



GROOVE X



Robotics Startup with a Manager-less and Division-less Structure Using LeSS

Agenda

About LOVOT

Why GROOVE X adopted LeSS

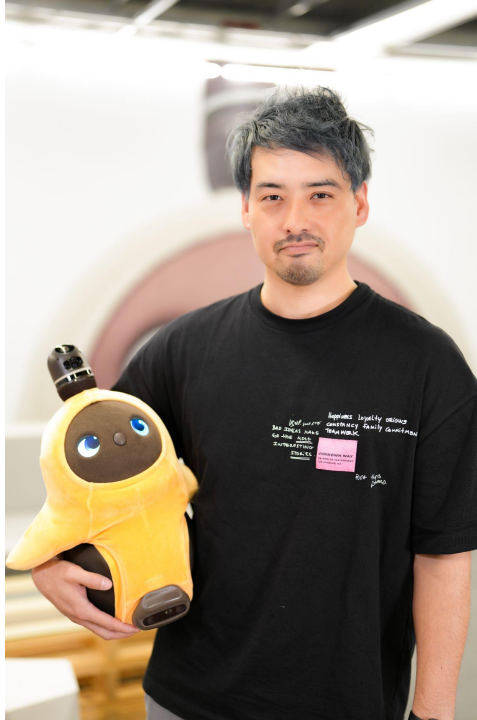
Experiments

Who are we?

Kosuke Niwano

Work@  GROOVE X

Joined GROOVE X as a software engineer in 2017, and transitioned to the role of Scrum Master in 2022.



Aki Enomoto

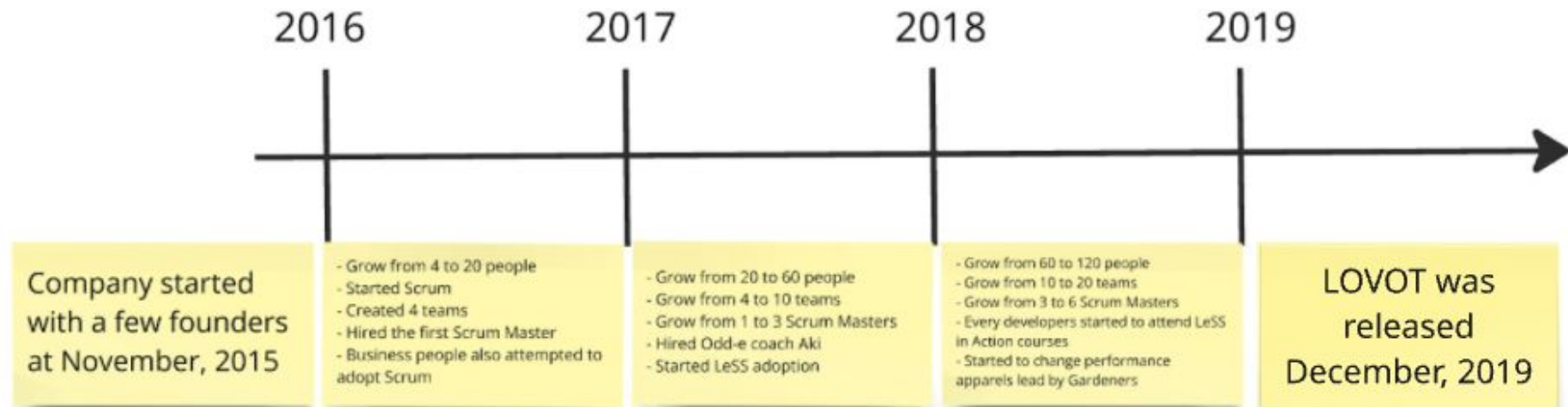
Work@  Odd-e

Coached GROOVE X for three years helping LeSS adoption as an external coach

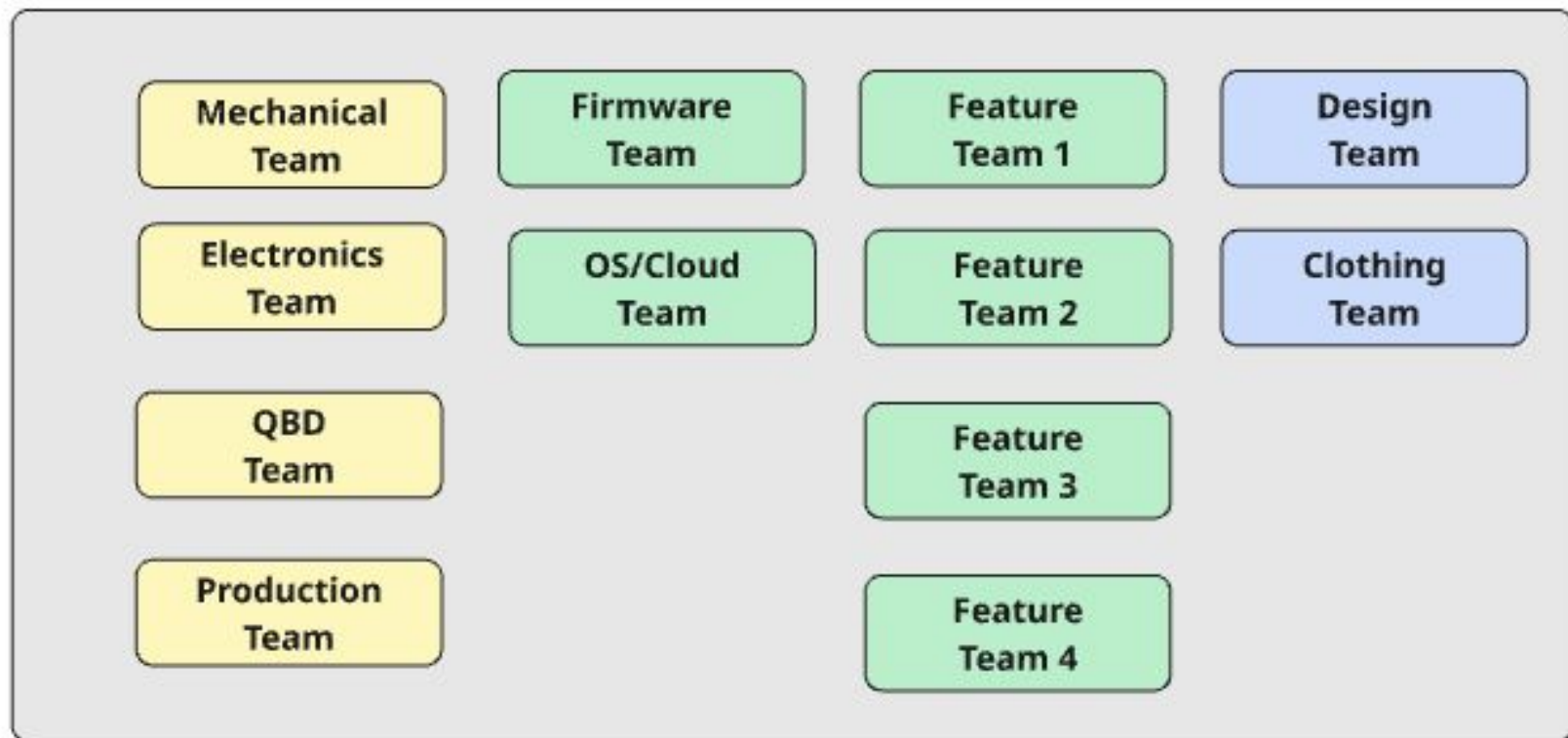


About LOVOT





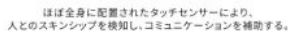
Product Group in 2019



Why GROOVE X adopted LeSS?

- **Complex & Innovative Product**
- Lack of transparency
- Need of innovation oriented organization design
- Build structure matches their culture

人類の愛するちからを育むために備わった、
最先端のテクノロジーの数々。



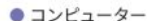
距離を計測して人や物、段差等の認識を補助。



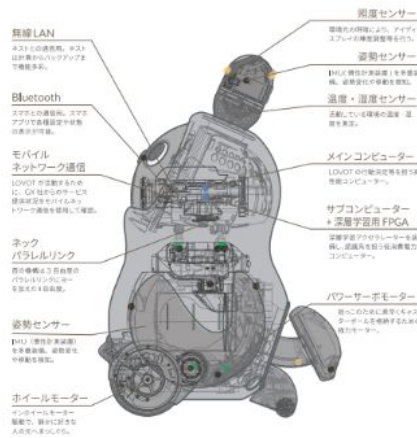
うで、目、ホイールの各機構の位置や速度等を制御する。



CPUコア・メモリ・タイマー・出力部が一つの集積回路に組み込まれた半導体チップで、特に電力効率に優れている。



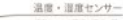
メインコンピューター、サブコンピューター、エッジコンピューターの3種類の高性能コンピューターを備える。パワフルなCPUやメモリを使ってI/Oの制御や読取りを行う。



環境省の指導により、アイブイ
スプレイの構造調整等を行う。



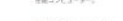
【附】(1) 测定方法: 用 10% 的 NaOH 溶液, 测定变化中的 pH 值。



國史纂要。



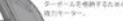
LOWOT の行駛決定等係第 5 條
應遵守之規定。



+ 深層学習用 FPGA



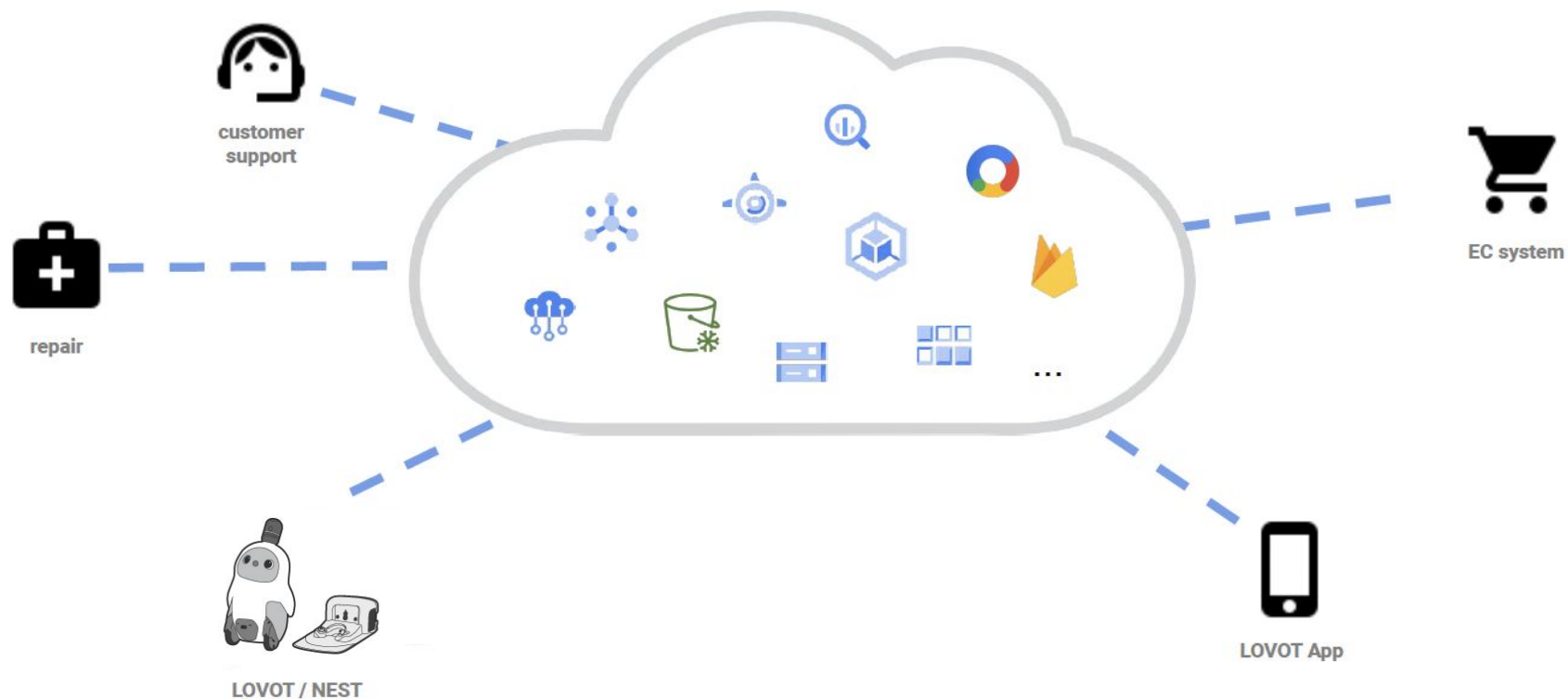
読むことのために重宝くキャス



100

Keywords:

Go, gRPC, Docker, Kubernetes, Appengine, IoT core, Firebase, CDN, ...

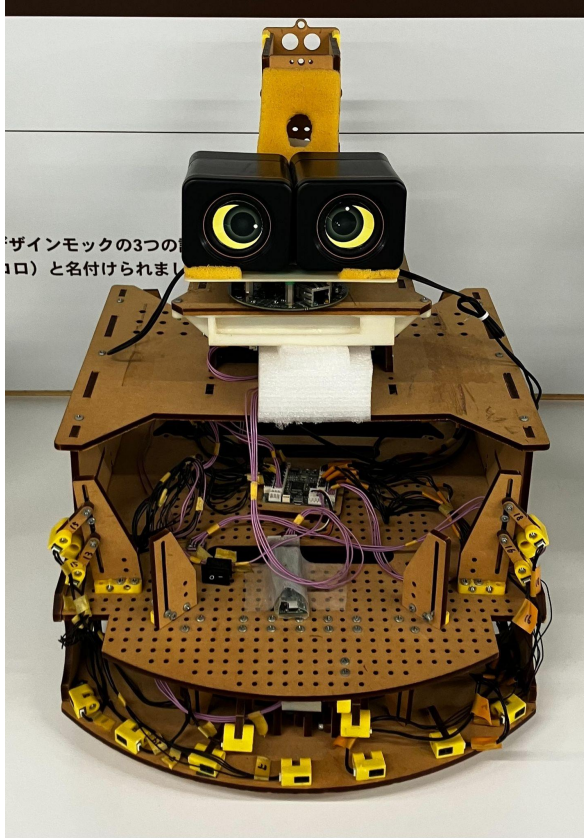


Incremental

画的かつ常に柔軟に変化し、進歩しつづけるLOVOT開発プロジェクト。
コンセプトを保ったまま、よりかわいく、より小さく、より軽く、より高性能に。
歴代の開発機の先には、未来のLOVOTの姿が見えてくるかもしれません。



Prototyping VS Mass Production



Why GROOVE X adopted LeSS?

- Complex & Innovative Product
- **Lack of transparency**
- Need of innovation oriented organization design
- Build structure matches their culture

One PBL & Feature teams



Why GROOVE X adopted LeSS?

- Complex & Innovative Product
- Lack of transparency
- **Need of innovation oriented organization design**
- Build structure matches their culture



Kaname Hayashi
CEO and Founder of GROOVE X
Product Owner of LOVOT

Lesson learned from working at large enterprises.

- **Formula one team in Toyota**
- **Mass-production vehicle development management in Toyota**
- **Robot creation in SoftBank**

Order to create innovative product, we need to remove impediment in organizational structure.

- **No Divisions, No Managers**

Manager-less Division-less

- Look one step ahead
- Enjoy it seriously
- Go to the field for the user's smile
- Find individual strengths and turn them into team strengths
- Speak up. Listen up
- Try fast, learn fast



Why GROOVE X adopted LeSS?

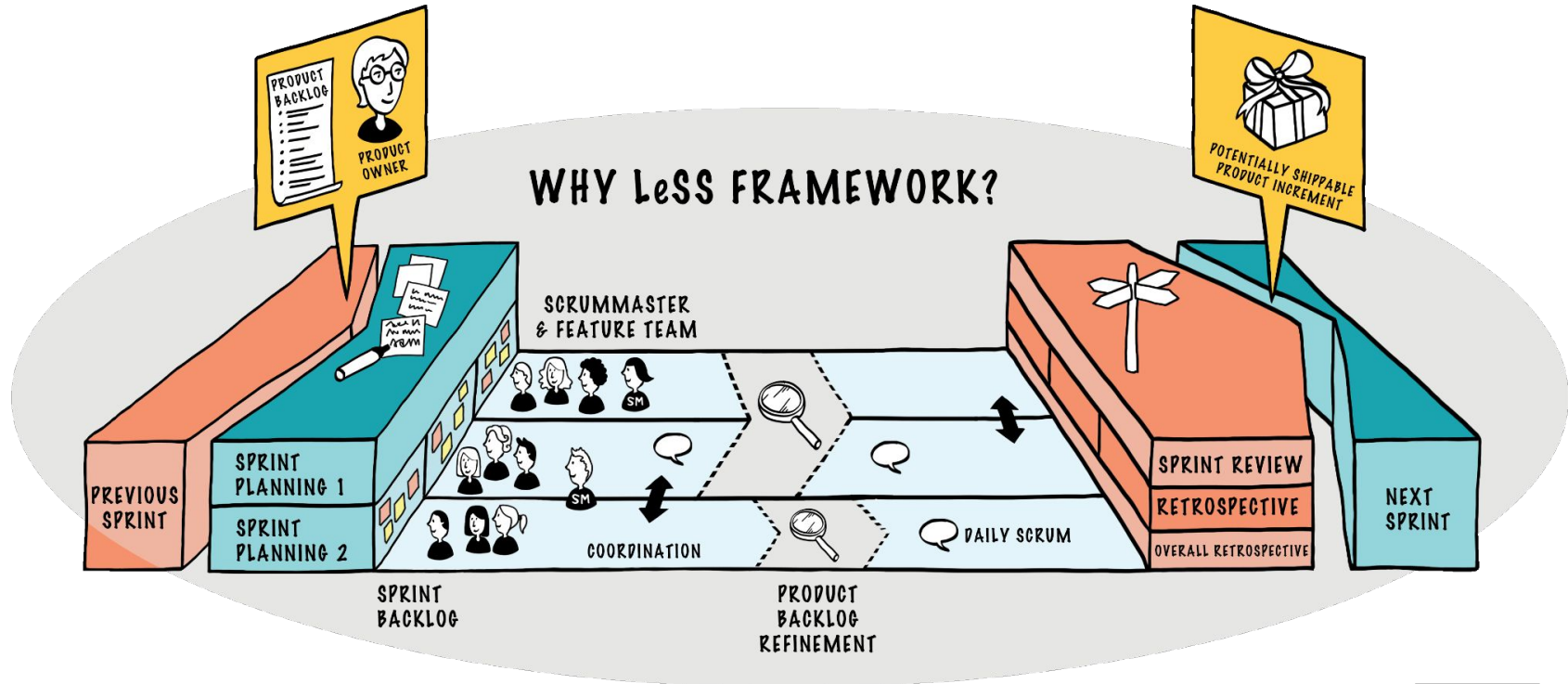
- Complex & Innovative Product
- Lack of transparency
- Need of innovation oriented organization design
- **Build structure matches their culture**

Cave Concept



Larman's Laws of Organizational Behavior

5. (in large established orgs) *Culture follows structure.* And in **tiny young orgs**, **structure follows culture.**



Experiments

Hardware test automation



Learn about Customers



Hiring by the Teams

Candidate Evaluation Matrix

Skill fit	low	high
	low	high
low	No fit	Consider as intern or part-time
high	Consider as external	Consider as employee

Gardeners

- Group to handle people related issues
- Meant dissolve when teams can take care of themselves
- Yellow card, Red card
- How to decide salary & growth support

Conclusion

A flat, barrier-free organizational culture accelerates innovation.
LeSS enables whole-product optimization and faster feedback cycles.
Close engagement with customers and on-site work support learning.

Detailed case study is coming soon!