



**SNS COLLEGE OF TECHNOLOGY**

**(An Autonomous Institution)**

**Coimbatore – 35.**



**DEPARTMENT OF BIOMEDICAL ENGINEERING**

## **UNIT – 1**

### **RAPID PROTOTYPING**

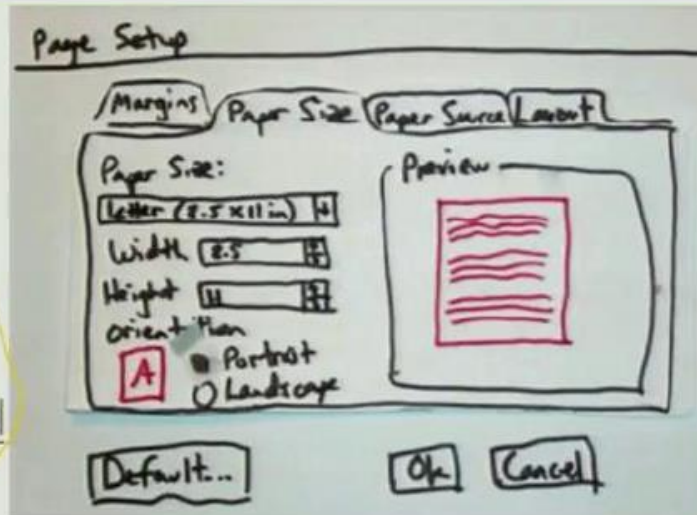
Now, we move on to the last section of this part, Concepting and Building, where we have been working on trying to come up with ideas and then make those ideas, make different representations of those ideas. In storyboards we learnt, that how do we present our idea, in terms of how it looks as a customer and product system or customer and service system together, as in, both those components as part of a system. So, you are able to see what the customer goes through, the user goes through, as well as what is happening in the product.

So, that is what storyboarding was about, after we generated the ideas, we learnt how to narrow them down, how to converge them and then we created the storyboards before we even think of creating the product or the service. Nothing exists, we are just now starting to; we created the scenario and now we are going to create a version of the product and we call that rapid prototyping. Prototyping is to create a model, a representation of the

product and rapid is to do it quickly, very quickly, without spending a lot of time or resources, that is expense, okay.

## Paper Prototype

Quickly sketch onto paper what you see as reflective of the user's mental model



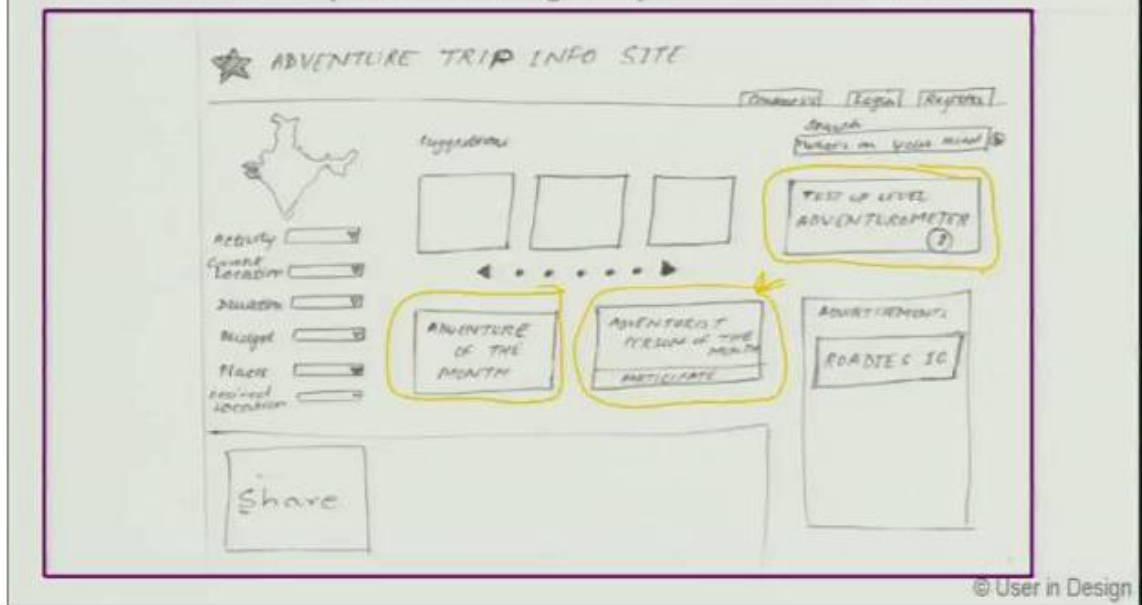
© User in Design

So, Rapid prototyping. Here is an example of what we call a paper prototype. So, you can see how crudely its put together; very, very quickly, but it conveys to you, what this is. It gives a sense, you know, that it has various tab's, paper size, paper source, layout, this is probably related to a printer, you know, you are choosing the paper size, the width, then the height and the orientation, portrait or landscape, etcetera, etcetera. So, it is giving you pretty well, what this is envisioned to be, while this must have taken you know, about two minutes to create.

So, a paper prototype is something in which you quickly sketch on to paper, what you see as reflective of the user's mental model; what you see as reflective of the user's mental model. So, what this means is that, you have done your research, you've, you know, gotten all this feedback from users and all that and at this point, you have a pretty strong sense of what the user needs are, what their mental model is. You also tried to construct their mental model, based on all this information and the insights and then you ideated and you discussed within the team and you have come up with different possibilities and you know, arrived at one concept, that perhaps is the best one from the perspective and based on your understanding of what the user needs are, right.

# Paper Prototype

Reflect conceptual task groups on the screen

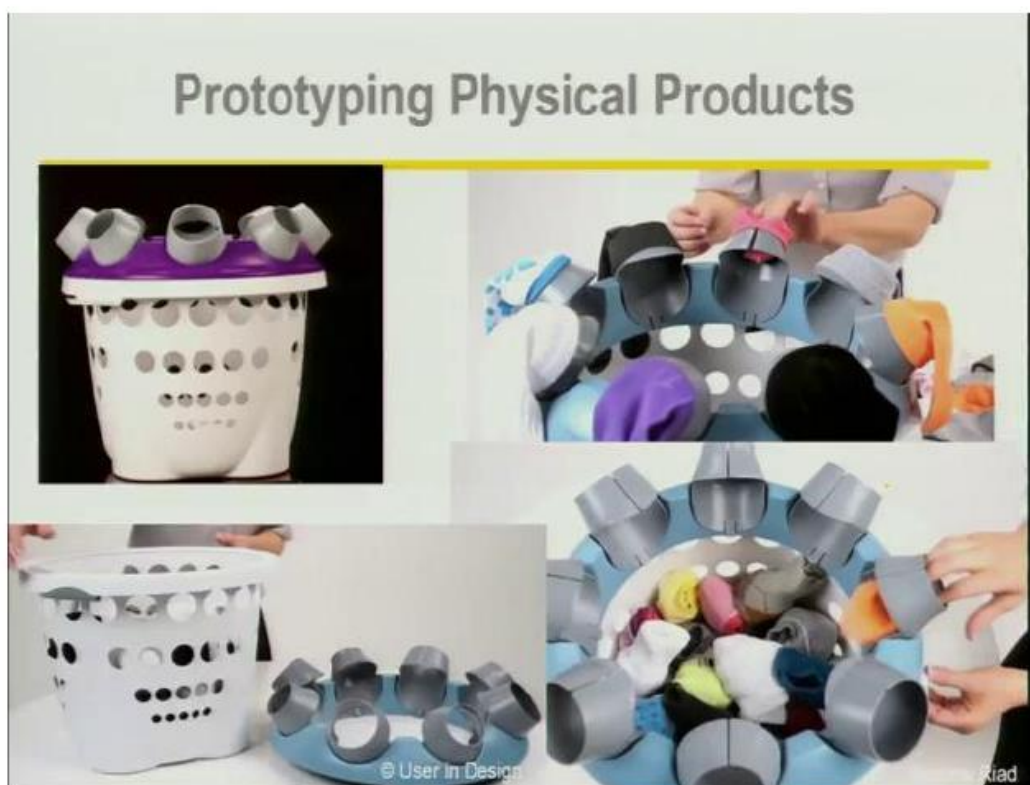


So, that is the user's mental model that you need to reflect now on paper. It needs to be shown, because this is what the user would be expecting to see. So, reflect different task groups on the screen. You know when you had your different themes that emerged, those are probably the important key elements of the design that are very important for your user, right. So, here let us look at the adventure travel project that we were talking about. So, this is the first, one of the very, very early prototypes and of course, it went through lot of revisions and things got changed, but this was one of the early ones. And you can see that you know, the map of India, it's adventure sites within India, you can see that it has the different activities, location, duration, budget, places desired, all of those things that you can choose. Now up here there are some suggestions and it says, you know, 'search what is on your mind'. Now look at this. This is something that came out of, not directly from the user, but they felt that people are- remember I told you, people are a little fearful, they are anxious about adventure travel.

So, this is trying to reflect that and project in a fun way saying, 'test your level, it is an adventurometer'; adventurometer like how much can you stomach, how much of adventure can you stomach, okay. Then there are things like this- this is the adventure of the month,

where they are reflecting what is the most popular adventure, then adventurer of the month. So, again remember these are all related to, you know, that anxiety that

people feel. So, this thing that, okay, here is the person perhaps someone just like me, who has done it and that means, that I can also do it. So, a role model for me of some sorts. And then the adventure of the month, test your adventurometer. So, this is all related to basically some of the insights that you got out of your research and your analysis. And again, you can see that perhaps it took like maybe ten fifteen minutes to sketch this together. It is the first thing that the user will see; it is reflective of the user's mental model.



So, this is not just about digital products, it is also about physical products. Look at this project, where you know, it was design which was meant to solve the problem of when we do a lot of washing clothes together. And then the big problem is socks; you have like maybe 8-9 pairs of socks and they all get mixed in the laundry and everything. So, how can you put them together? So, this designer came up with this neat idea, this little thing that sits on top of a regular laundry basket and then you put one sock on it like this and then you just push the other one and then both of them fall into the basket, as a pair. So, very quickly you can

match your socks. So, that is, you know, the idea behind this. Now what I want to show you is this is the end product that came about, but what about some of the early prototypes, right?



Look at this, it was made out of potato chips, boxes and like bottles and perhaps you know, different paper canisters and things like that, on a piece of wood. This was the early initial prototype, right. Then the next prototype, they used the thermocol cups and tried to understand whether it needs to be tapered or does it need to be straight and all of these are being done is a very, very low-cost way, okay and being tested with different socks. So, initial prototyping must be of this level, where it is just basic, crude, quick, to give you an idea of the concept itself.

So, this is called a low fidelity prototype; it's fidelity is very low. This is when the product becomes high fidelity. It is like the real thing, whereas this is low fidelity and something that you can put together very quickly, in order to not spend time and not spend too much money on it; that is the whole idea, that before we spend lots of time and money, let us even find out whether this even makes sense or not so that right at this stage, if it does not make sense at all, we can just discard it right away and we will not have spent much time or money. That is the whole idea, we minimize our risks and make sure, that what we are creating is good, is right, it makes sense. You can be more fancy with prototypes.