Innovation by Design
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Module - 06
Start of section 5
Lecture - 39
From idea to product: Decisions on material and form

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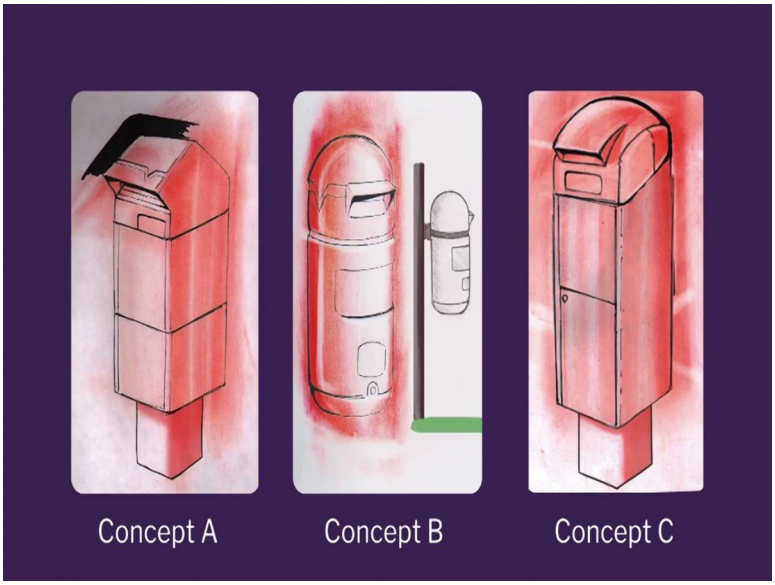

So, these three concepts now we pitch against each other. Each concept has its own value, disadvantages and advantages and we saw that the last concept was selected basically because it had the advantages of both the concept A and concept B. Because, it was using a metal box, it was using a plastic top to, you know, retain the rounded shapes not let water come in, because when you cap with the plastic all around.

There is a chance that there is no water leakage, it had all those, you know, issues of making it much much more aesthetic, because you can have a top which is, you know, like more grounded and more contemporary in design and styling while satisfying all the issues of maintenance. And you could use this wonderful initiative of getting the best engineering plastics.

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You heard about plastics which are commodity. We have these buckets and, you know, mugs in our house, which can break if you kick them.

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Or, you know, if you collapse them or hit it with a, you know, mallet. Whereas, there are engineering plastics like plastics used in bicycle, racing bicycles,

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plastics used in cars; the bumpers of a car for example, they take so much of impact.

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You also seen the plastic which are used for scooter parts, which are also pretty strong and they are all specially blended plastics. So, you have engineering plastics, especially bended plastics, which is very strong. So, we thought it was a small component I can use these engineering plastics to make it really strong, because we are in the field there and vandalism was a big issue, somebody comes up with a stone, our plastics should not break.

So, here we are that is a final selected concept. So, that is a material considerations; once you have done those the concepts you have to detail them out, how will you manufacture this concept.

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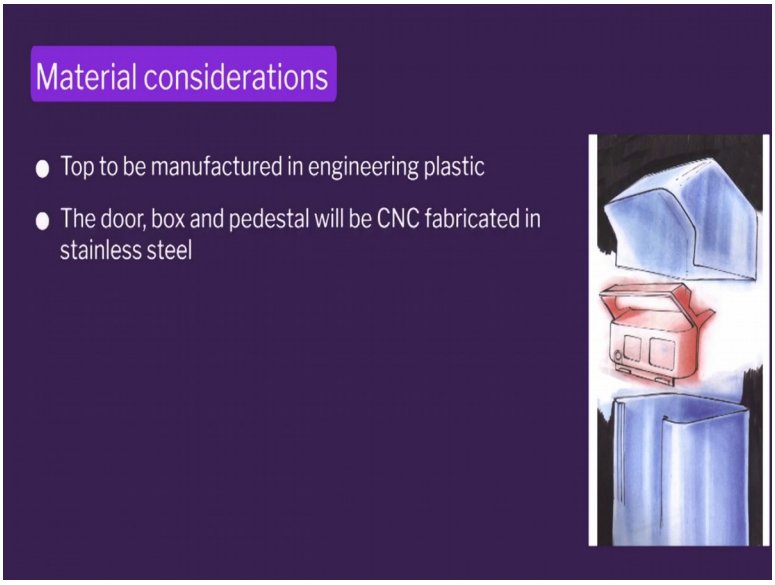

What would be the shell, what would the top be, what will be the frame be, let look at those, you know, rough sketches of the designer where he just wrapped around a sheet and, you know, like got a front panel and fixes the very very first, you know, like development of the concept.

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And then, you know, because I was the guiding the student, we always make small mock-up models. These are hardly 10 centimeter models. These are those very interesting creative models where the student then quickly made an aluminium sheet bended together, use just small, you know, PU form top, just to see how the box will look and this is the, you know, very very first form refinements and then I told the student that one form refined not be enough, you need to check up make multiple. So, he did this. I said, my God, this was pretty old.

Look at this, the student was trying to marry the old rounded top with the new one, but then what it is looking like, its look like an old house. Today, if we make a new product look, you know, we need to make it very contemporary, people should feel that it is made out of new materials and new processes. So, this is what happened, then he went back, he made one more. He said, I will take inspirations from, you know, panels, TV cabinets and, you know, audio machines.

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What does transistors to do with post box? Nothing, but you have those in your house, you have them all around you. So, you have a perception of what a good style is or what is a contemporary products which are in the market.

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For example, today you cannot accept a Maruti 800 which was, you know, an old design and at that time we all liked it, but today, you know, the style has moved too much beyond rounded shapes and to new designs which are faceted then Honda's a new cars which are coming in.

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So, we have this perception in the people. So, we need to look at products all around.

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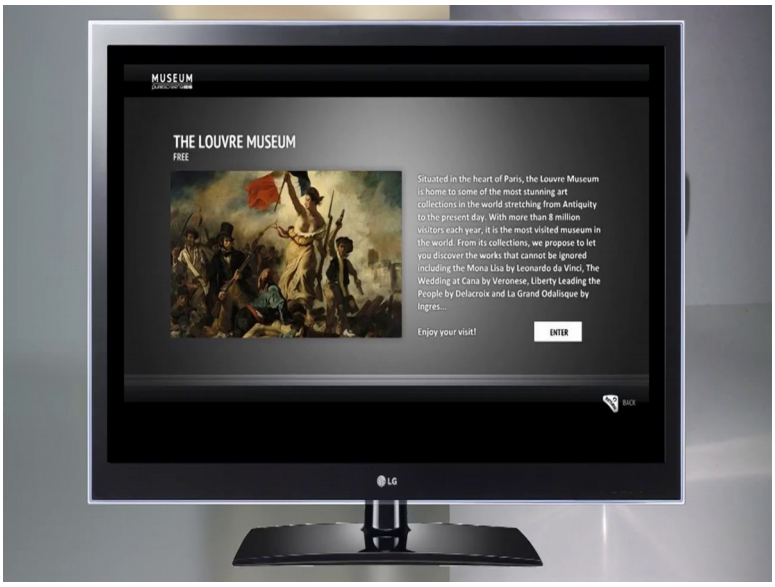

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So, we looked at TVs and, you know, audio players and, you know, we did this design and we said this looks little contemporary. So, you could, you know, use this idea and then he said made this because then what happened you need to also make water ingress impossible. So, if the water ingress was high, he had to make stoopings to the posting slot otherwise water will get into the posting slot in the earlier design. So, then you have a functional lead coming into the form.

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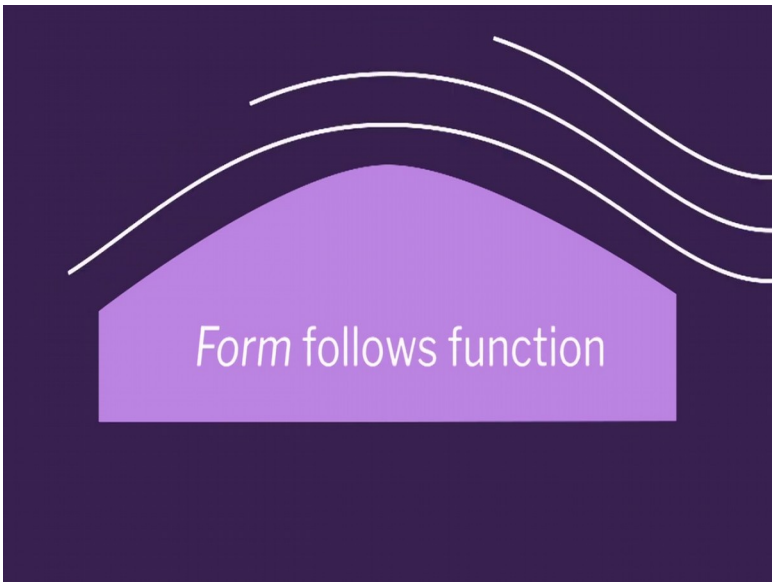

There is a very large philosophy of form follows function, you know, which is a very popular industrial design of phrase which also is very critical. So, you always play between the aesthetics, the perception and the form follows function. So, this is the form

follows function, it is the top which is sloping on all sides, there is no chance of water ingress and also has very good hood for the posting slot.

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So, you have all these, you know, like options a very very small models and then, you know, select the one which is more contemporary which was the marriage between the old and the new.

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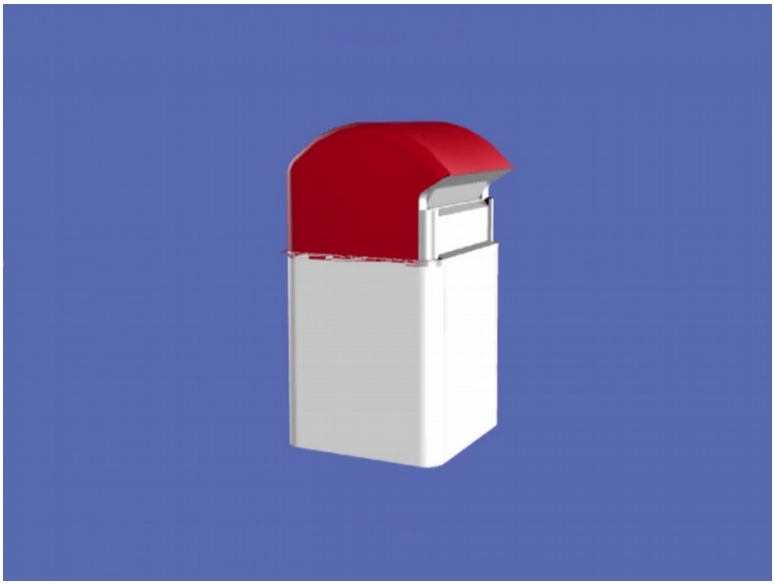

So, here you started making this CAD model, where you have this one, you know, like box which is a large rounded radiuses and you have a sloping, you know, roof which is

more rounded to, you know, show the earlier design. And then they said, No, it is not looking smart enough. Can I make it flat in the front? So, you see the top has been made flat in the front. So, this looks more contemporary, then that back also has been further reduced, since a very fine formal refinements which designers do to make the product, you know, look much much more contemporary, much much more appealing and much much more easy to manufacture.

So, we are here we are; so finally, this, you know, narrow down to making it large radiuses and flat surfaces, see, the surface is flat on all sides and this is finally, you know, chosen to go ahead with. And then you remember, we supposed to make two models; one the small one and the large one and these we call the smart top, because the product started looking smart and contemporary.