are talking about this I would like to share with you, during the work on this project about we found, about how do citizen view government information. Right, how is government information presented to citizens, it is typically presented to reflect the internal if the organization. So, there it is organized by departments and that department is the view that showing on to the public right, but what do people want; what do people expect right.

So, there this 3 view, there is the department view; I have a problem with road, I have problem slums, with taxes. So, each of these is departments in the corporation and that is the view that is reflected to the citizen today, what to you know the odds want. The odds

want would like this to be decentralized. So, they are interested in a ward view, which ward to I belong, where is my ward office, can I do this work in my ward, who is my ward officer. This the view that they would like to push, what do the citizen, want what do people want, I want to find information on property tax. I want to complain about you know too much noise in my neighborhood or whatever it is, I want to apply for the restaurant license this the view of citizens.

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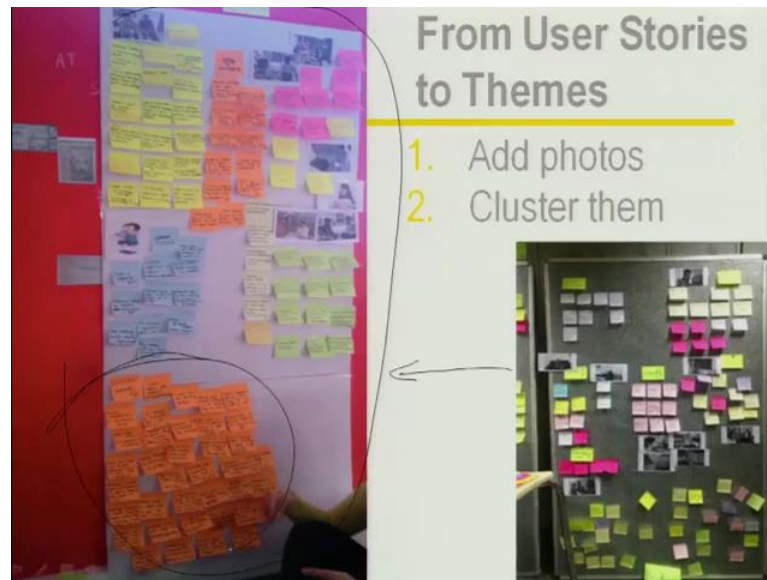


Now, co incidentally I found there is research, that was done by the government of New eland and likewise these are all their departments and this is what was presented to the public, this became the public phasing interface for their government itself. Which were the internal departments was shown to the public. Now they went through this whole research and this what they were trying to research, how do people think about government information and how would they group it and categorize it; now this is how people think about it in terms like driving and transport, history and culture, families travel and immigration they do not view it as grouped by government department. It is not how people actually think, as grouped by government department.

So, this is yet another example of trying to uncover what is people mental model because they are the ultimate user of this information. How do they view it, how do they want to

see it, how would they feel it be natural to be in tutor if the information were presented in this way.

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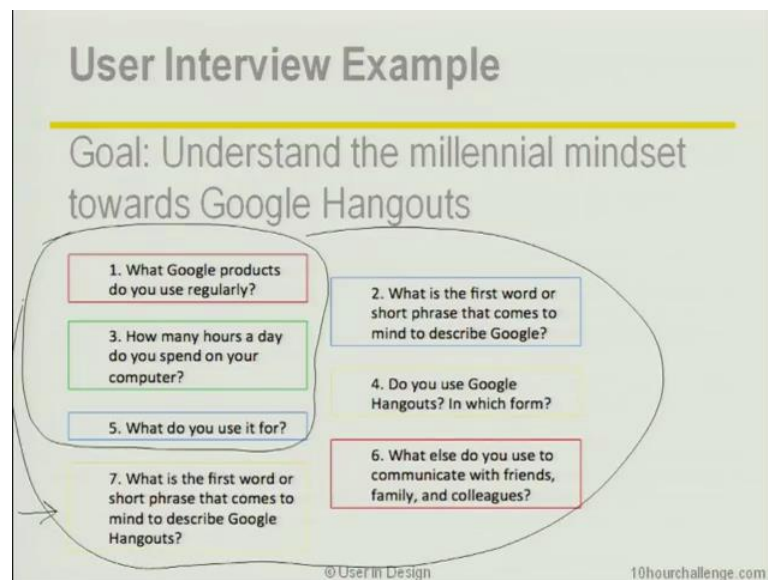


So, what do we do now? Now that we from the field, we have taken all our notes and then we transcribed it on to these posted notes. One issue one thought only on one posted and many of us let us say there is a team of 5 of you, 6 of you each of each on has gone and done this; and you come back with all these lots of posted notes right, you have many issues and thoughts what do you do with it.

So, then you start putting them up like this, you put them up; you may be you add photos that you took; in order to add more information to it and then you start to put them up and then discuss them. You can see every ones; you have one view based on 4 or 5 users you may have interviewed. Some else comes back if there is a someone else comes back with theirs and some on else comes back with theirs, now every things up on the board over here like this and then you can start to see some of the patterns, emerging and your are able to pull them together.

So, this is a very useful exercise in transforming huge amount of information into sense making groups and also it is great way to display the information and for everyone to understand what all the issues are.

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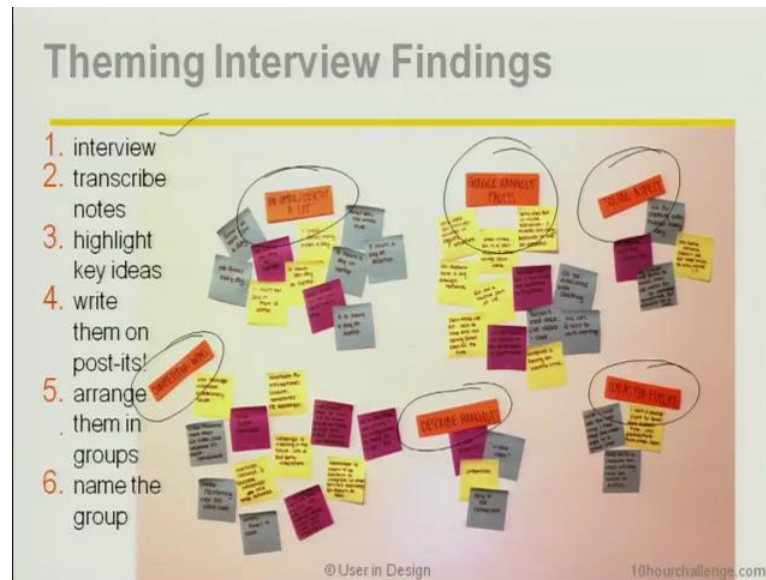


Now, here is another example, Google hangout was doing study and they wanted to understand the millennial mind set towards hangout. They wanted to understand the millennial mindset. So, what if they do; they did some interview with millennial and what kind of question did they ask. What Google product do you use regularly? How many hours a day do you spent on your computer? What do you use it for, what is the first word or short phrase that comes to mind to describe Google hangouts. You can see this is not a surface level question; these were if you remember you know the initial set of warm up questions, where you know you just asking more mechanical tactical questions; here you are trying to understand more the users thinking that thought framework.

So, what is the first word that comes in your mind to describe Google hangouts? What is the first word or short phrase that comes to mind to describe Google? How do you use Google hangouts? In which forms, what else do you use to communicate with friends and family and colleague right. So, this is a good way to that that they found, they use all

these questions to try and understand what is in the mind of these millennial and what is their sort of expectation of Google hangouts.

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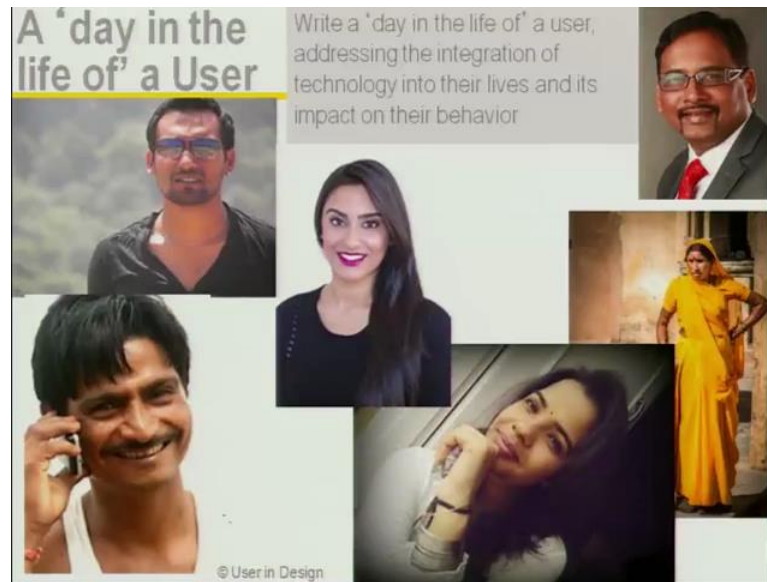


They came back with all these clusters, they came back all these issues then put on posted that they input cluster together, and then they have you know certain labels that they given to it. On Gmail desktop a lot, of it Google hangout falls, then ideas for the future etcetera.

So, we have themed our user interview now. We have taken our user interview and these are the overall theme that has started to emerge out of that, because we saw that this is a general theme that is reflective of all these issue. This theme that is reflective of all these issues. So, we started with interview and then the interview notes, then we transcribe those notes on posters, then we highlighted some of the key ideas and then we wrote those on posters, then we arrange them in groups and then we name in the group. So, this whole process of taking from a written text to highlighting it, to writing it on you know posters and then to placing them all together and then pulling all the once that are similar and come together as clusters and then finally, naming the group. The name of the group is the theme, that theme is what is going on to be your guideline for design, these kind of

things that you know Gmail desktop a lot social aspect, these become you themes which will become very important aspect in starting your design.


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So, a day in the life of a user, is a good way for you to try and step into based on all that you have heard, to step back and say this is the kind of user we are talking about; what is there say like right. From morning to evening what happens in their day and in this particular example you know we were trying to understand the integration of technology in their life, what is their day like right.

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Day in the Life of a Fruitwala



- He wakes up early in the morning.
- He packs his fruits.
- He goes to his fixed place for business.
- He arranges his fruits in an order while waiting for customer.
- He reads NEWS paper in his free time.
- He starts his business with cash transaction.
- Then a credit customer comes.
- He writes the credit details in his khata.
- Then comes a known customer who wants to start his credit khata.
- Fruitwala writes his name in a new page and starts writing credits.
- Another customer comes who gives him cash in advance and fruitwala writes his name in his khata.
- He goes somewhere to take his lunch after handing over his business to some friends. He plans to go to the mandi shop.
- Lack of money reminds him about a customer with huge credit.
- One customer comes and gives him money for previous purchase.
- He corrects his khata.
- He listens to the music in his phone for some time.
- He sells to some more customers.
- He starts packing his business.
- He calculates his balances and goes back to home.

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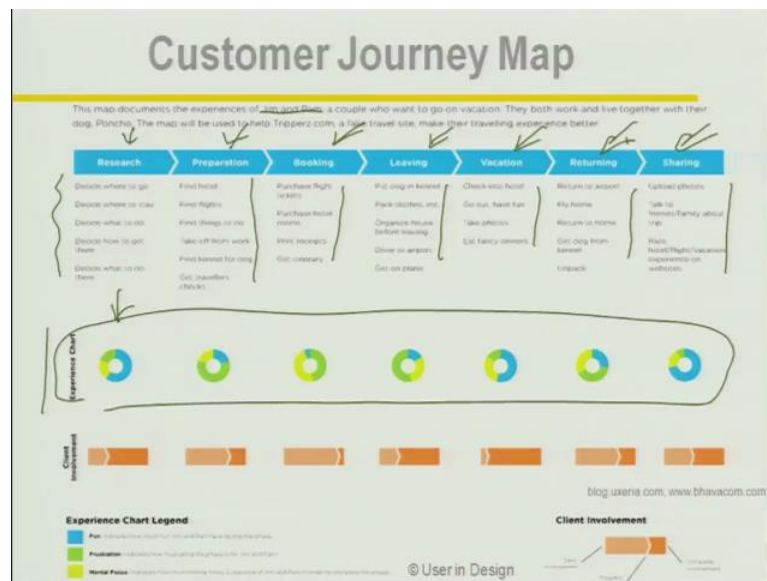
So, let us look at an example, we were working on the design of you know the basic tabulate, that is coming out in the market. There are several of them out of the market low cost tablets that perhaps are going into the lives of various people with limited technology exposure, limited literacy for example, we took fruit wale.

So, what would their needs be, what would be a way to design in order to service their needs right. So, that problem was in that general domain. So, in the process of that project, this arrived at in as a day in the life of a fruit wale, So, you can see lets go through this you will understand; he wakes up early in the morning, he packs his fruits, he goes to his fixed place of business, he arrange his fruits in an order while waiting for the customer right. He reads the news paper in his free time, he starts his business with cash transaction; and then a credit customer comes; he writes the detail in his khata, then comes the known customer who wants to start his new credit khata. The fruit wale writes his name in new page and starts writing credits, another customer comes who gives him cash in advance and the fruit wale writes his name in his khata, he goes somewhere to take his lunch after handing over his business to some friend he plans to go to the monde. Alright, lack of money minds him about to customer with huge credit right.

So, one customer then comes then gives him money for a previous purchase, he corrects his khata. He listens to music on his phone for some time, he sells to some more customer, he starts packing his business he calculates his balance and then goes back home right. So, if you look through this; if you look through this right up you can see how it giving you a picture of what are the different transaction business related activities that he use to typically going through, how does his khata work; how does the credit debit and cash and all those things work, what are the different kinds of customer he has and how does he you know also what does he do in his free time.

So, at the end of this whole process after we went through the design and everything, we came up with really interesting solution that, took his khata and tried to make it into something that he could digitally perhaps use. Within the limit of his technology abilities, So, this is a good example of how you take you know domain and then put yourself into the shoes this is again based on a lot of interviews done with not just one, but with fruit walas and based on that you have tried to create a story, which is called a day in the life for fruit wale and you saw in one of the persona templates; whether is a place to put a day in the life right.

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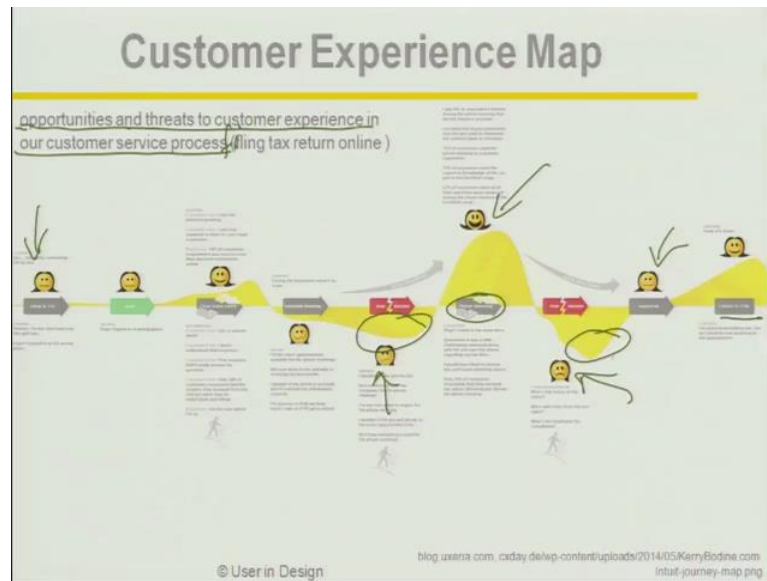
So, this is another interesting one. Now I would like to share with you another tool which is called customer journey.

You may have heard about it is been used a lot and its becoming very popular because its visually able to give you a picture of your customer journey as the navigate, through your ordering the product from your company or setting up the machine that have delivered to them or any of that, the journey of the customer. So, this is one example I will show you a few example. So, this is an example that is documenting the experience Jim and Pan, a couple who want to go on vacation. They both worked and live their dog pawn show and this map will be used to help a travel sight, to make their travel experience better.

So, what is the process is they go through, first is research, then is preparation, then is booking, then is living for their trip, then is the actual vacation, then is returning and then is sharing their what happened. So, under research what happens, they decide where to go where to stay; how to get there, what to do over there. Preparation is find the hotel, find the fights etcetera take time off from work, get traveler check booking is the purchase the flight, get the it nary, leaving is the dog in canal. Remember, they have the dog, then drive into the airport on the airplane, check into the vacation go and have fun and take photos, eat, dinners and then returning to the airport, flying home, getting the dog back from the canal unpacking and then sharing, finally, is the uploading the photo, talking to friends about it and then waiting the vacation.

Now, next what is done; you know this is one way to do it off course, there is an experience chart, the blues are telling you the fun that they had, greens are telling you frustration that they went through and yellow id telling you the focus; the mental load that they went through. So, each of these face is you know through this plotting; you can see which one had the most blue, which one had had the most green; green is the frustration and which ones had the most yellow and then off course the client involvement. You know in this case agent or whatever how much will they involve in the whole process. This is the customer journey map at which visually giving you a representation at a glance of entire journey of what a customer has gone through.

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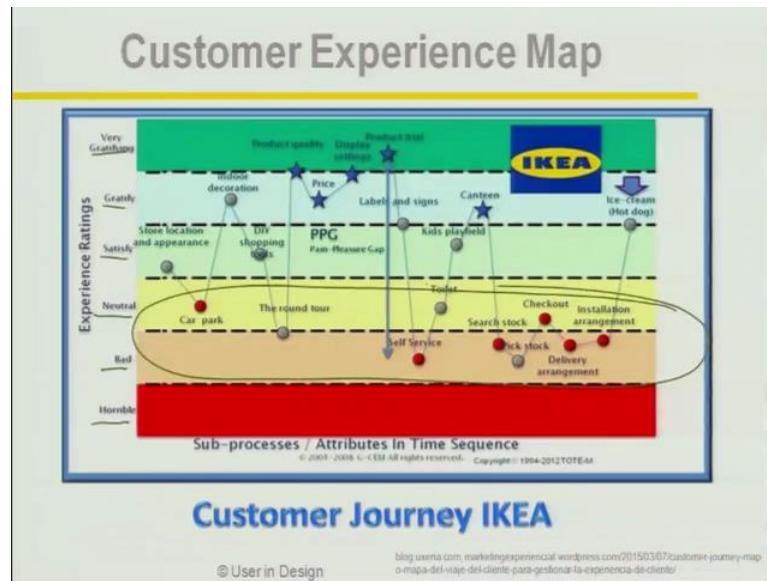


A customer experience map and this from into it that you know has the product that is for small business helping them do financial planning and financial taxes and all that.

So, this help this is another way to do a customer journey map. Opportunity and threats to customer experience in our customer service process for example, filing tax returns. this is you know that the steps of the through shop and try, then start trying file that tax returns then chat with the opportunity operator; who possibly is going through giving them helpful or not. So, helpful information then schedule a meeting for, then with wait and wonder what is happening with phone meeting, then actually have the phone meeting, then again wait and wonder what is happening to all the documents, they submitted and all the input that they gave and all that, then they gap through approval and then they finish e-filing taxes.

Now, important thing to note in all this is, this facial expression; this is capturing the emotions of the experience that the user went through. Such journey map is a very nice way again and glance to say this is one very low point, if we were you know the service provider, this is another low point really need to improve our service in these places and they have also captured places; where the customer possibly might drop of; disconnect from the service and go away.

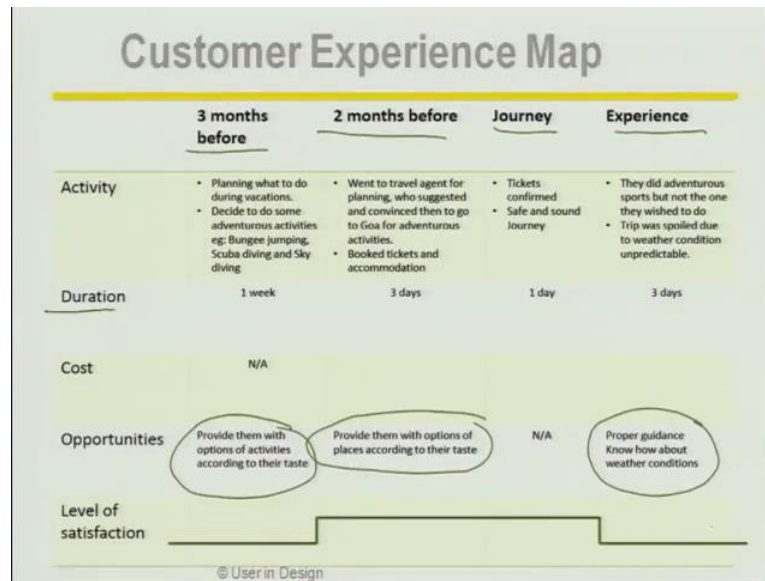
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Here is another customer experience map and this is plotted in another different way, you know this labeled as horrible, then bad then neutral satisfy, gratify, very gratifying and this is the huge chain of furniture stores IKEA, that is strike to capture all their customers experience going through you know the story or location, in an appearance scar part, indoor decoration, shopping round towards price, this that all this different factors.

So, at a glance then as a company it gives them an opportunity to say; hay we need improve this things right. So, this is the way powerful tool again to be able to take all your research and then put it in one visual in some in chart or in paper, something that can be printed out and put up on the board right and then you keep tracking it keep looking at it.

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Here is another one that was done by one of the student over here and this is for adventure travel I that I spoke to you about. So, again 3 months back before, again you can this is expressed a little differently, this is expressed with more text right. These are the activities that they doing, before vacation of 3 months, before what are they doing 2 months before what are they doing, during the actual journey and then recording you know what was their were all experience like; then they captured the duration of each of how much time they spent on this, the cost the opportunities.

So, what are the opportunities for design provide them with options of activity according to their taste right, give people more options. So, this was the short coming in one of the earlier version of the design provide them with options of places according to their taste. Proper guidance how about weather condition, weather conditions is something that, the team did not realize that how important that information was for users right, and then plotting the level of satisfaction, about the users level of satisfaction.

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So, that brings us to the end of the sub section on user stories and theme, where we learned how to take all those user stories and you know put them in together make themes and as group; how we can look at the cluster and then understand what is the direction we need to take, we also understood how do we write, you know day in the life of our user and then how using that we could possibly plot a map of their journey in their interaction with our product or our service. And how do represent that visually. So, that a glance we are very clear about what is working well, what is not working well; through capturing the users' activities, experiences, emotions and so on and so.

Thank you.