Prototype to Production

How to create a successful hardware product that can scale

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- Get off the ground - Idea to prototype
- Choosing the right strategy
- Hardware Product Lifecycle - EVT, DVT and PVT
- PVT to Production
- Mistakes to Avoid in hardware product development

Get off the ground - Idea to prototype

Prerequisites for hardware product development

- Clean definition of your product and the problem that you are solving
- Who are your customers and what value are you bringing them?
- Knowing your research
- Have a realistic outlook
- Always have short and long term plan
- Know that the Work Never Ends

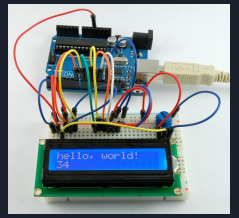
Drawing board to prototype

- Finalize design for prototype (Electronics + Hardware)
- Proof Of Concept Vs. Prototype
- Build diverse In-House hardware capabilities - 3D printing,
- Iterate your product - Find the key features

Get off the ground - Idea to prototype

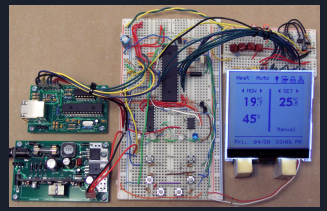
See if Idea can work

PoC



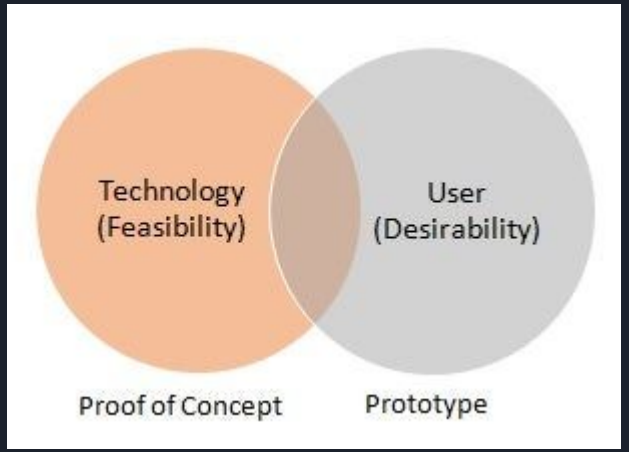
Simulate/build the full system

Prototype



Pilot deployment

MVP



Choosing Right Strategy

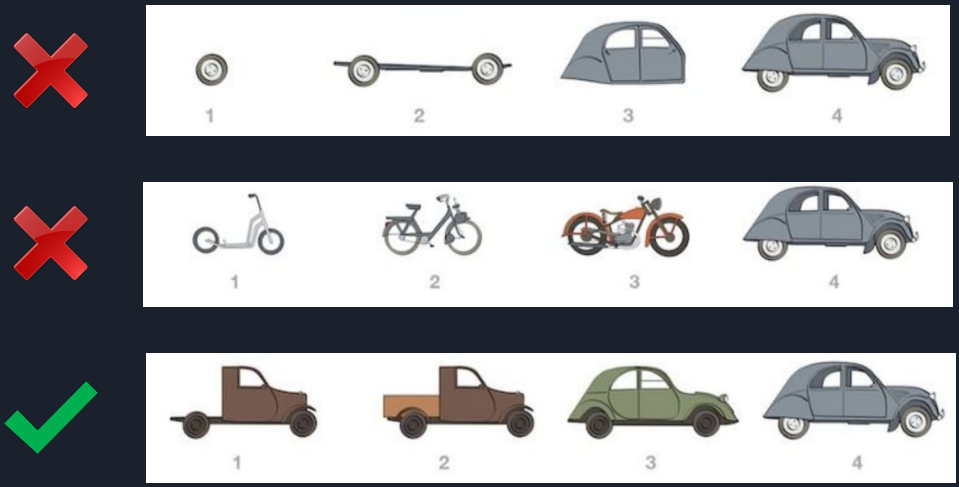
1. Team
2. Iterate your product
3. Choosing right suppliers and components

Team

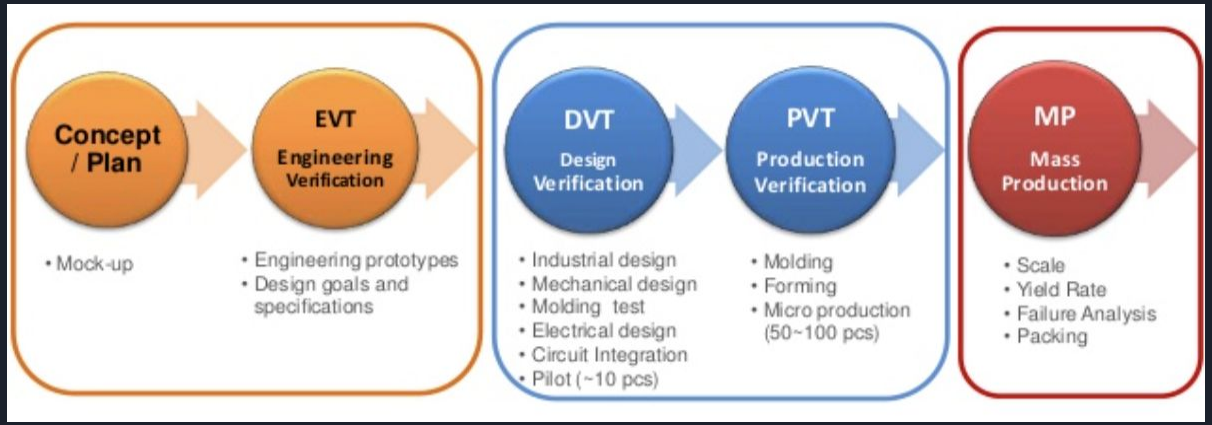
- It can start as small as 2 member team
- Identify if your product needs any other technical expertise
- Organically grow your team. Identify gaps and fill with key experts from industry

Choosing Right Strategy

Iterate your product



Hardware Product Lifecycle - EVT, DVT and PVT



1-3 months → 3-6 months → 6-12 months

Multiple Iterations

Few Iterations

Iterations are not suggested.
Huge cost involved

3D printing for rapid prototyping

PoC/Prototype

Functional validation - PLA, Nylon, ABS

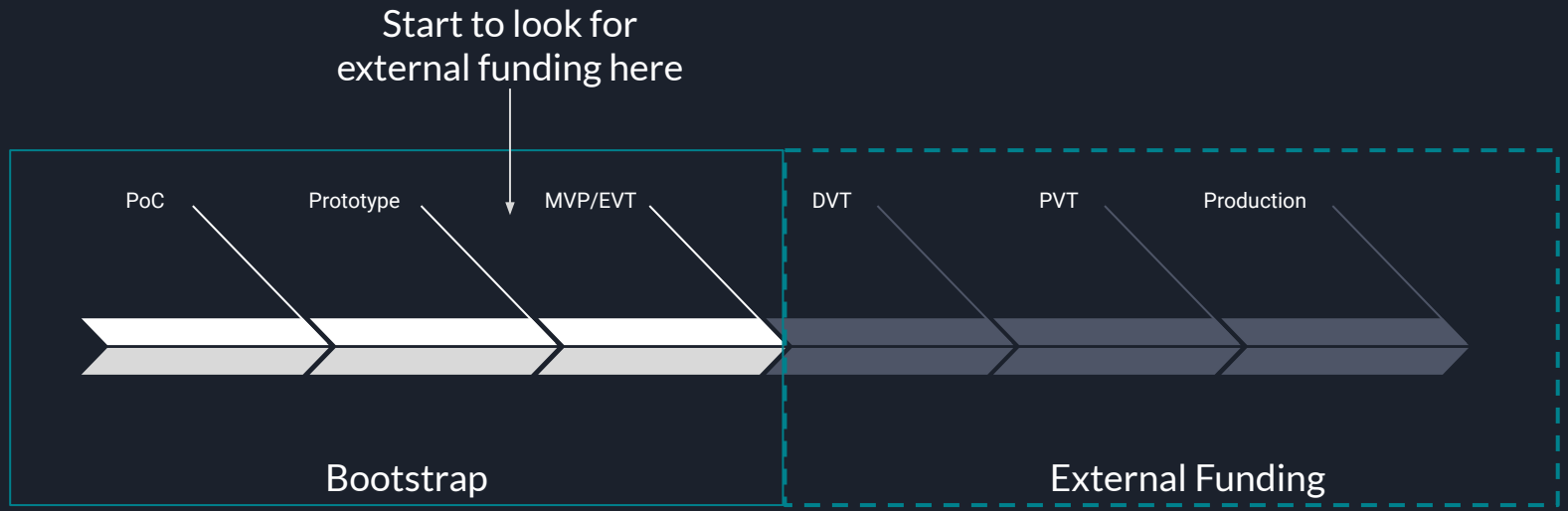
EVT/DVT

Dimensional validation - MJF

Metal 3D printing

Internal parts, Limited/No availability in India

Hardware Startup Financial Planning



Mistakes to Avoid in hardware product development

- List down features clearly
- Focus on design once PoC is done
- Don’t try to build everything. Focus on continuous improvements
- Embrace Failure and Use It to Succeed
- Build in-house expertise in each area
- Learn from mistakes quickly. Mistakes in hardware can cost a lot
- Idea is great. Execution matters

Thank you!

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