Innovation by Design
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Module - 07
Start of section 2
Lecture – 44
Recap
From Concept to Pilot Production

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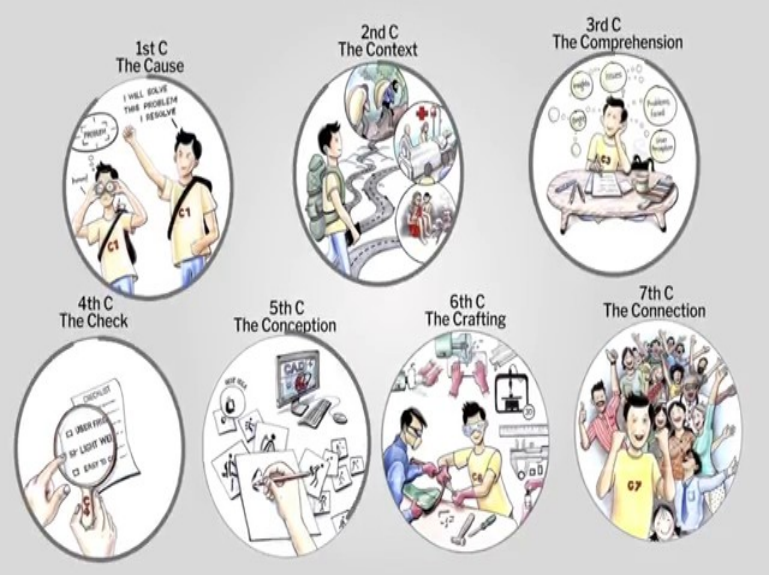

As we discussed the 7 Cs, we came to the last C where we made a connection with the users, we manufactured 200 numbers,

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and we sort of, you know, had this in the field and we found out that the users were the large number of users had this problem.

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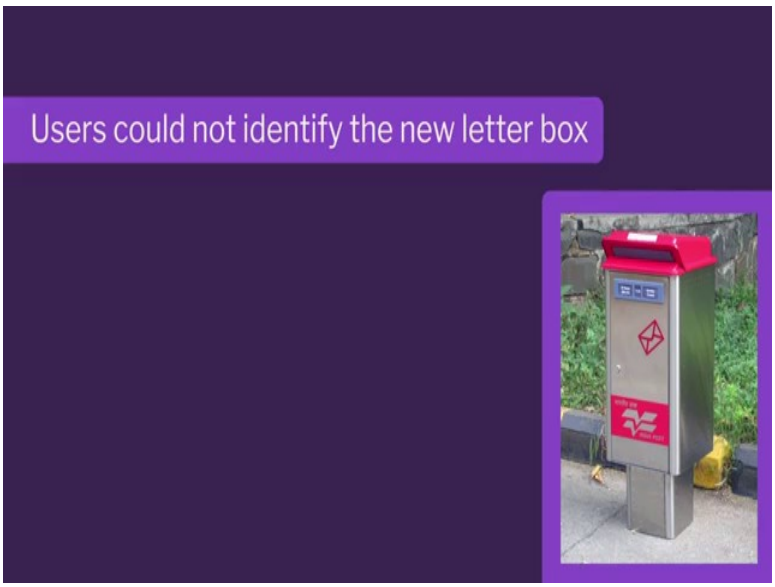

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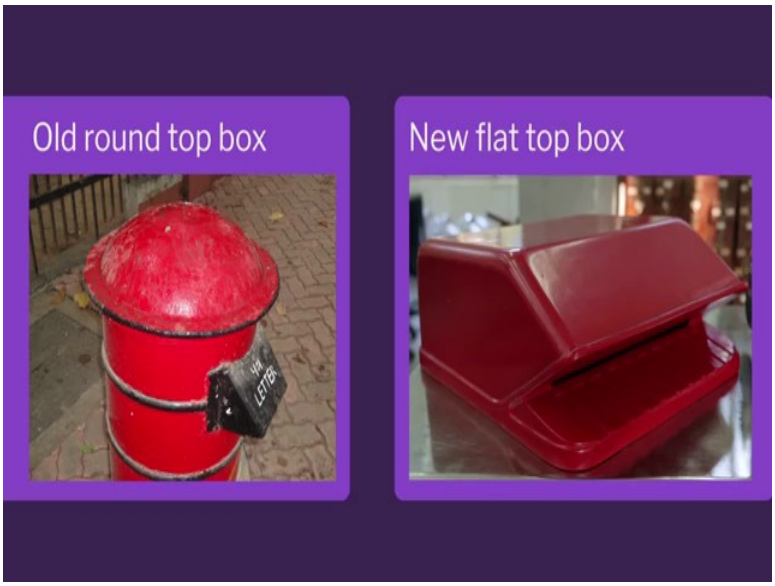

So, we went back to square one. So, in this journey went back in design process to see how we can redesign and take it forward.

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So, let me again recap with you some of the details, that was the first prototype made at IDC fabricated by plastics and sheet metal fabrication was done by outside.

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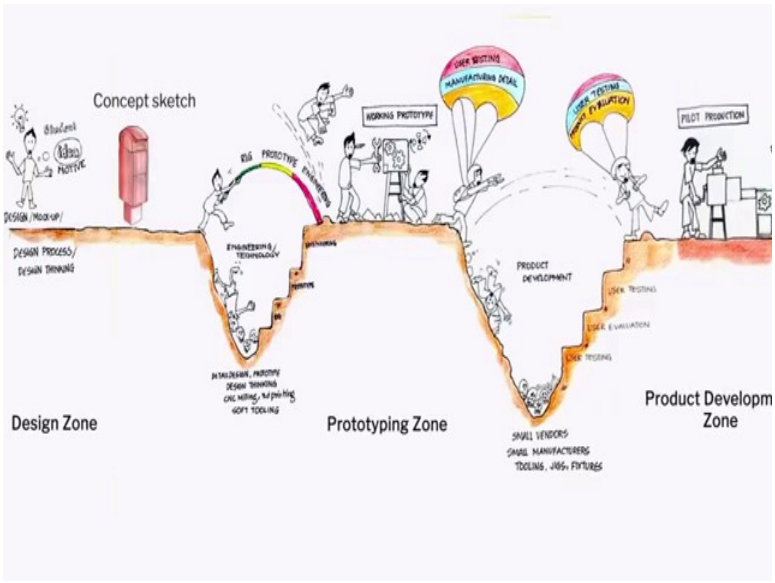

Then where do we stand when the first prototype is done in our design process.

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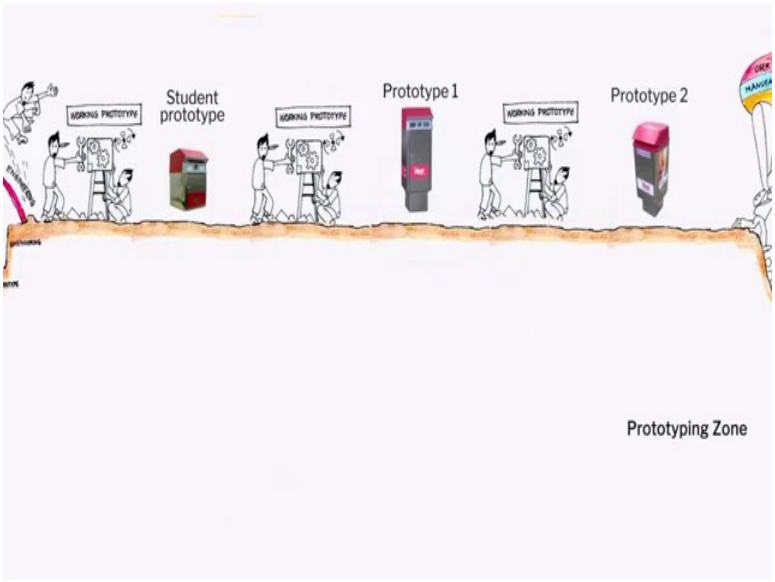

We are in the very very early stage of our design, we just reach prototyping; even in prototyping you have two types of prototypes where you mimic some materials like, for example, the top plastic was fabricated, the bottom was rigid. So, that was the design which I showed you and from prototyping, we went ahead and wanted to produce, how many numbers? 20 numbers.

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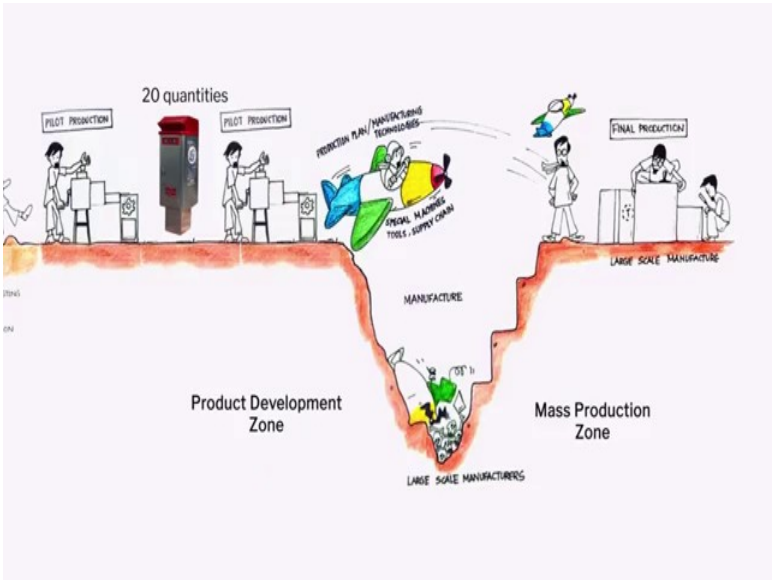

So, there is a mini pilot production. So, as soon as we come from the prototype to production, you saw that the prototype had this very large fascia. The prototype was

designed for what purpose tell me? Was for large scale implementation, 2 lakh pieces, 2000 pieces, but when you get an order for 20, you will not have money for the tooling. Any plastic component needs injection molding tooling. So, for injection molding tooling, you do not have the money. So, you need to redesign the product, so that you can make 20.

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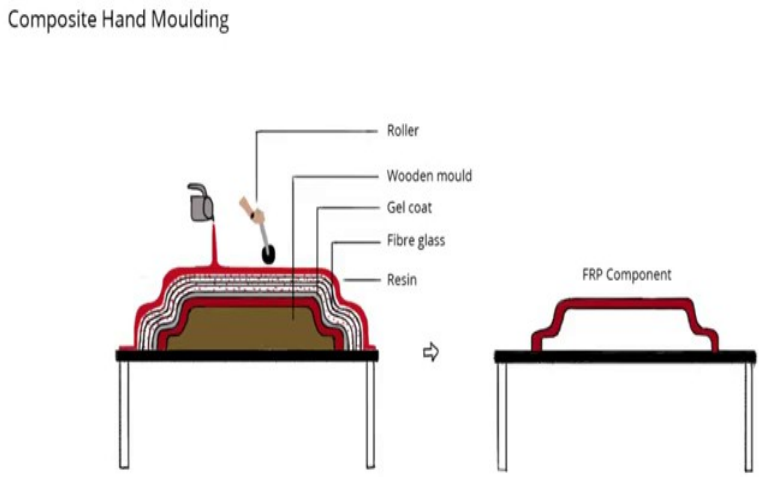

So, how did we redesign? we studied where the problems are then we said, we will use this special composite hand molding process. So, composites are very interesting you come with the resin and glass fiber and I will show you how we did that.

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So, we did again went back to conceptual stage, we made a plaster mock up, then we studied whatever opening we should have. While doing all this, we were very focused on our process.

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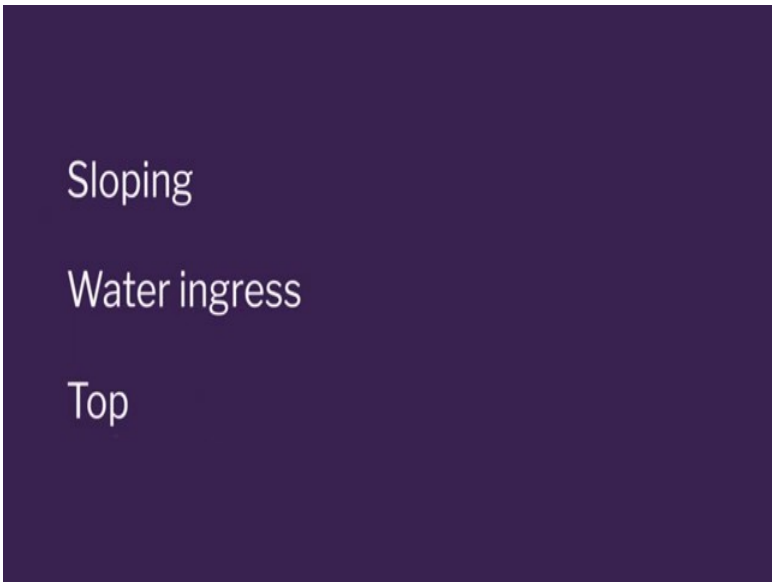

They said this slope should be there, the water ingress should not be there, the top should be integral.

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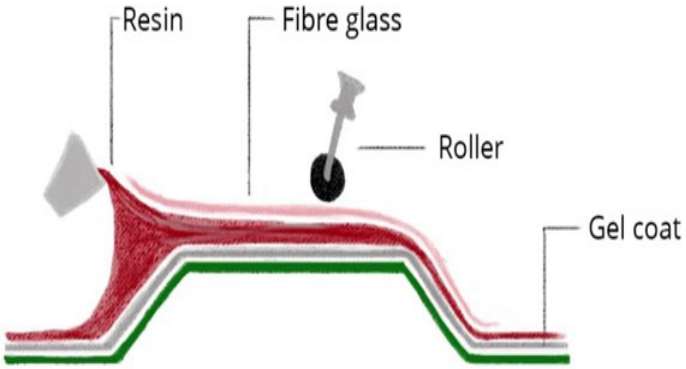

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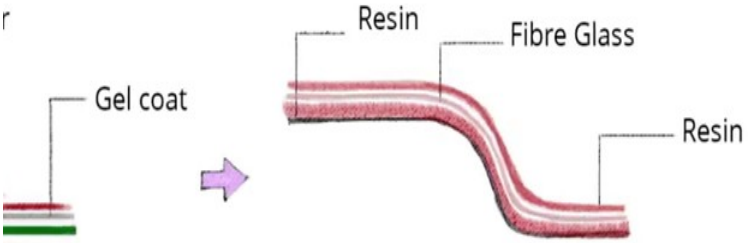

So, using all that now the process is seen over there we use a very simple composite fibre reinforced plastics, where you put the resin, where you put a glass fiber, then you put a resin in a mould.

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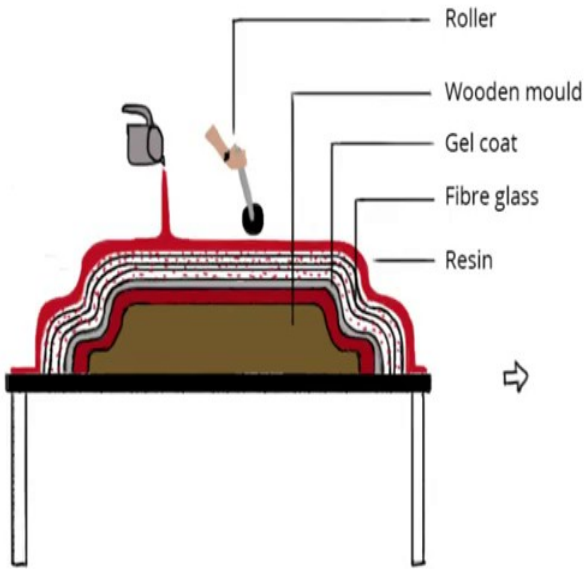

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And then when you take this out, it becomes like a rigid product. So, I have one sample for you here.

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So, this is made out of composites. So, you know, this all done by hand, you have a dye which is a negative cavity. So, in the dye you do the resins and you develop the whole process. So, this we did and we, you know, took this forward. The person who makes the fibre reinforced plastic top understands what type of shape I am looking at.

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So, from here, we made this top and here you can see the top installed on one of the boxes as well as the top which one can go on both of them. So, what have we changed? We just changed the very intricate top with a plastic front, plastic top, three parts into one part, which is done through fibre reinforced plastics and when you have small volume manufacturing you need this.

See we have to go back in our design, because we need to produce 20 because pilot is very important to study what happens. Then, you know, this composite of interestingly is much much more stronger, it is very tough because it is fibre reinforced.

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And like it did the purpose very well and, you know, we produced our 20 numbers. You know with all the good features of easy posting slots, very large surfaces for advertising. It had a very critical and important aspect of a common key everywhere and you had the time sliders.

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And you had this very interesting beak shape design and nobody need to be told that go and post a letter there.

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So, this is called user intuition. So, when you have a slot like that you would automatically put the letter or you need to specify that and this was inspired by the in analogies we called by the beak of a bird and with the same time it has got all the protection from the rain, the sun and, you know, all those aspects have being considered. So, here we went ahead like we also marketed quite a bit we collaborated with AD houses and they said wow this is excellent.

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Within 2 years through AD revenues, the cost of the boxes amortized. So, we can always get it free after the second year. So, it is very good proposition for the government to install these boxes, so that you can also get revenue after the second year. So, you rather than being use of money you are able to get revenue from the post boxes by putting advertisements because that is a very prominent location.

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So, then we sort of, you know, installed it in 20 locations. We also installed it opposite IIT Bombay, Main Building, I was a chair professor for India Post, they were very happy to work with us very closely and we produce these 20 numbers and the contract get over. Luckily we started the design innovation center at IDC and there was some funding available; thanks to the alumnus Mr. Sudhakar and Suresh Shenoy that is one of the brother Suresh Shenoy in the picture.

So, they took law of fancy for the post boxes at this wonderful product. It is all about our vision of bringing in excellent manufacturing in the country. So, they were very keen and they supported the project from the innovation studio. So, from here we went ahead.