



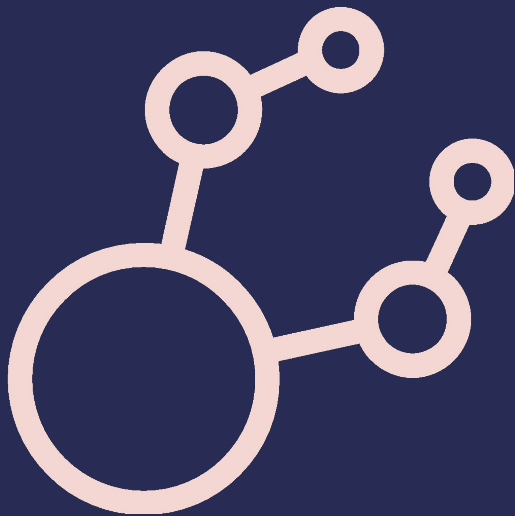
Scrum and robotics

What can we learn from
Nomagic?

25.10.2021







Introduction

Justyna Gajewska

My biggest goal
is to find the right fit.
I am looking for candidates
with a grace and a bit of wit.
If you want to catch me
when I am done with my work,
just go to the park.
I'll be there walking with the dog :)



Joanna Płaskonka

I love the robots,
working with people, too!

My secret weapon
is a crochet hook!

Scrum and Agile are not
just empty words.

If you're in doubt –
let's talk afterwards!



... and why are we here together today?

No magic, no coincidence

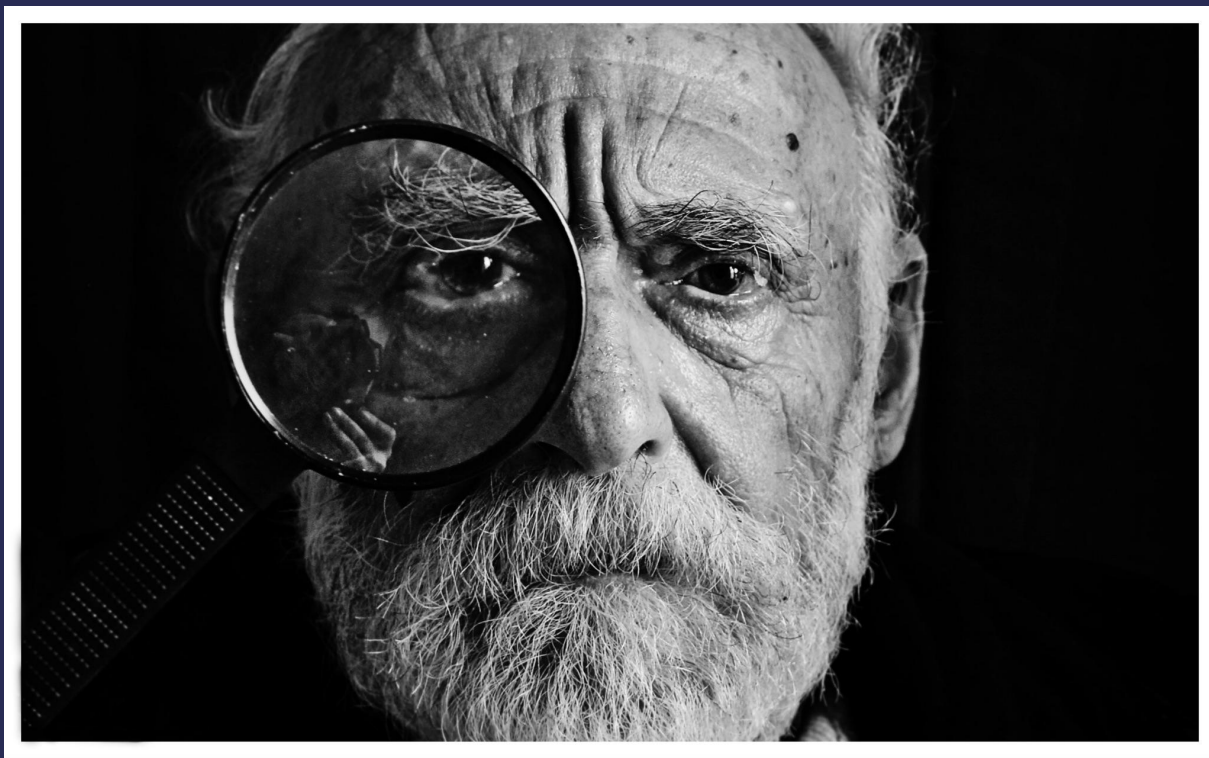
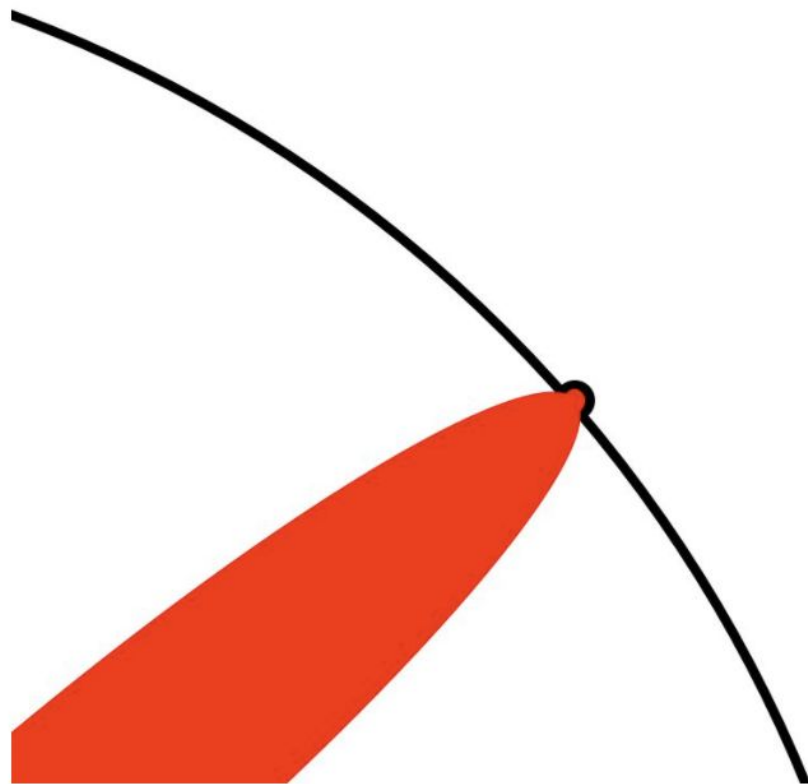
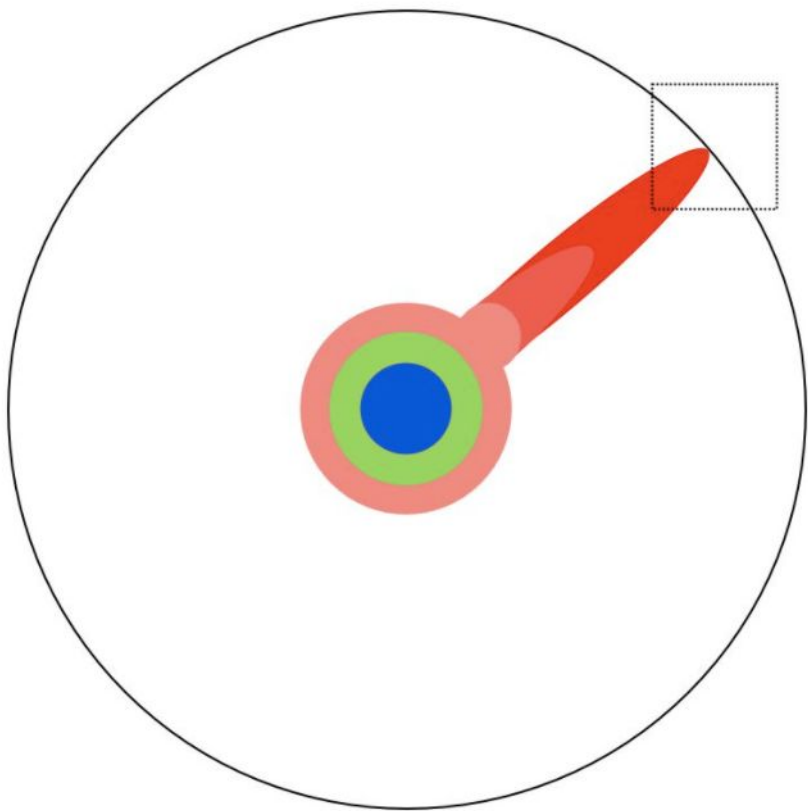


Photo by [mari lezhava](#) on [Unsplash](#)

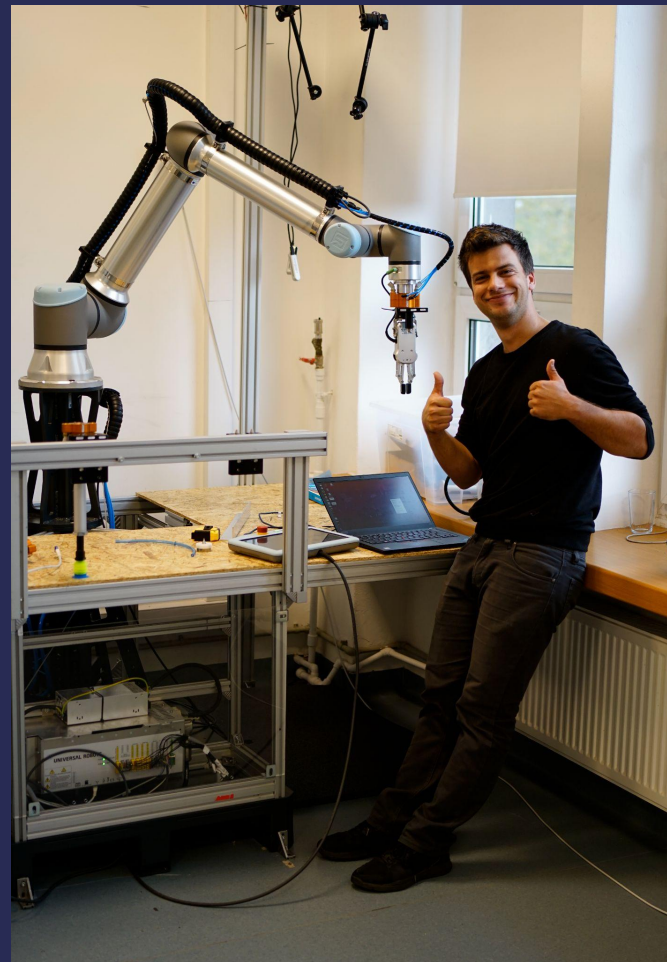
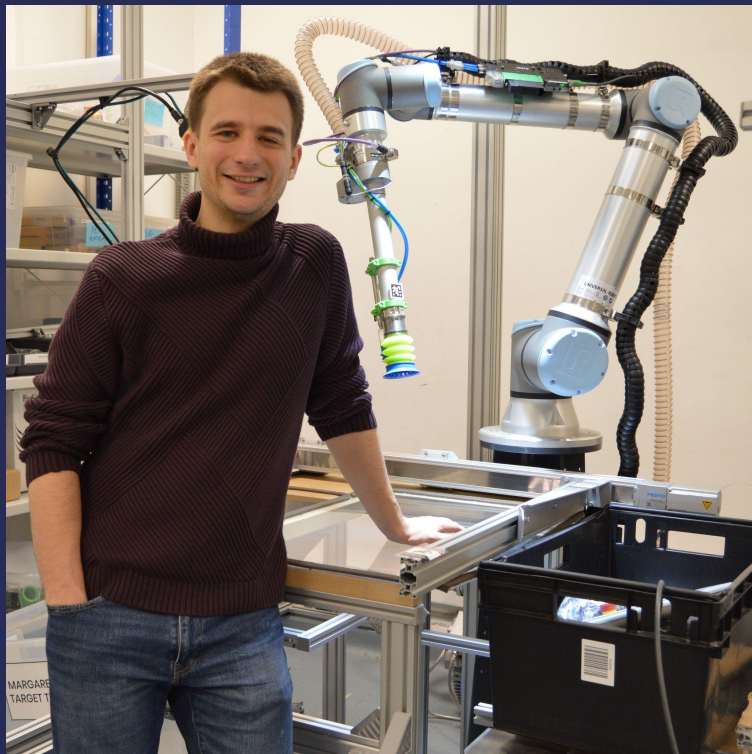


Clarke's third law:

**Any sufficiently advanced technology
is indistinguishable from magic.**

If no magic, then... what?

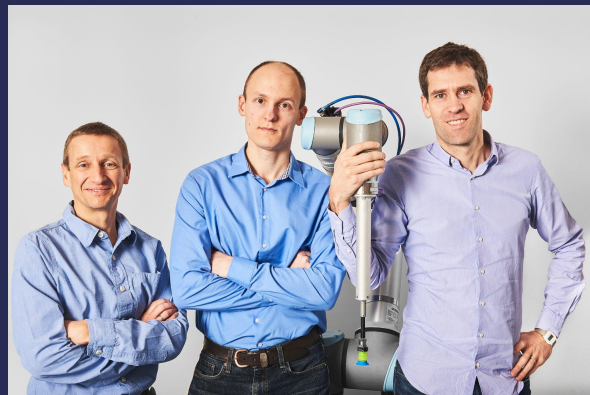
Do you love robots, too?

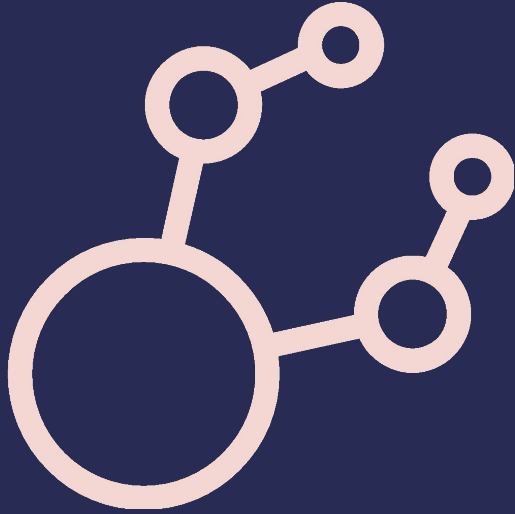


You can touch me!



We also have great people :)





—
Nomagical world

Introducing the problem



Fashion: Pick and scan soft bags



E-Commerce:
Pick and play tetris
with > 100k products



Automotive:
Place parts precisely
with high quality

It's a COMPLEX world!



Complexity has different sources

Unpredictable

Unknown problems

Let's do a **brainstorming**!

What if...

I am **curious**
whether...

We often hear...

We don't know - we **have**
to test it.

Did you conduct **enough**
tests?

Did you **test it on the**
robot?

Do you have **evidence / data**
supporting that?

Don't know the impact yet - we have
to **look into data...**

Curiosity

Data



Doubts

Exploration

Hardware is hard!

(Some of) Challenges related to HW

- **HW is designed and manufactured – continuous deployment is not possible**
- **Copy paste does not work...**
- **Cloud solutions are not the best place to store it**
- **Safety first! – it's unlikely that your "normal" software will burn a server**
- **It is not feasible to recreate the production environment in the lab**
- **Dependencies on external factors**
- **Lack of "Full Stack Engineer" in HW world – specializations, certifications...**

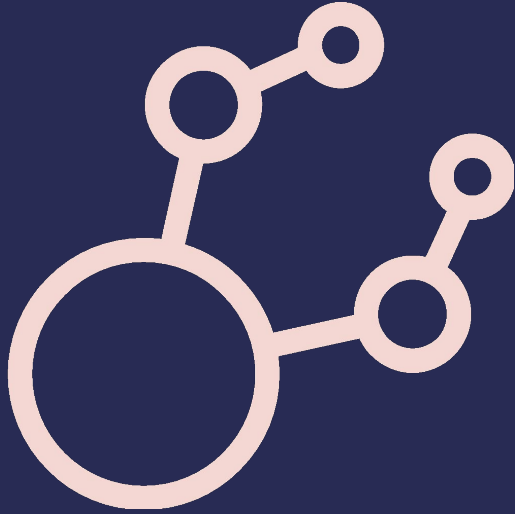
(Some of) Challenges related to HW

- **Internal dependencies and difficult to have a “thin slice” of a cake – customer waits longer for a useable Increment**
- **Should we invest in SW, HW, ML or combination of them?**
- **If it does not work on real robot, it does not work (at all)**

but...

The beauty of HW prototyping!





**How do organizations
develop their products?**

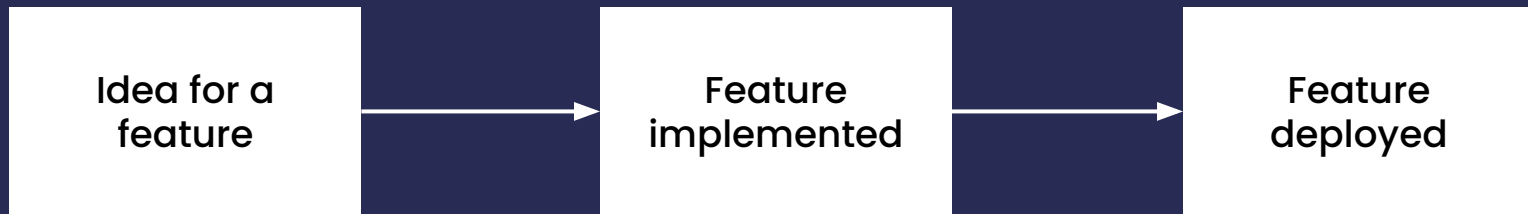
Idea for a
feature



Feature
implemented



Feature
deployed

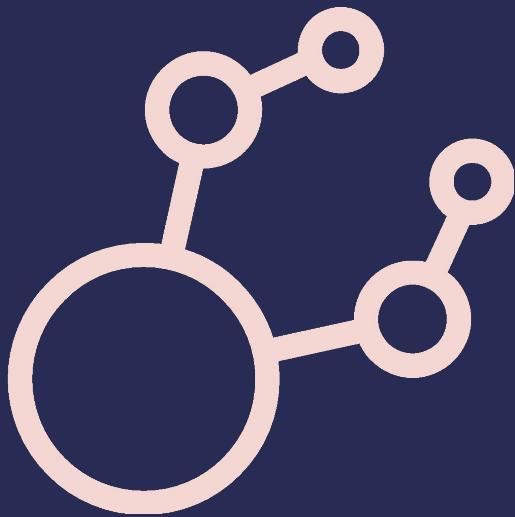


= customer





Really?



—
Let's do things differently

Goal + Evidence + Data

What is the problem?

What do you want to achieve?

What is your goal?



How will you know that your problem is resolved or goal achieved?

How will you recognize that you are there?



Which data will you need?

How and how often will you collect data?

**Have YOU ever thought about yourself
“I, scientist..”?**

**“Science
=
A set of hypotheses
that haven’t been disproven
so far”***

***prof. Roman Galar**

Hypothesis

The hypothesis is a **guess**, certain **statement**,
explanation related to reality.
You try to prove it (or disprove it) by conducting
experiments.

Characteristics of a good hypothesis

- testable and falsifiable
- logical
- positive

<https://opentext.wsu.edu/carriecuttler/chapter/developing-a-hypothesis/>

Hypothesis statement

Lean UX

Hypothesis	We believe _____ [doing this]			
	for _____ [these people]			
	will achieve _____ [this outcome/impact]			
Experiments	We will test these assumptions by ...			

Validation	We will know this hypothesis is valid if by ____/____/____ we see...			
	<table border="1"><tr><td>Quantitative measurable outcome</td><td>Qualitative measurable outcome</td></tr><tr><td colspan="2" style="text-align: center;">or</td></tr></table>	Quantitative measurable outcome	Qualitative measurable outcome	or
Quantitative measurable outcome	Qualitative measurable outcome			
or				

Hypothesis Prioritization Canvas





Lean UX

Hypothesis Prioritization Canvas

Project Name:


Date:

Iteration:

<div>Ship & Measure The level of confidence is high about these hypotheses. Combined with a strong belief they will deliver customer and business value, we build, launch and measure them. Don't spend your discovery cycles here.</div> <div>2</div> <div></div> <div>Low risk</div>	<div>Test These hypotheses have the promise of a big return but also pose significant risks. These are the hypotheses you should focus your experimentation, learning and discovery activities on.</div> <div>1</div> <div></div> <div>High risk</div>
<div>Don't test. Usually Don't Build These hypotheses don't add significant value but are also low risk so don't require discovery efforts. However, sometimes ideas land here that are table stakes for the operation of the business. They won't differentiate you in the market but you need them to be in business (e.g., a payment system).</div> <div>3</div> <div></div>	<div>Discard These hypotheses provide little value and pose a high level of risk to your business or product. Don't spend any more time on them.</div> <div>4</div> <div></div>

High perceived value

Low perceived value

 Download this canvas at: www.jeffgothelf.com/blog/????????

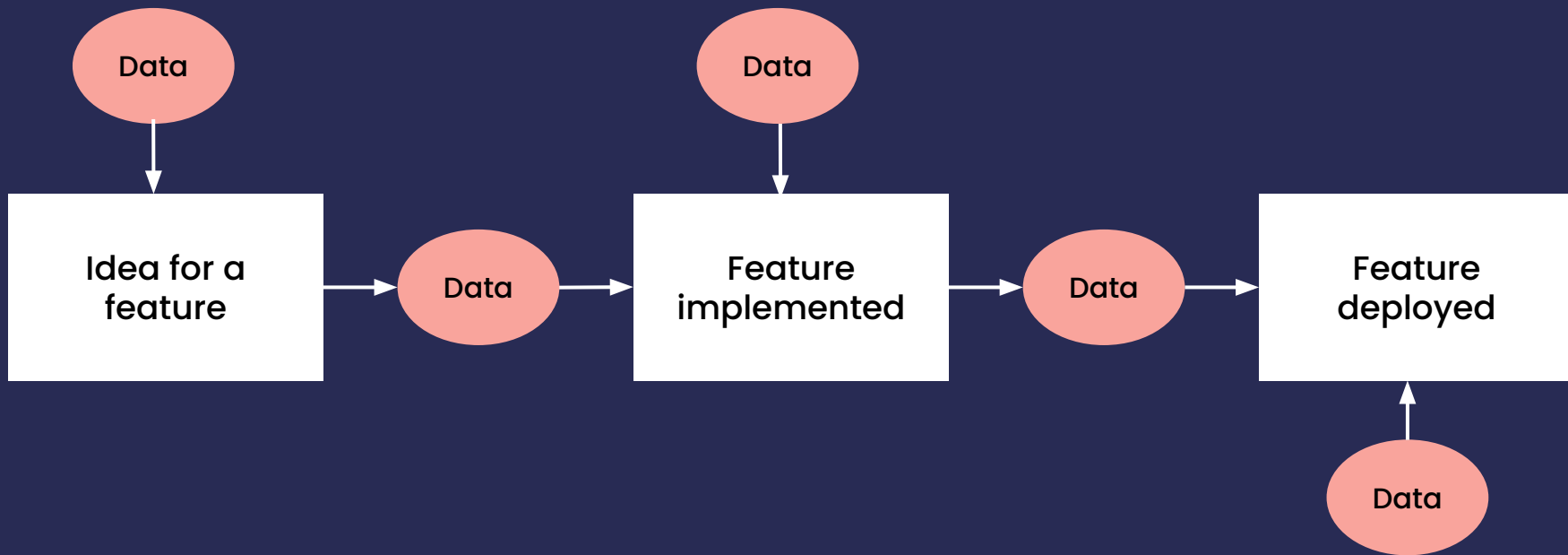
Idea for a
feature

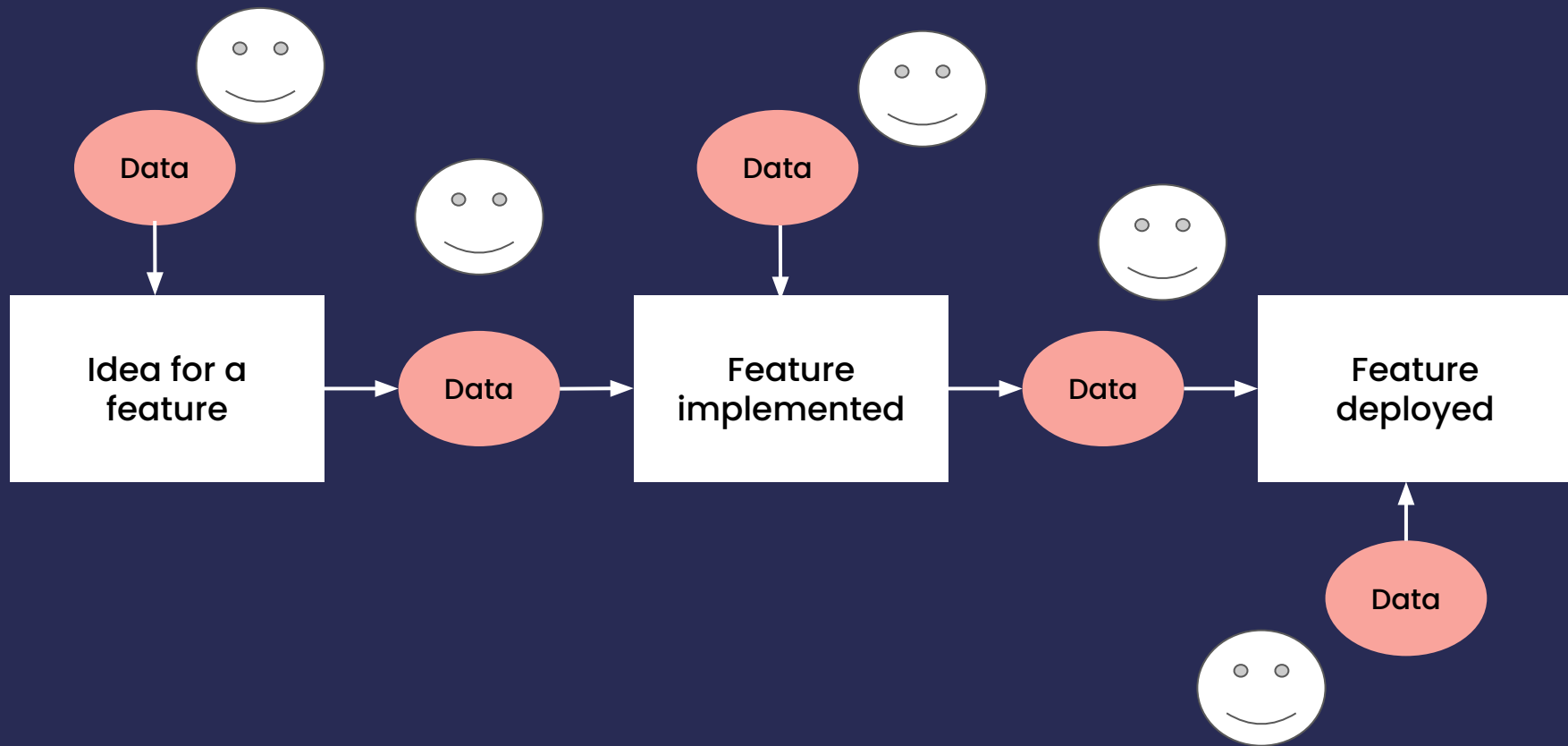


Feature
implemented

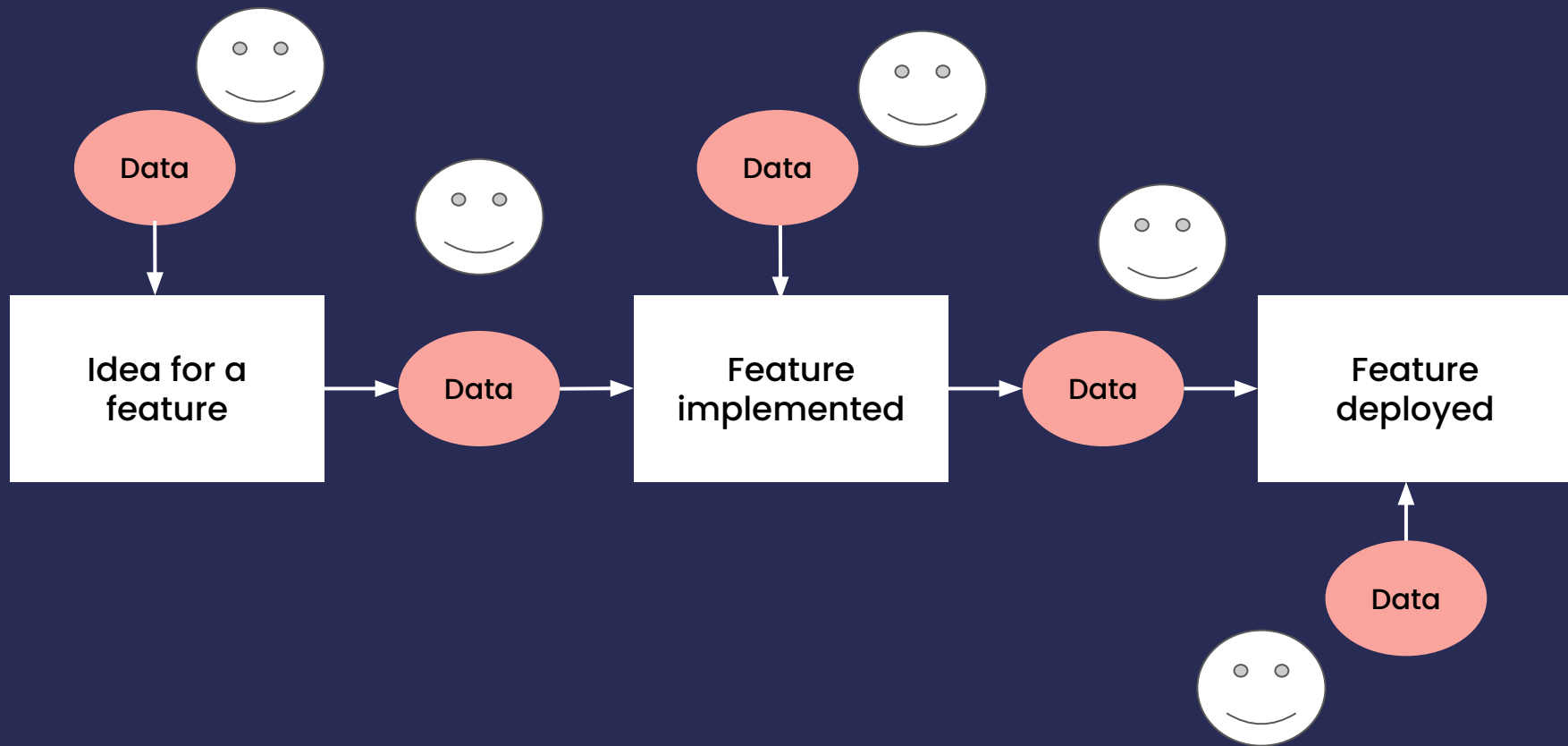


Feature
deployed





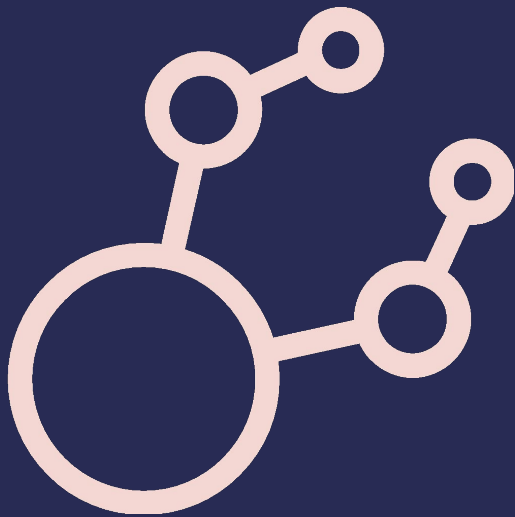
 = customer



Data is **not** an information!

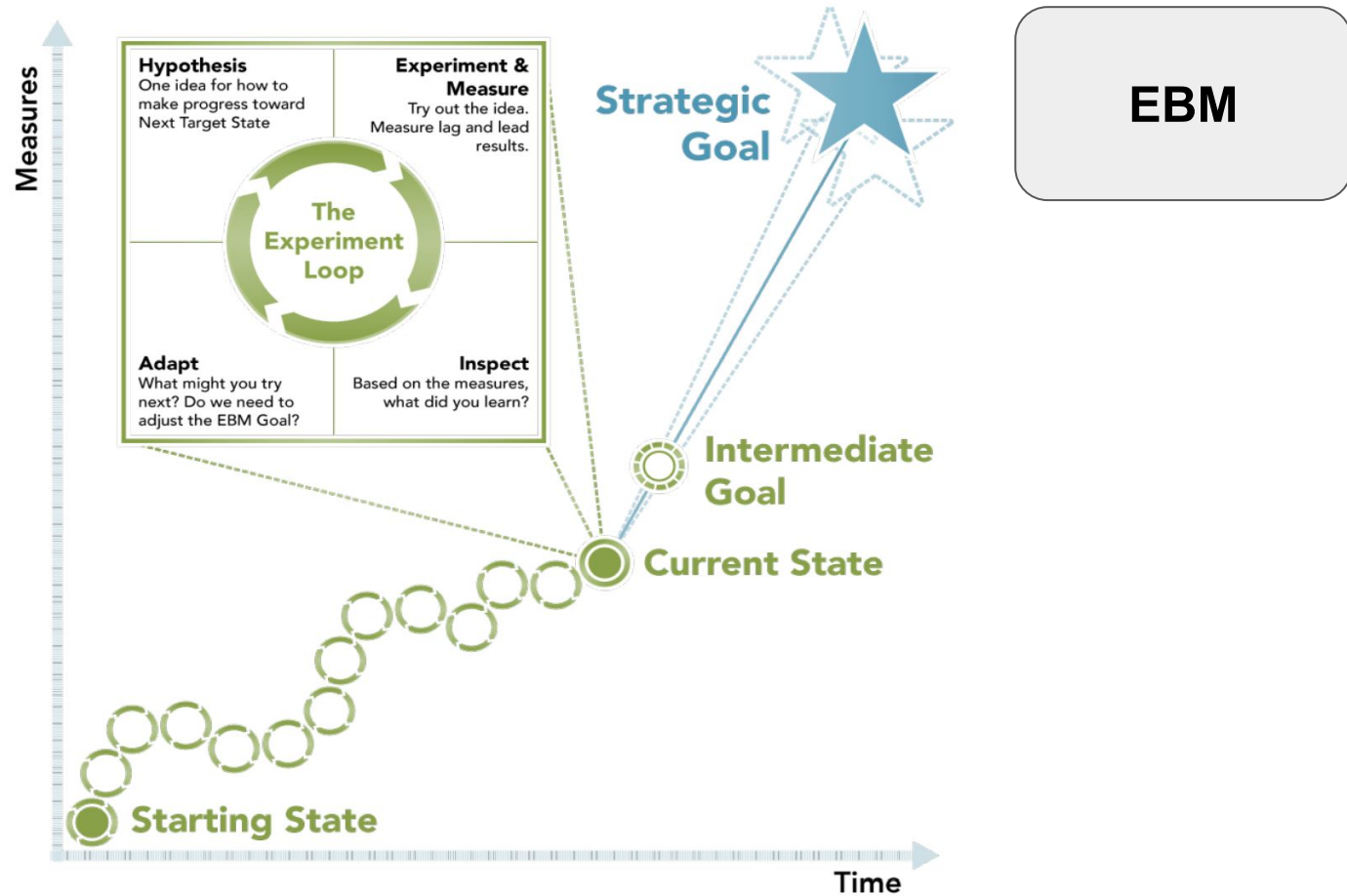
Meet your new friend

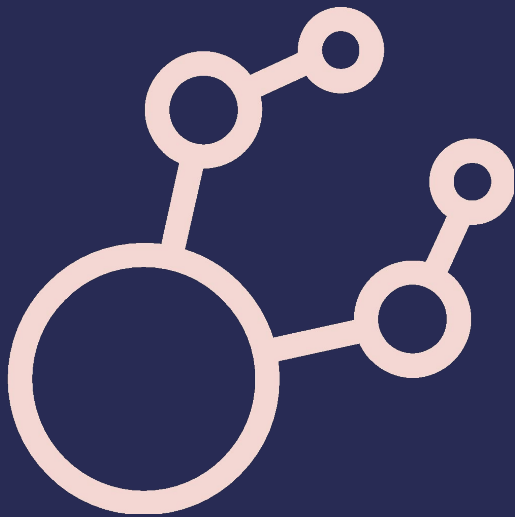
Statistics and statistical tests



—
EBM?

**How to make progress
towards goals?**





Summary

**We, scientists,
are very SERIOUS people**



**And our robots are not afraid
of any work!**



nomagic

justyna@nomagic.ai

joanna@nomagic.ai

<https://nomagic.ai/>