Innovation by Design
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Module 3
Start of section 8
Lecture – 20
Refinements: From 3D mockups to pilot production

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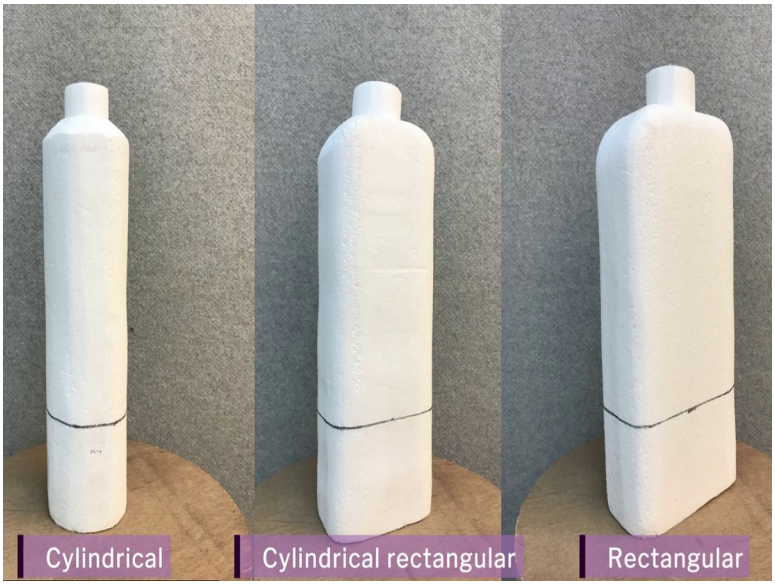

So, this mockups play a vital role where it will help you to sort of check physically what type of volume, what type of shape you know and these are you know very important design thinking tools for designers.

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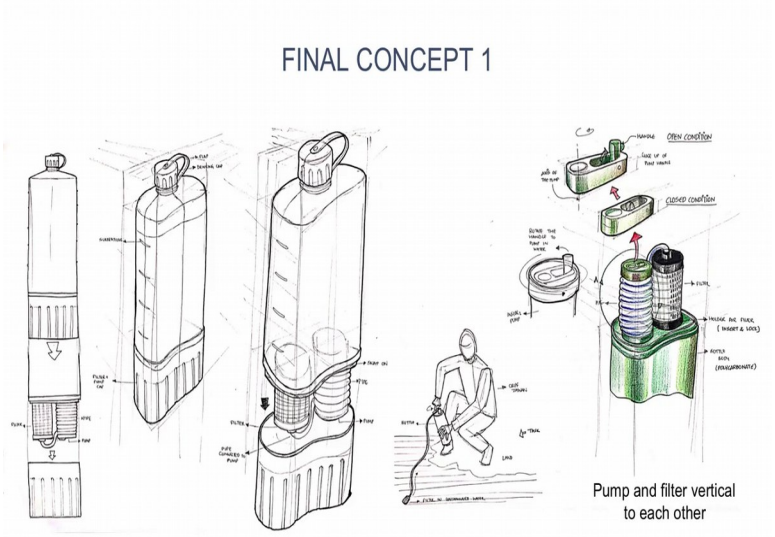

So, after making three concepts of selecting one, now you have refinements right, we made one refinement. So, these are two interesting refinements again coming into picture.

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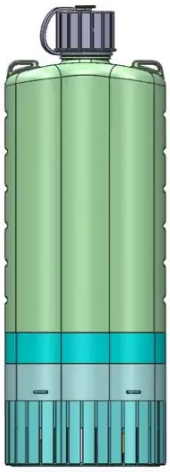
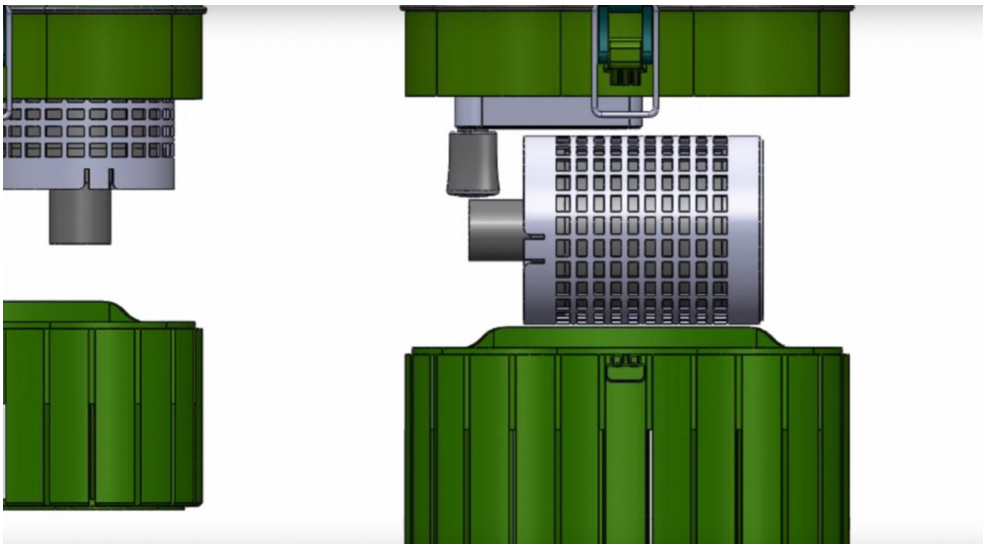


One refinement is you know your pump and the filter are together. So, you know put in the bottom, we put a cap you know and then self explanatory and it starts working.



The second refinement is you put the pump and the filter one on top of the other are you seeing this? The refine concept of how you can build it together after that, we build the first 3D printed mockup.

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So, this is you know extremely important in the journey. So, it is still not filling water, but it can actually contain water.

We can check the weight of the bottle, we can check all the aspects in this design and then we know we also had a mannequin on which we put the you know put the army fittings put the bag and put this bottle in the bag.

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So, now, we have exact context of how this will be carried. So, that we can you know mimic that carrying.

So, I will quickly like to show you the reactions of this final bottle which came from the CRPF jawans.

Officer 1: 'Ye sample inhone banwaya hai. Toh ismein filter unit neeche aagaya, ye bottle ke saath hi, ismein paani store hoga. Iska jo attachment hai filter ke saath, apna pump ke saat, usko aur mazbooth karne ki zaroorath hai. Kyunki ye nikalne ki chances hai.

Officer 2: Agar dono side mein clip hoti hai, toh pakadke rakhenge, do side se grip ho jaat hai.

Officer 1:Haan matlab ye jo locking mechanism apne ki hai, isko thoda improvise karne ki zaroorath hai'

Officer 1: They have made this sample. So in this the filter unit comes below the bottle as an attachment and the clean water is stored in the bottle.

The attachment of the pipe from the filter to the pump need to be strengthened is what I feel.

Officer 2: If there are clips to hold the cap on both sides of the bottle, there will be more grip.

Officer 1: Please improvise the locking mechanism that you have provided.

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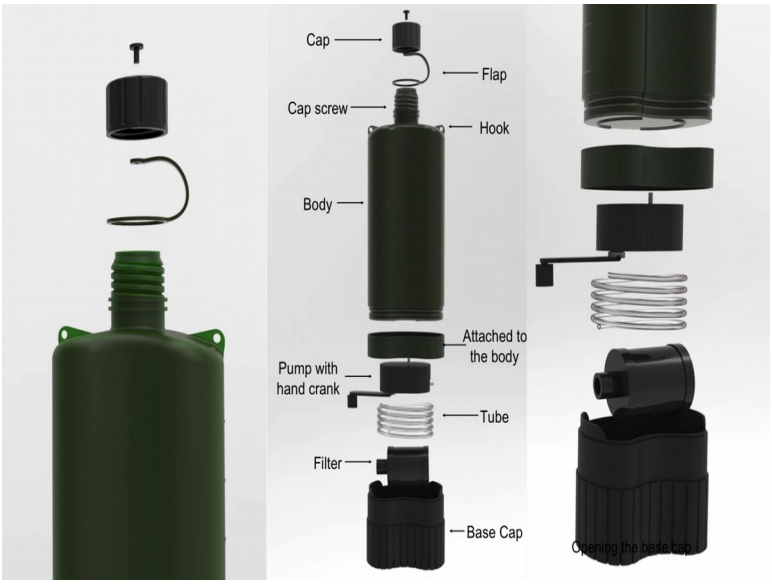

Here I'll like to show you the next video see how it has become more simplistic, the tube is wound around the pump; the pump is integrated at the base of the bottle. So, it is much more robust and easy to use,you got the whole bottle length to crank very easily and then the filter gets into the water and you could take it forward. So, this you know mechanism is you know proving to work then we build the model. There were lot of inputs of how the caps should be fixed to the top, the cap should not be free, will get lost, how the bottom crank should be much more stronger.

So, we made this bottle and to our surprise the commanded was very very happy that you we could come back so, quickly within a month to show him a 3D printed model, which was you know with all their inputs inside. So, it is like you know also a pleasure to you know see their reaction. So, this small video is done by the Devanshi, you can see this video of how in she built a context.

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So, we have the eco system around us to go and get. So, once you make the prototype you have reached this stage and after that for the pilot production what we did do?

Student: went to small vendors?

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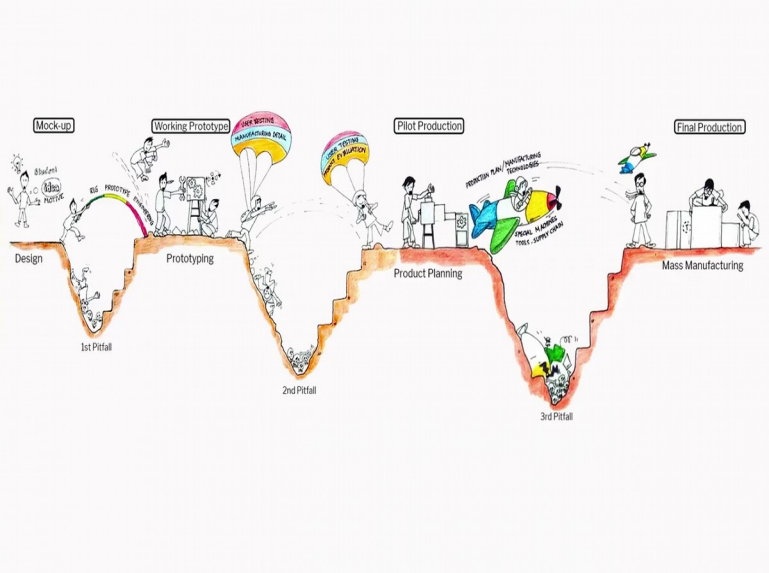

Good you are using my words, approach small manufacturers small vendors to make the tools to make a bottle as well as to make the bottle itself that is the next journey.

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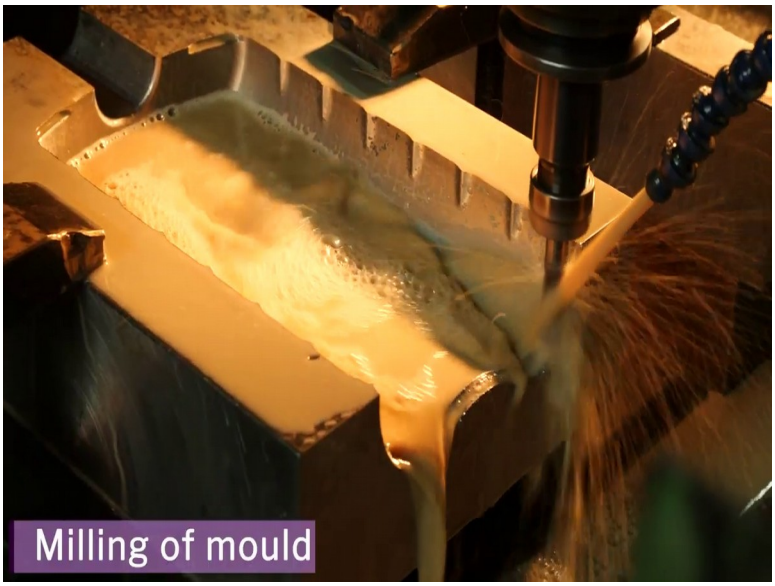

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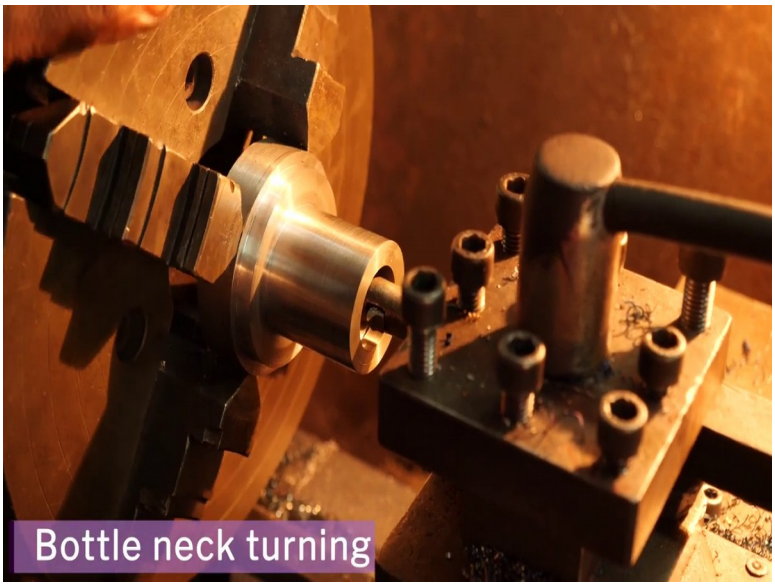

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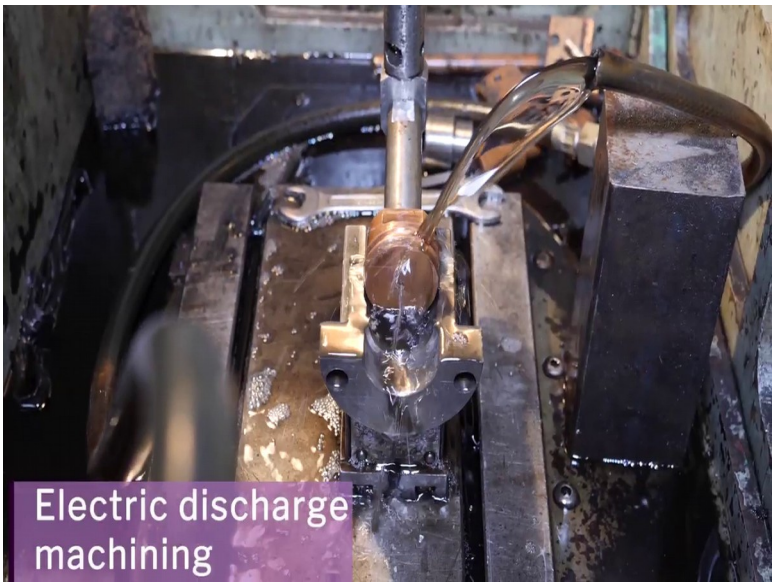

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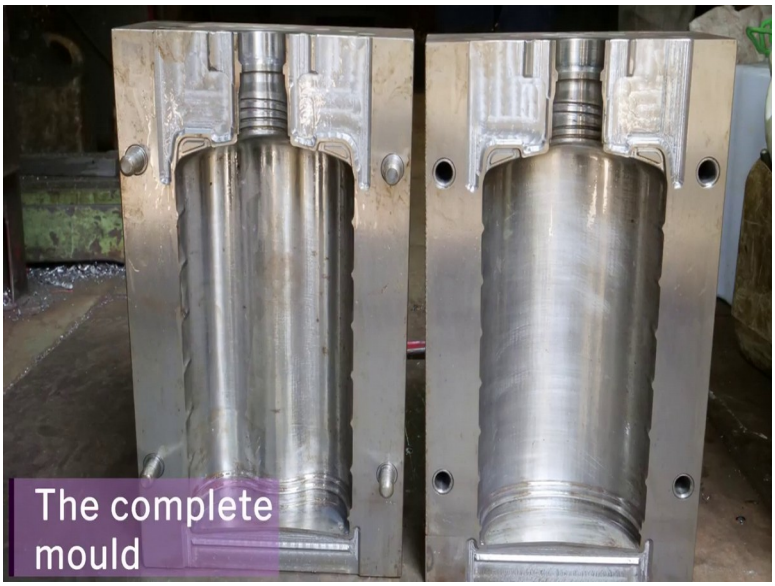

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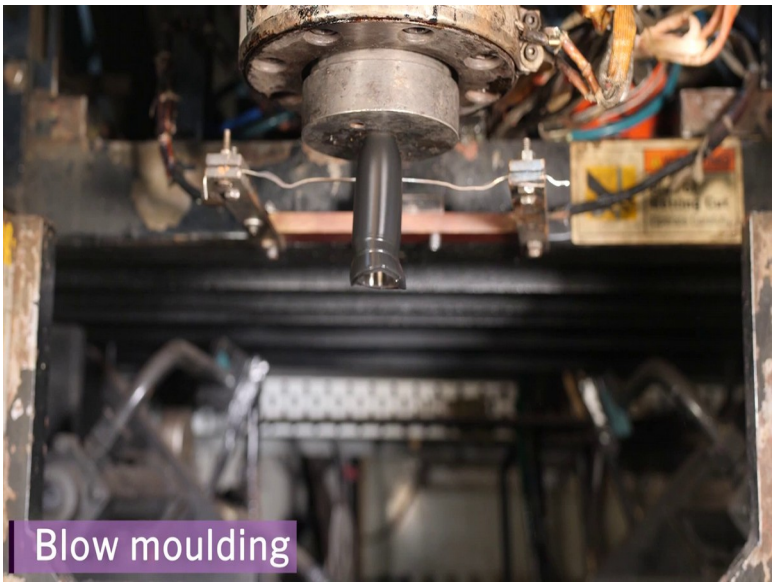

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The pilot production also will give to actual CRPF jawans in the field, take their feedback and then do the mass production.

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We manufacture world's largest range of sports water bottles, for brands across 60 countries worldwide. We learned about design thinking that its concern for user experience which can change the product the way product is designed and made and that really changed a journey toward very different degree. And I believe this would not have been possible unless our manufacturing experience and design from IIT collaborated.

So, in this you know journey then we decided that we will make the prototype, we started parallely the pilot production and we started parallelly the mass manufacture thing.

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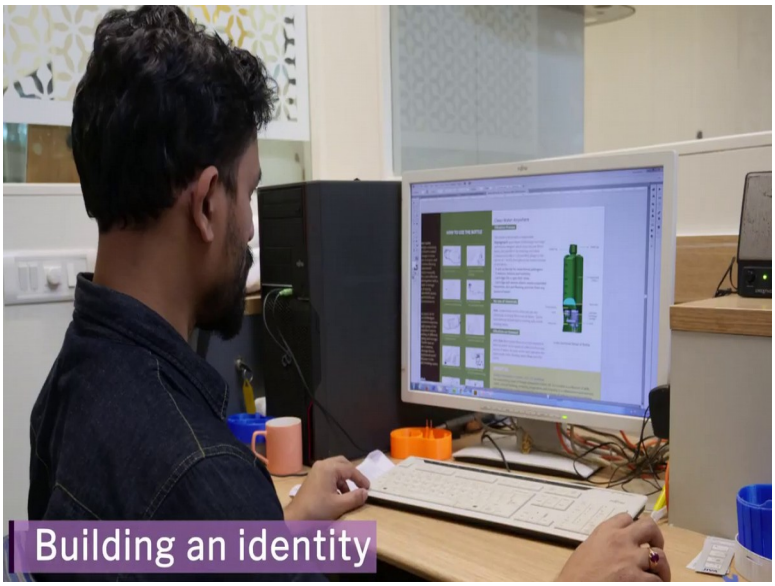

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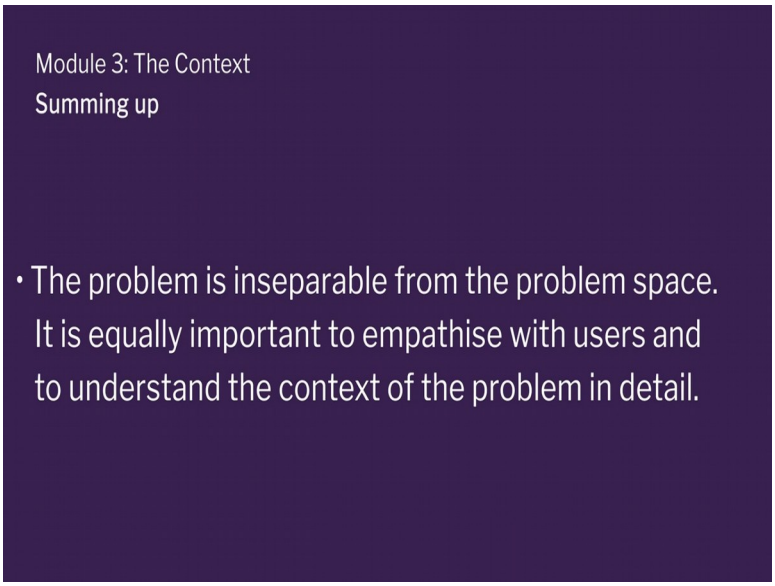

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