

**Innovation by Design**  
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**Module – 01**  
**Start of section 6**  
**Lecture - 06**  
**Prototyping for User Feedback**

So, then we came back to IIT. What to do now They are asking for 200 numbers. Because scale right, in 50,000 people have to use a pilot production should have at least at least 200 number.

(Refer Slide Time: 00:17)



So, there came the biggest challenge for us. Then you tell me what material should I use? Will I use the seat handle? Its so, expensive for a prototype I could use it. But if I have to make 200 number will be very tough for me. And then we found out that the polycarbonate stick actually was slipping from the bottom.

(Refer Slide Time: 00:38)



(Refer Slide Time: 00:43)



So, we have to make the bottom also. Look at the bottom cap, its attachment is detachable it is multifunctional, lightweight, which will be fix to the stick whenever needed.

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And the material used is neoprene rubber which is soft durable, lightweight and cost effective.

(Refer Slide Time: 00:52)



The two three processes of molding, so, this is compression molding, where we did compression molding of the neoprene rubber. And you can see the tool parts. So, we made this tools very quickly with the tool manufacturer and we got the components out.

(Refer Slide Time: 01:00)



So, we came up with the neoprene seat prop better slot inside because they actually have this. You know also as part of their design, we added the you know bottom section to it.

(Refer Slide Time: 01:12)



Again in the context we have found out there is a different surfaces concrete roads, mud, smooth surfaces. So, on the smooth surface is this was slipping away. So, we have to use a rubber neoprene rubber cap also. So, we modified this cap. And then we found out my god there are different sizes. If it is a seat prop you may have to have an you know small and a large.

Because, everybody is not of the same height. So, we came up with two sizes we worked on the two sizes. And you know I can sit on the seat and I can also rest my chin [FL] ' Hum log aise bhi araam kar sakte hai' (we can also rest like this). This idea was given by them we did not even realize it. Because the very interesting thing these are the this is more humane. When I push a guy he does not get hurt.

So, that is was like bonus for us, we never thought that we are making some humane stick. Then what happened, after we gave this stick to all the 200 policemen, we got some phenomenal feedback. The feedback was that the you know 80 percent of the policemen loved the product this has excellent be like to use it.

So, we were happy with you know our record. And very interestingly, this is a manufacturer who is now you know come with us and said. We want to make this an international product and we will call it sustainable and for the international export market. We will use the cane baton that you going to put up an exhibition in you know like Germany within the next 2 months. So, you can see the connections from where to where. So, I have given a world product.

(Refer Slide Time: 02:36)

Module 1: The seven concerns  
Summing up

- Design can play a key role in the world of innovation. Innovation by design is the journey from empathising with a need to finding a solution that can reach and delight a large number of users.

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Module 1: The seven concerns  
Summing up

- Collaboration is essential for innovation to happen. A designer needs to collaborate with stakeholders from various domains during the process of innovation.

(Refer Slide Time: 02:52)

Module 1: The seven concerns  
Summing up

- Designers encounter challenges at three crucial stages which are like valleys of death in the process of innovation. These valleys grow deeper as the design process moves ahead and more stakeholders join in.

(Refer Slide Time: 03:02)

Module 1: The seven concerns

Summing up

- Seven key concerns can be identified in the design process. These are the cause, the context, the comprehension, the checklist, the conception, the crafting and the connection.