Simple *physical* models made of soft, low cost, easy-to-work materials

**Sketch models: what should we do?**

I need to make something?
OK, I’ll make something!
Sketch models: what should we do?
step 1: what is the question?

**articulate:** what are we uncertain about?

- **definition:** what is the idea?
- **feasibility:** does core technology exist and do we understand it?
- **user need:** do we understand the user and our value proposition?
- **market:** who is our customer and how interested are they?
- **scope:** do we have the needed resources and skills?
Sketch models: what should we do?

step 1: what is the question?

prioritize: which questions do we answer first?

*Pugh chart*
- level of uncertainty
- criticality to viability
- learning outcomes
Sketch models: what should we do?
step 2: what type of model?

explore: what model foci relate to the question?

form: focus on shape embodiment
scale: focus on properties such as size or mass
visualization: focus on communication
operational principles: focus on tech and physical behavior
system configuration: focus on “what are the bits?”
integration: focus on “do these bits play well together?”
interaction: a focus on the use model
usability: a focus on user understanding
experience: a focus on the user’s feeling
Sketch models

step 2: what type of model?

select: what type of model?
based on question and focus

looks-like: fidelity in appearance
works-like: fidelity in behavior

may be physical or digital!

lowest fidelity possible to resolve the question!
Sketch models: what should we do?
example

electric scooter

*concern:* product definition
*model focus:* scale, usability
*type:* works-like (kinematics)

helicopter lift

*concern:* product definition
*model focus:* visualization, operation
*type:* works-like (operating principle)
Sketch models: what should we do?

**Articulate** uncertainties as questions

**Prioritize** questions

**Explore** relevant model focus categories

**Select** model type