

DESIGN FOR MANUFACTURE

ABOUT ME



Design Director



Founder

ABOUT ME



MICHAEL GRAVES™
DESIGN



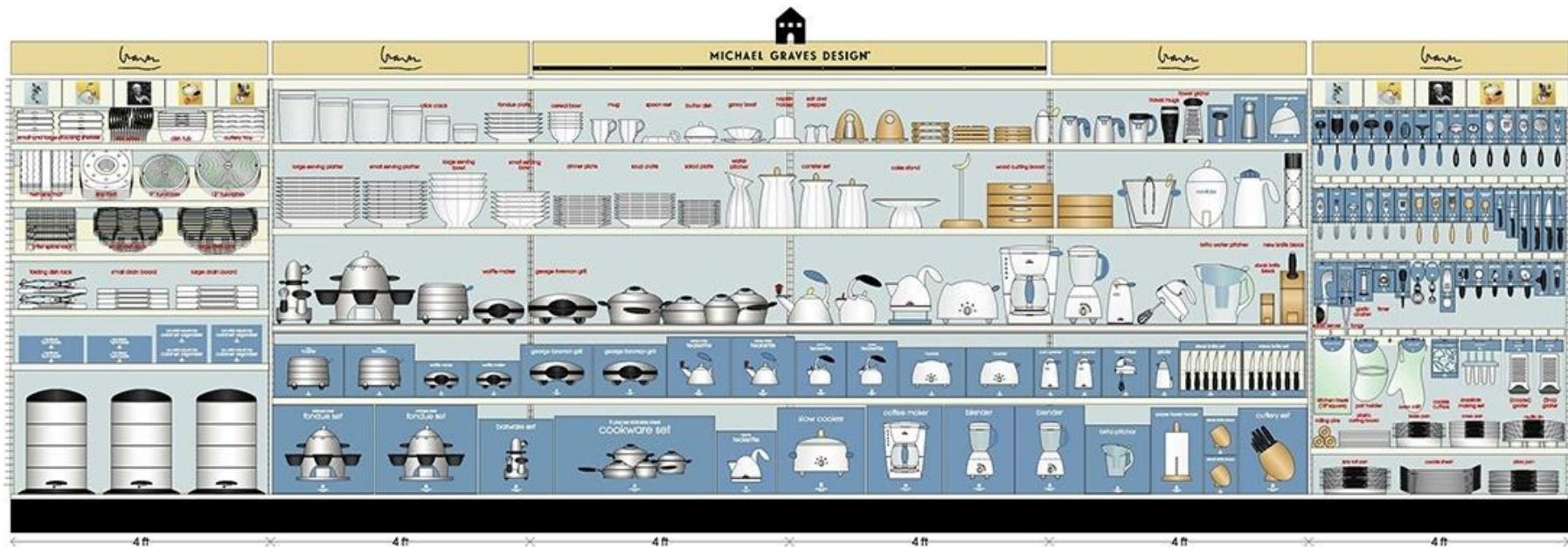
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MICHAEL GRAVES™
DESIGN



70 SKU'S
PER QUARTER

- ① adaptor, cupholder, LCD. 使用中不能拆卸。
② 上下滑动，不能拆卸。
- ②. power dot cover
- 3. Hinge Lock
- 4. wheel
- ⑧. ① wheel for ...
② info ...
③ info ...

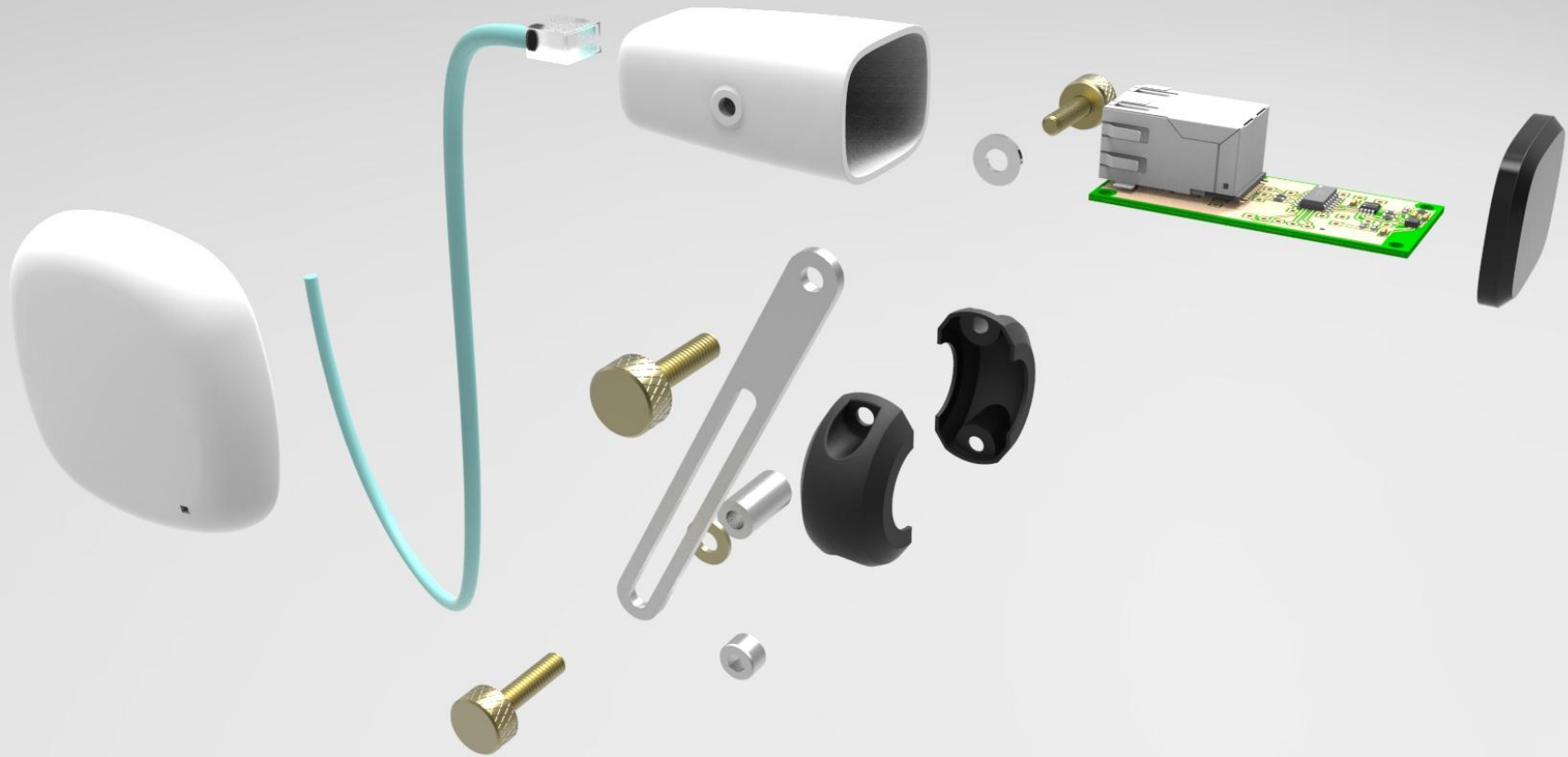


Handwritten notes on a whiteboard:

- LED display
- car dot color
- LED display
- car dot color
- Handwritten diagrams and circuit-like structures.







2 PARTS

STARTUPS AND DESIGN
NUTS AND BOLTS

STARTUPS

SAVE UP FOR DESIGN

“Coming up pretty soon.”



DOLLARS NOW



DOLLARS NOW
THOUSANDS LATER

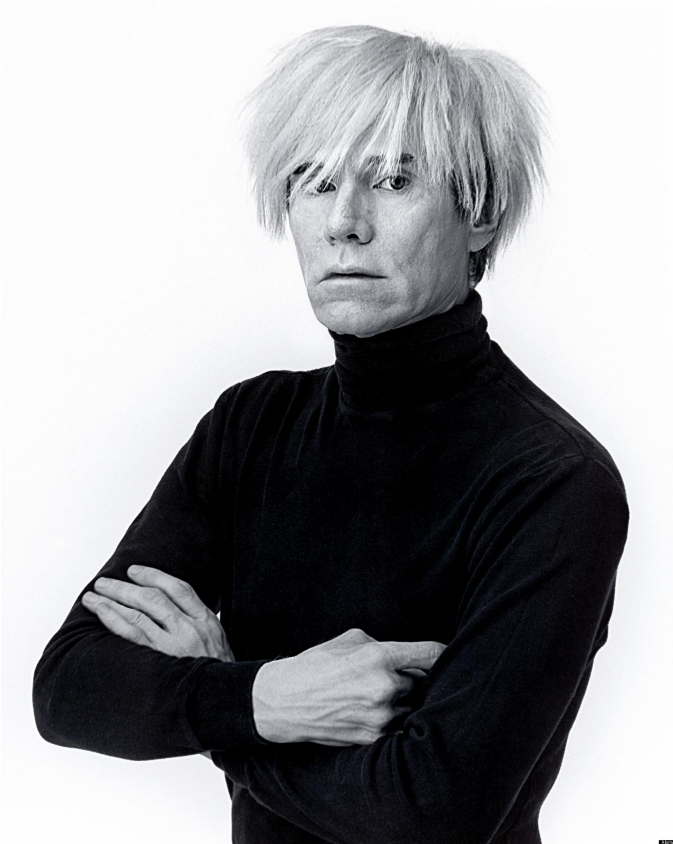


HOW CAN DESIGN SAVE MONEY?



DESIGNERS LIKE AMBIGUITY

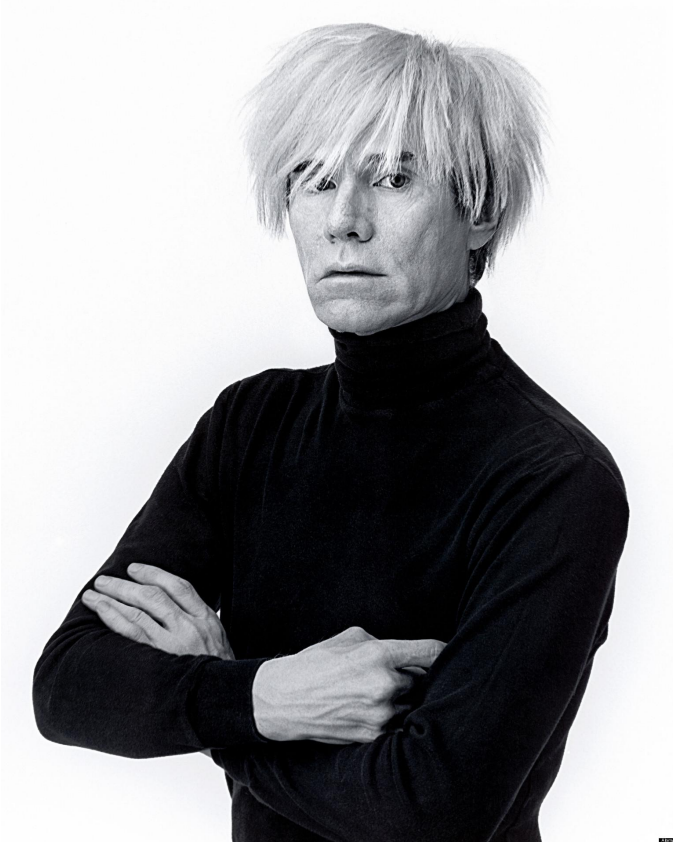
WE'RE SENSITIVE ARTISTS



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“That Blue isn't blue enough”

It's actually a bit more Cerulean
than Teal



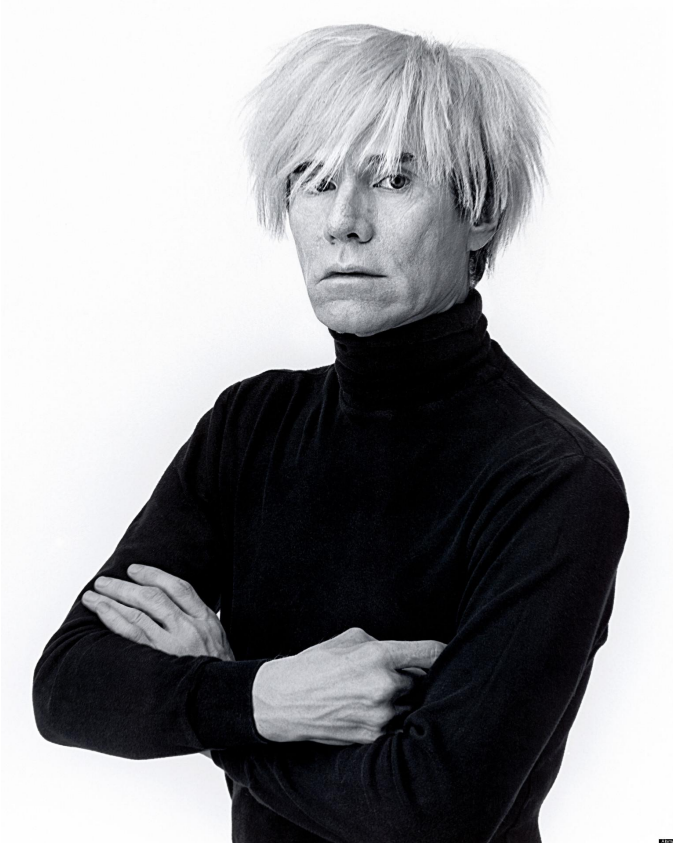
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“What if it wasn't?”

Blow it up! Get it out of my face!



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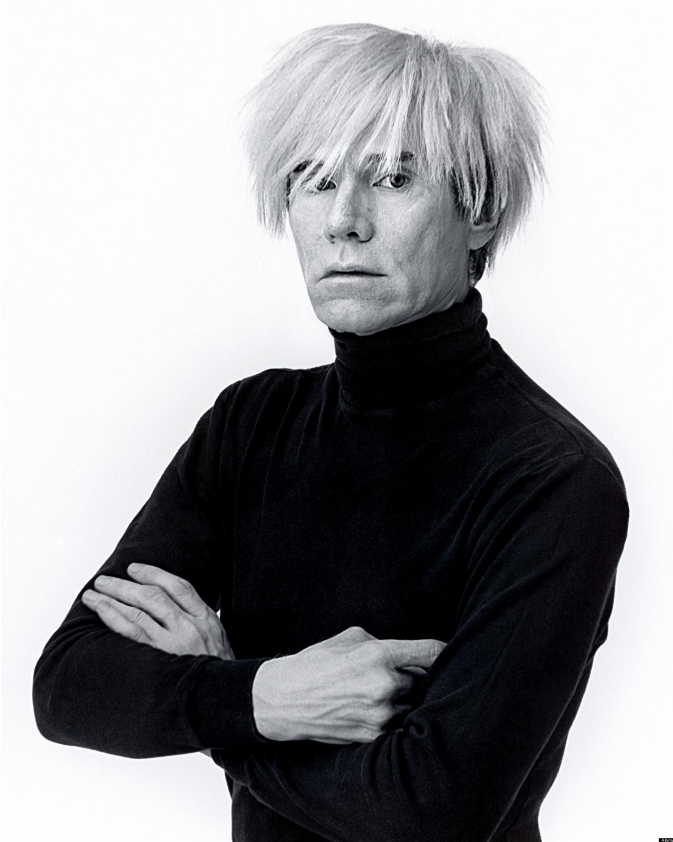
It's actually a bit more Cerulean than Teal

“What if it wasn't?”

Blow it up! Get it out of my face!

“Does it have to be like that?”

I just, like... don't get it



BUT WE'RE ALSO CANARIES

This is the part where you get sensitive...

Have you actually tested?
Do you want the truth?
Are your costs in-line?
What's it made out of?
Who can help us?
Does it work?
Does anyone even want it?





THIS ISN'T ABOUT SHOOTING HOLES IN YOUR DREAM

IT'S ABOUT BREAKING
AND REBUILDING



ANECDOTE #1

ANECDOTE #1

“We don’t have money for tooling”



GET CREATIVE (OFF-THE-SHELF)

KNOWING THE
CONSTRAINTS,
FOR \$3,348 OF DESIGN

WE SAVED \$25,000
OF TOOLING...
(AND IT LOOKS
AWESOME!)

KNOWING THE
CONSTRAINTS!

CHARLES EAMES





“HERE IS ONE OF THE FEW EFFECTIVE KEYS TO THE DESIGN PROBLEM —THE ABILITY OF THE DESIGNER TO RECOGNIZE AS MANY OF THE **CONSTRAINTS** AS POSSIBLE —HIS WILLINGNESS AND ENTHUSIASM FOR WORKING WITHIN THESE **CONSTRAINTS**. **CONSTRAINTS** OF PRICE, OF SIZE, OF STRENGTH, OF BALANCE, OF SURFACE, OF TIME AND SO FORTH.”

— **CHARLES EAMES**

STUDY THE CONSTRAINTS...
(AND TELL THEM TO EVERYONE)

ANECDOTE #2

ANECDOTE #2

“We’re not committed to the idea yet”

OH REALLY?
(THAT'S KINDA
THE POINT)

WE WANT TO MAKE A
MEDICAL DEVICE

COOL!

HERE'S A FEW DAYS OF
DESIGN WORK AND
VISUALIZATION

OHHHHH...
ACTUALLY AN APP IS
GOING TO BE MUCH
BETTER.

EXPLORE IT EARLY AND SCRAP

ANECDOTE #3

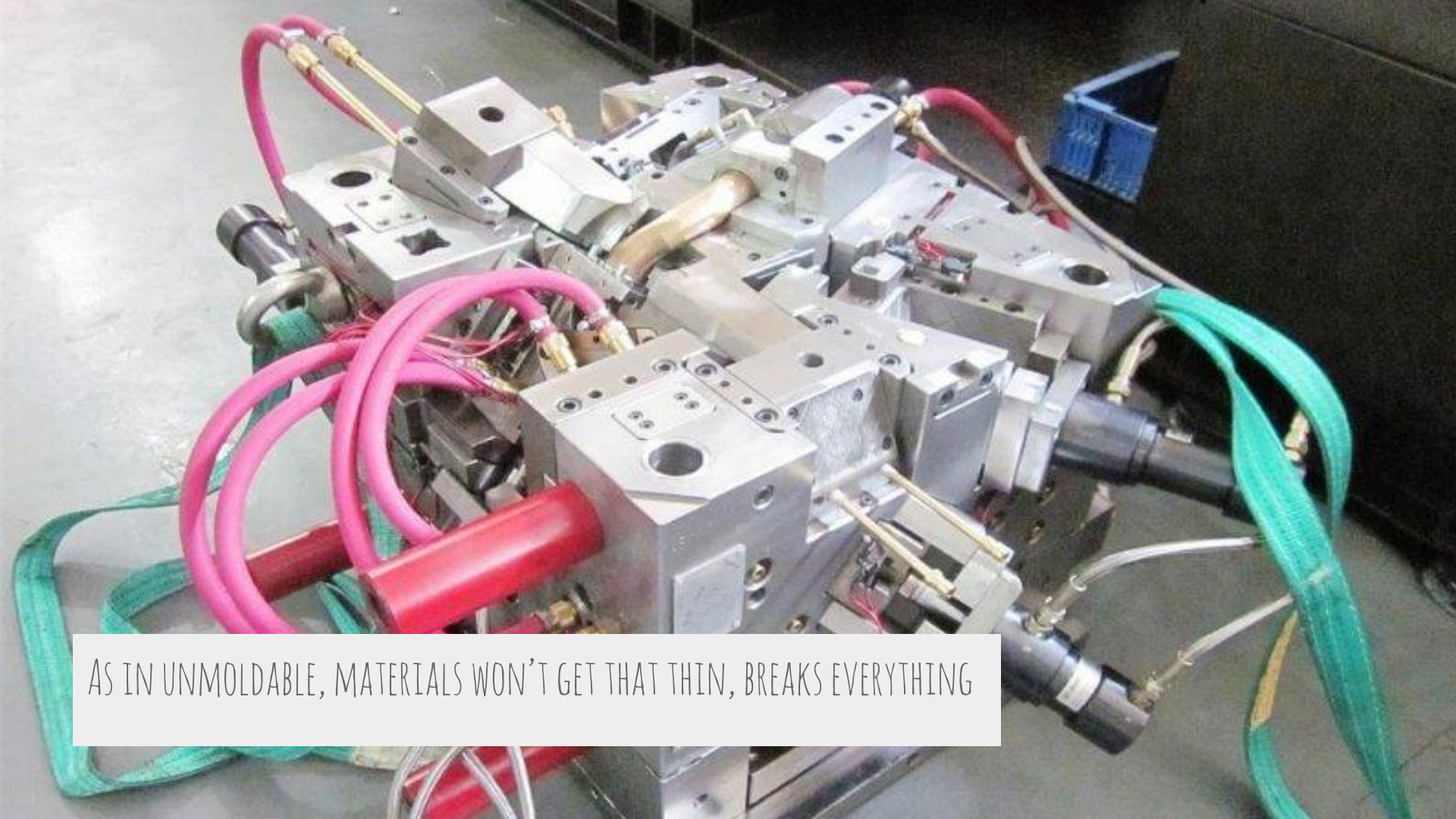
ANECDOTE #3

“This isn’t the final. It’s not done. It will be better.”

MAYBE NOT...

AFTER DIGGING IN ON
THE PROJECT FOR A
DIFFERENT AREA, WE
DECIDED...

YOU CAN'T BUILD THAT!!!



AS IN UNMOLDABLE, MATERIALS WON'T GET THAT THIN, BREAKS EVERYTHING

BUILD IT (CRAFT TIME)

HAVE HARD CONVERSATIONS.

BE HONEST.

ANECDOTE #4

ANECDOTE #4

“We’re not ready to share it yet. With manufacturer's, sales team, or humans ”



YOU KNOW WHO KNOWS HOW TO MAKE STUFF?



YOU KNOW WHO KNOWS HOW TO BREAK STUFF?

TALK TO THE VENDOR

HOW DO I FIND A VENDOR?

MAKE FRIENDS

JOIN GROUPS...

MANUFACTURE OR INDUSTRY

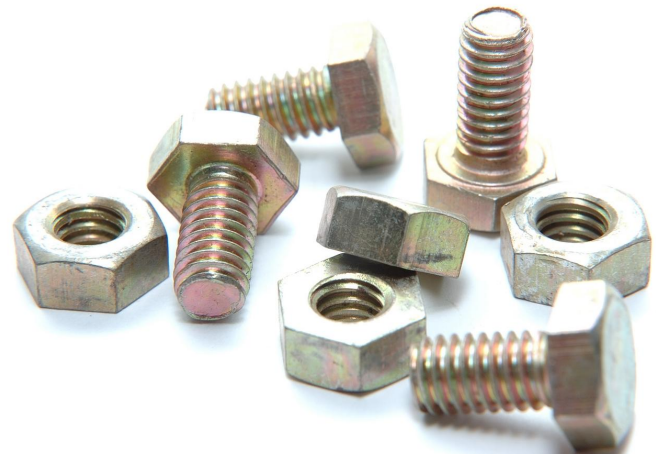
BASED

DO THE LEGWORK

LEFT TURN!

ELIJAH'S GUIDE TO MAKING THINGS REAL

(AND REAL GOOD)



ALIGNMENT (LINE THINGS UP)



ALIGNMENT (LINE THINGS UP)



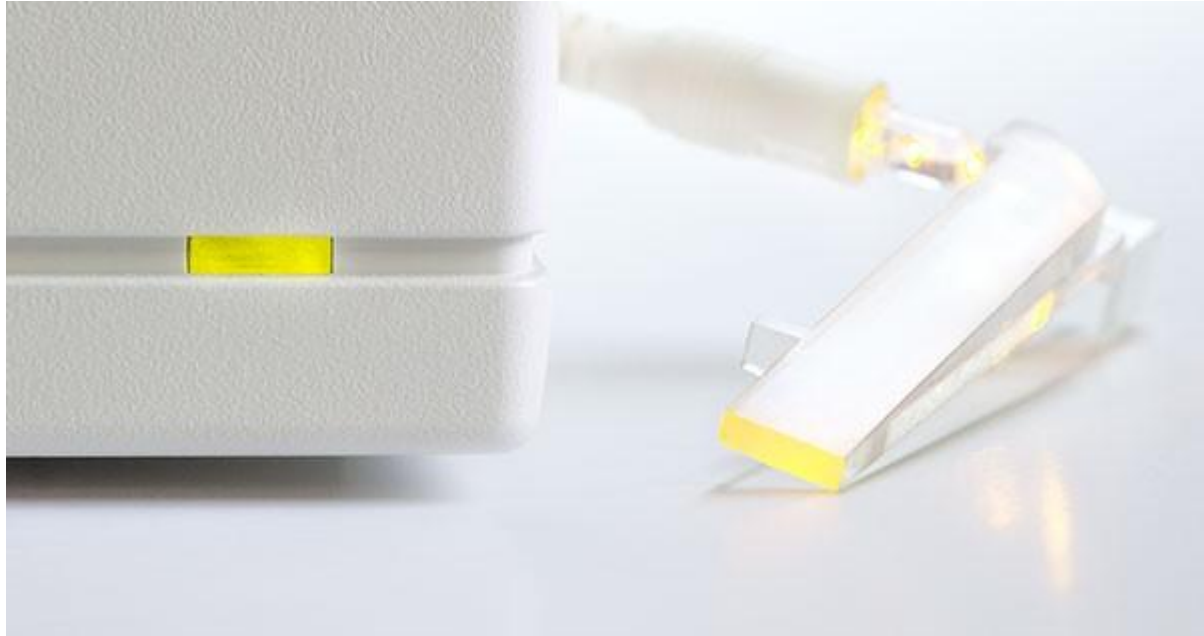
ALIGNMENT (LINE THINGS UP)



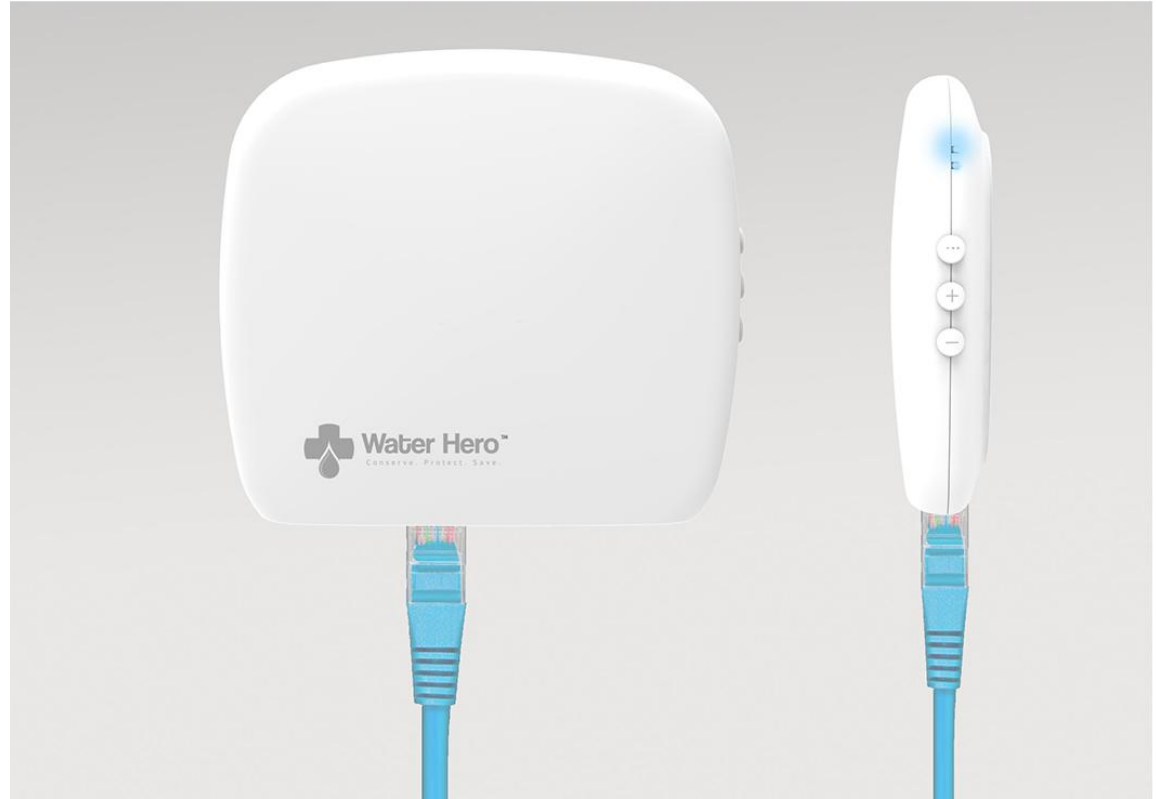
BEAUTY GAP



BEAUTY GAP



BEAUTY GAP



BEAUTY GAP



PICK ONE THING TO
CELEBRATE



COMBINE PIECES



USE MULTIPLE
MATERIALS

USE MULTIPLE MATERIALS



USE SOFTGOODS

USE SOFTGOODS



PLAY WITH SCALE

PLAY WITH SCALE



PLAY WITH SCALE



BUY THINGS THAT ARE
SIMILAR AND TAKE
THEM APART!

OR WATCH VIDEOS OF
OTHER PEOPLE DOING
THAT.







THANK YOU!

GO MAKE SOMETHING GREAT!



Questions?

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