

What is Design (Part-2)

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What is Design?

The Design Process

- For example – A team of students came together to design an ***Amla De-seeding machine*** at IIT Kanpur.
- The problem was faced by workers who **used to do de-seed *Amla* using hand tools**. It was **less productive** and **injurious** to their health.
- Then the students decided to design a dedicated machine for de-seeding in three stages i.e **Feeding, De-seeding** and **Collection**.

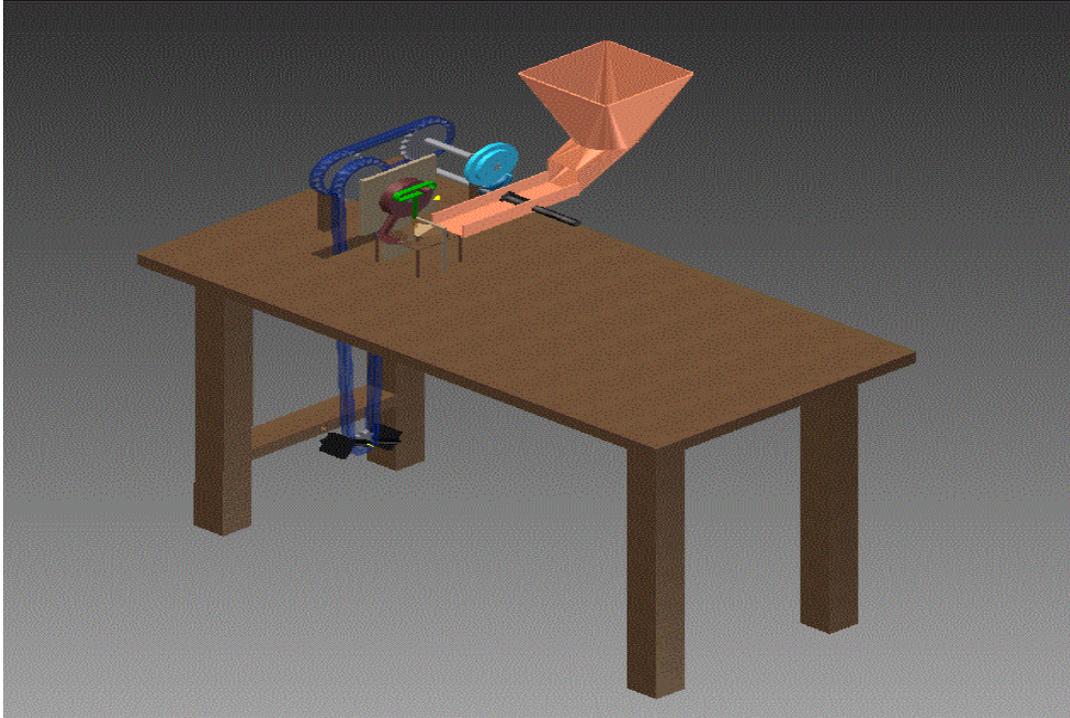


***Amla* fruit with seed at it's core**

What is Design?

The Design Process

- Proposed designs for *Amla* De-seeding



Concept of hopper created using Computer modelling.



Prototyping using cheap materials such as wood (Crank for De-seeding)

What is Design?

The Design Process

- Proposed designs for *Amla* De-seeding

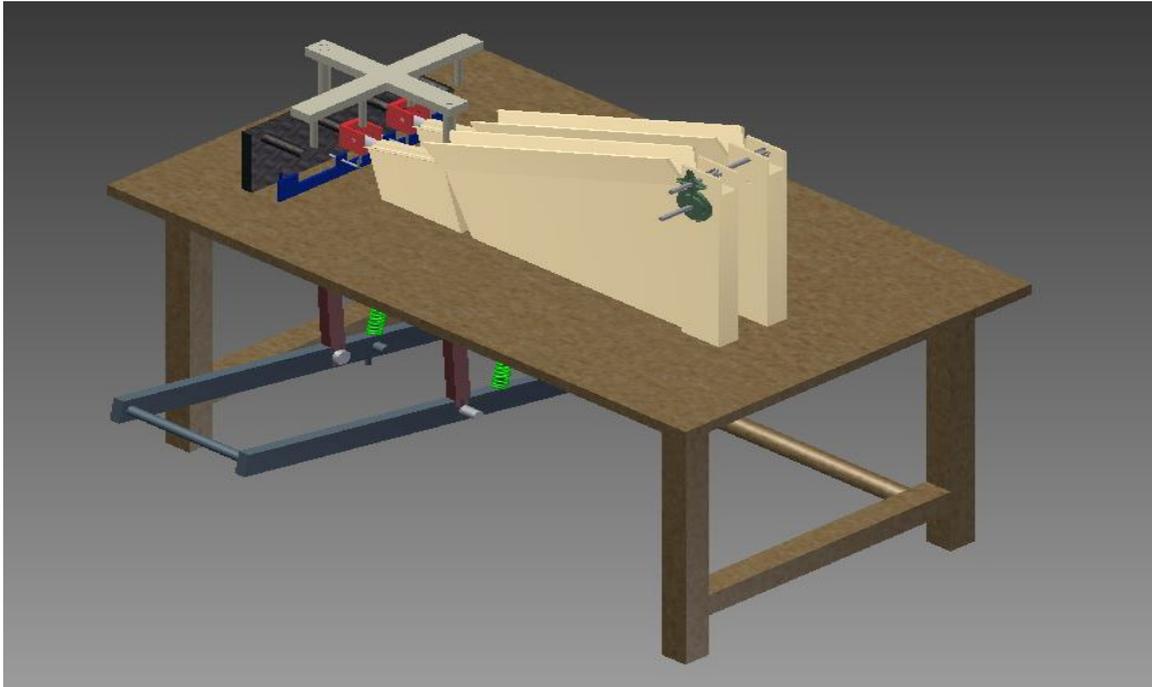


Prototyping of punch created using card-board and plywood

What is Design?

The Design Process

- Final design for *Amla* Deseeding



What we have learnt

- After many iterations, final design of de-seeding machine.
- Hopper is replaced by gravity assisted guide ways
- Punching into *Amla* is performed by a foot based mechanism to reduce effort
- Note that in earlier design, the punching mechanism is hand driven and feeding mechanism is hopper based.
- **In design thinking first solution may never end up to be a product.**

Thank You