



Abstraction Program and Development of PORON (Personal Oriented Robot for ON STAGE)

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Member of ONIGIRI AGAIN

Leader : Keiya



Programmer : Toshimi



designer and
scenario writer : Koto





Table of Contents

1. Motivation

Our experience and why we made mistakes

2. Solution

Program used the abstraction

3. PORON

To realize our ideas



Motivation

Our
experience

The rule of ON STAGE

required...

- Better rationality
- More focus on expression



Our robot in the past

An arm was
out of order.

It did not sync
with music
perfectly.



Motivation

Why we made mistakes

- Our programs are written in only **one** program
 - ⇒ longer and complex
 - ⇒ make human errors



Solution

⇒ Using **abstraction program**

Merit

- make the division of roles that based each member's program knowledges
- show our personality



Abstraction program

Scenario layer

"A very happy PORON runs."

Abstracted layer

"very/happy/run"

very

Level		
abundant	moderate	little
high	medium	low

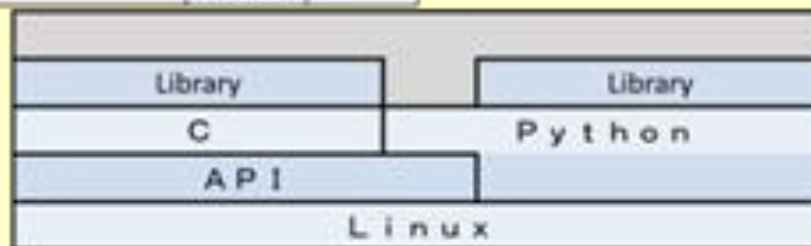
Primitive layer

happy

	Happiness		
	high	medium	Low
eyes	oo	---	^
ears	up and down alternately	up and down	Stop
hands	Up and down	right and left	Stop

	run		
	high	medium	low
Speed	rapid	medium	slow
Shake	strong	weak	none
Move	winding	straight	none

OS/device layer



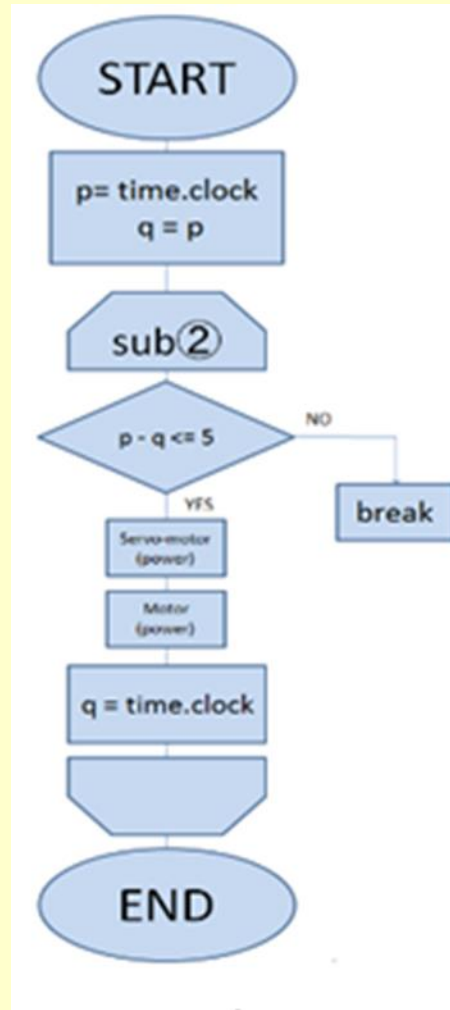
Japanese

Python

C,python



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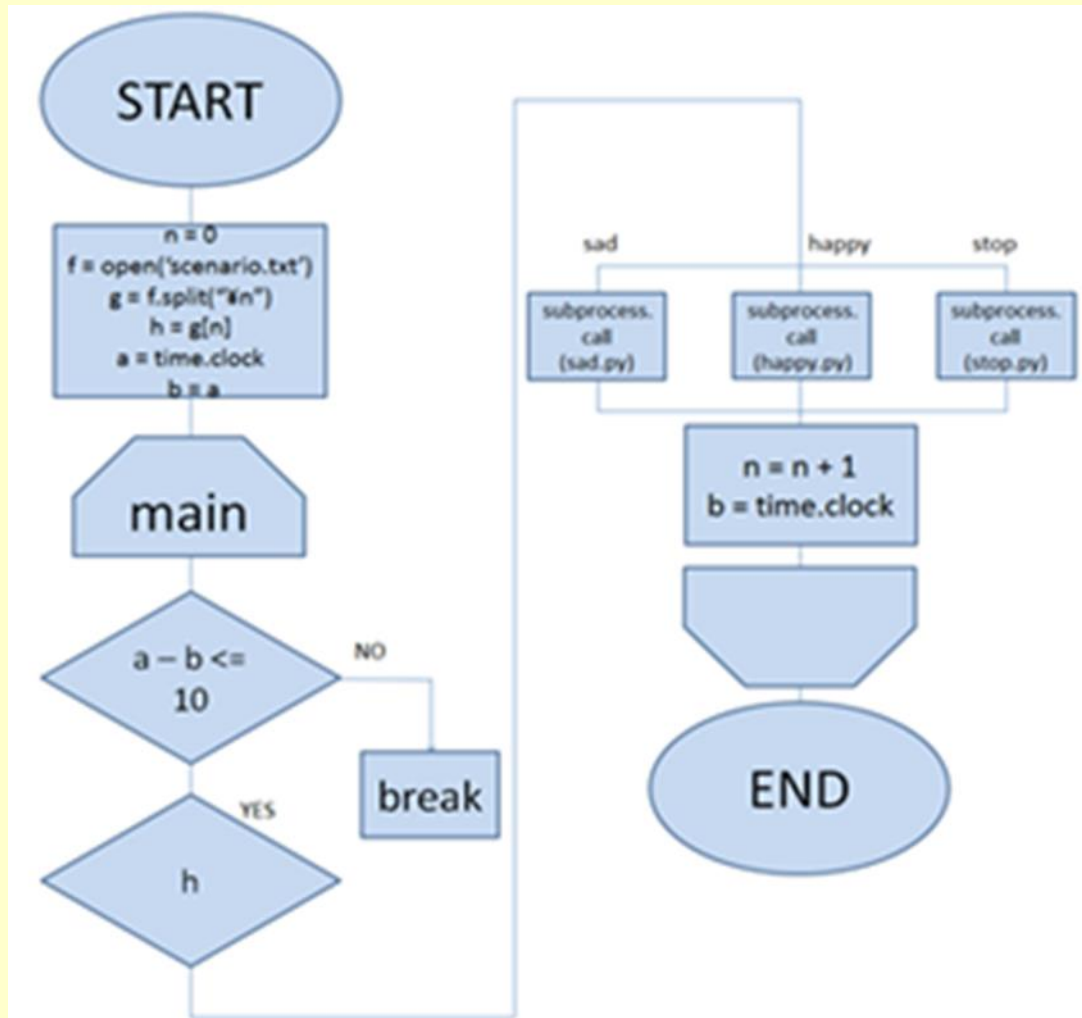
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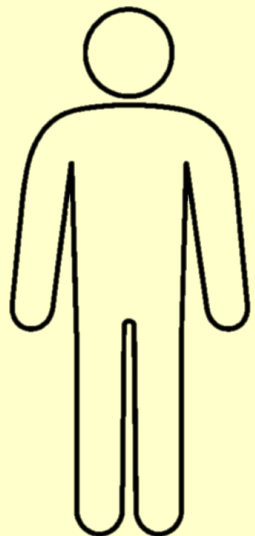
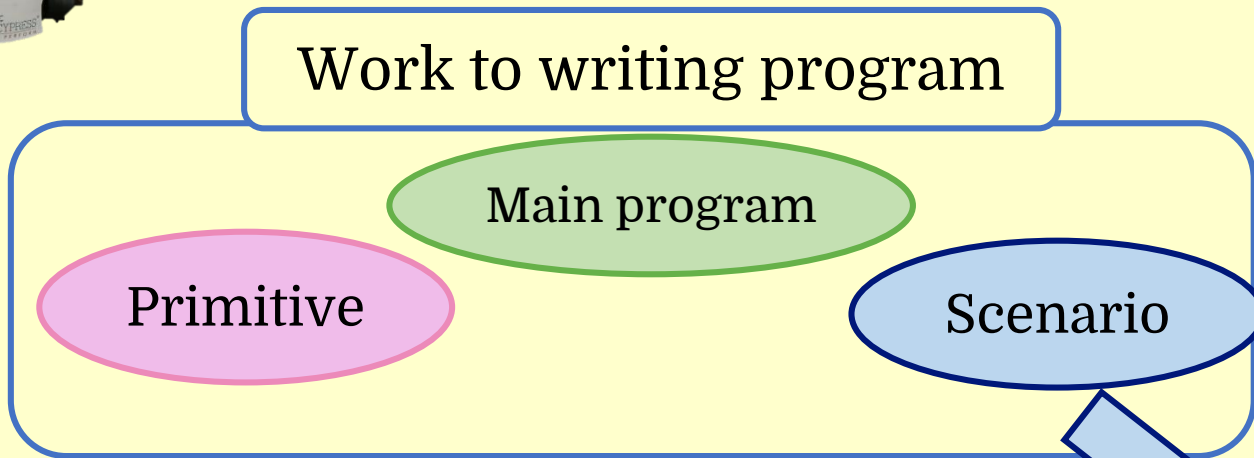


Very shocked PORON



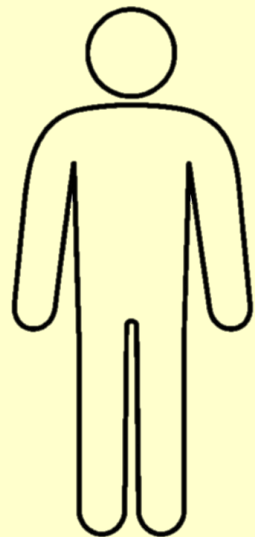
Abstraction program

Work to writing program



A member who has
good program
ability

A member who doesn't
has good program ability





Abstraction program

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Python

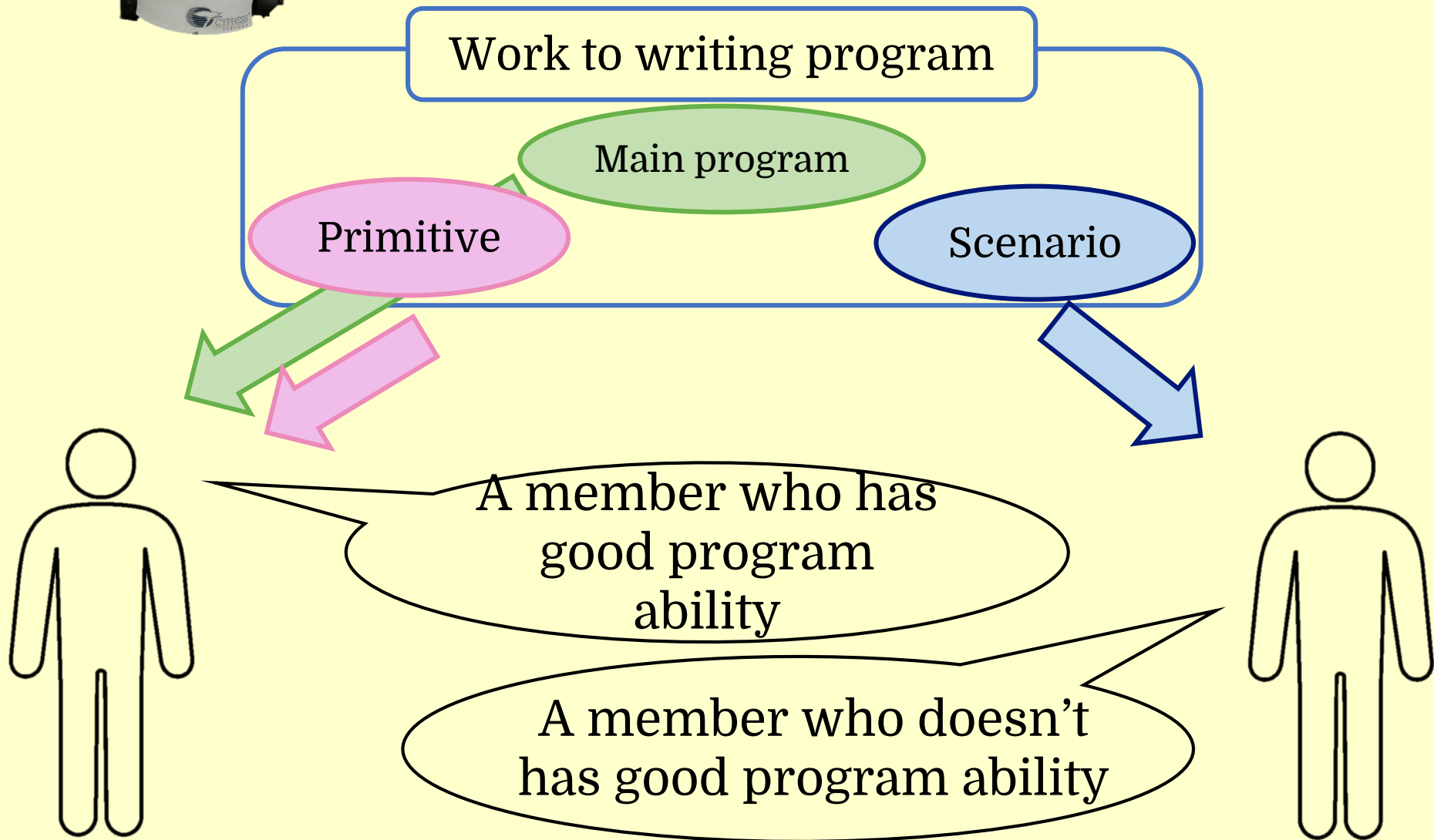
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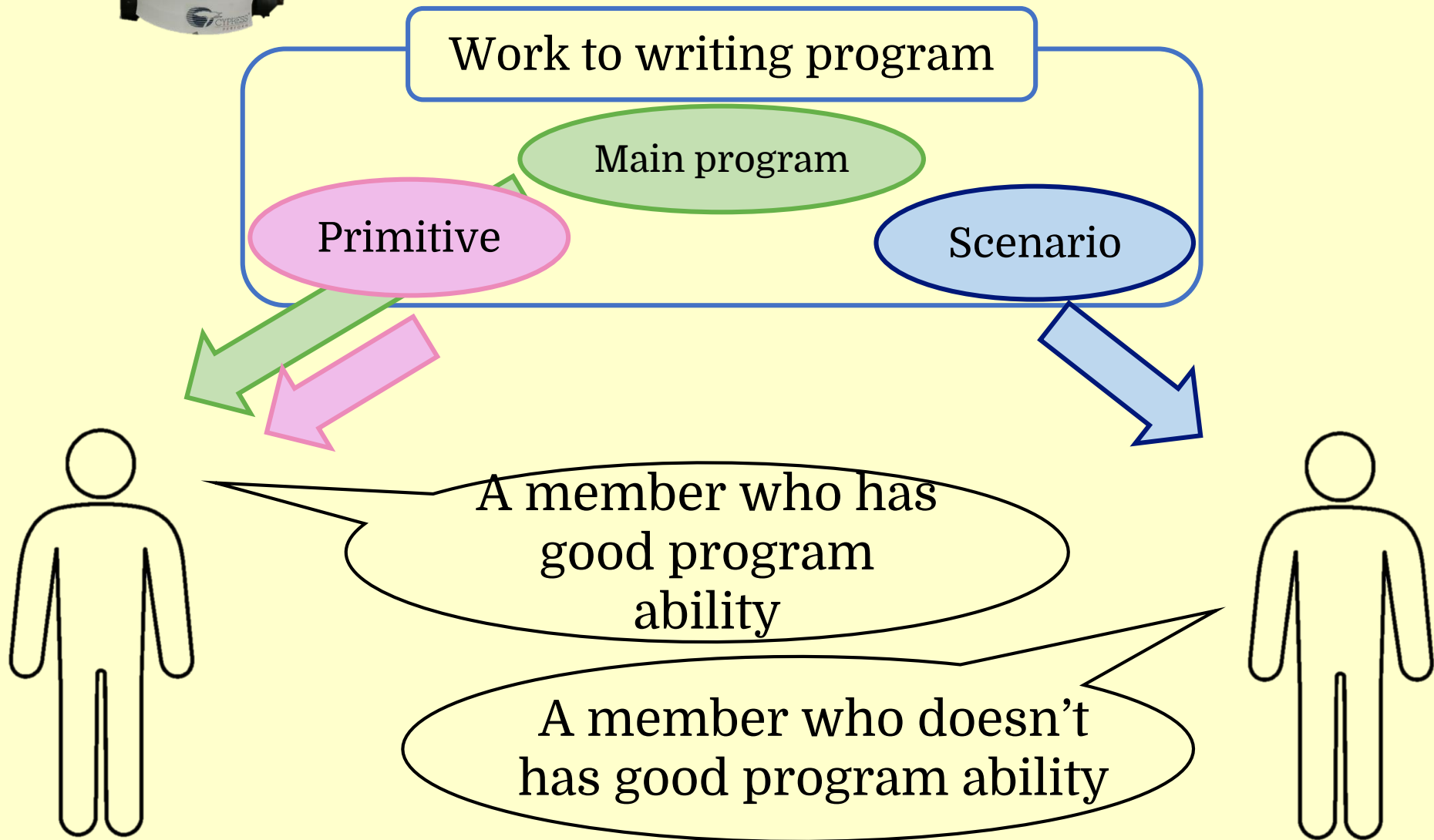
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C,python



Abstraction program





PORON
(Personal Oriented
Robot for ON STAGE)





We have the sensor edges that have good universal uses!

And our layouts of eye's LEDs and servo motors that are suited to abstraction expressions!





Head is made by styrene foams!





Our bodies are made by a plastic plant pot!





Our hands and ears are made by light weight paper clay

Before



After





A ear





Japanese
“Kawaii”
(Cute or pretty)



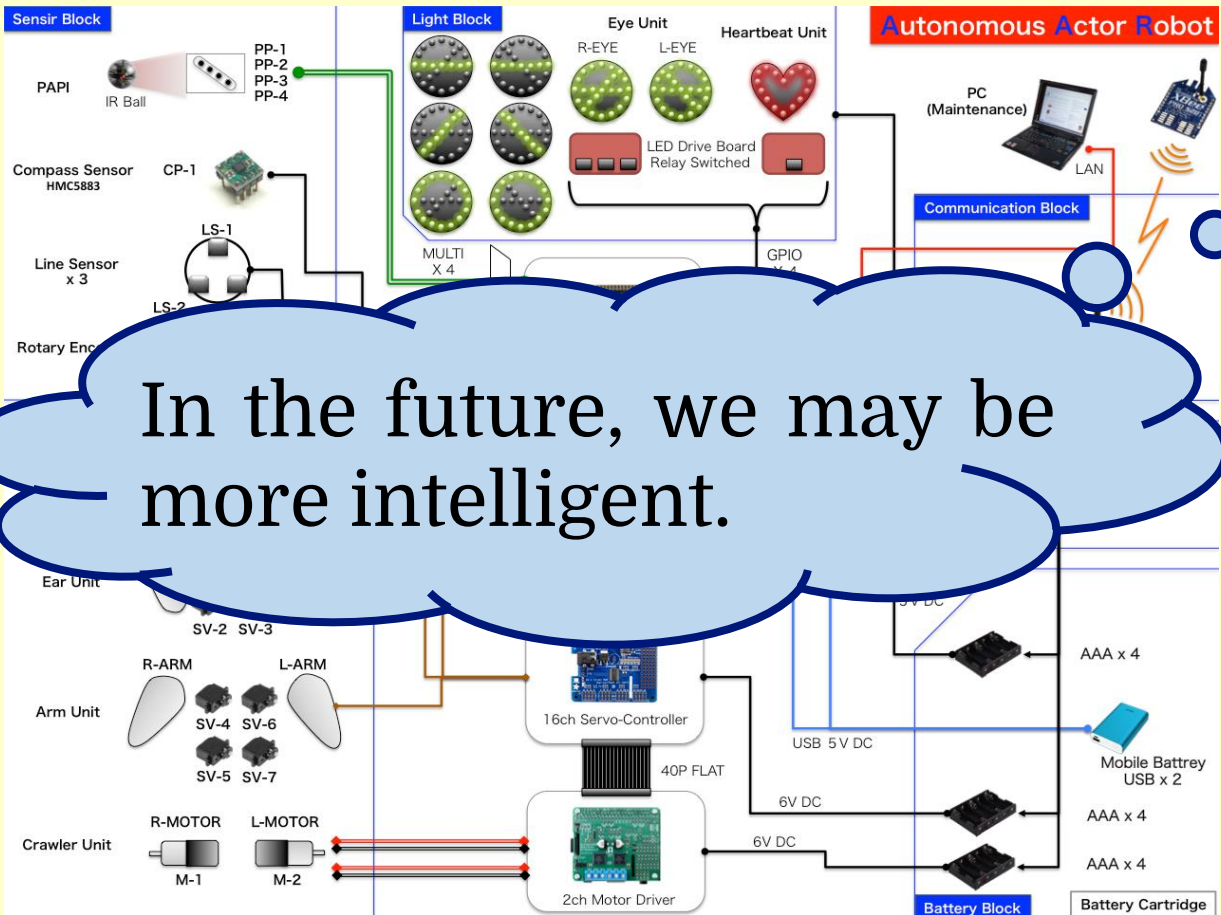


PORON's performance



It is easy to add new sensors and rewrite OS, so people can develop us more and more.

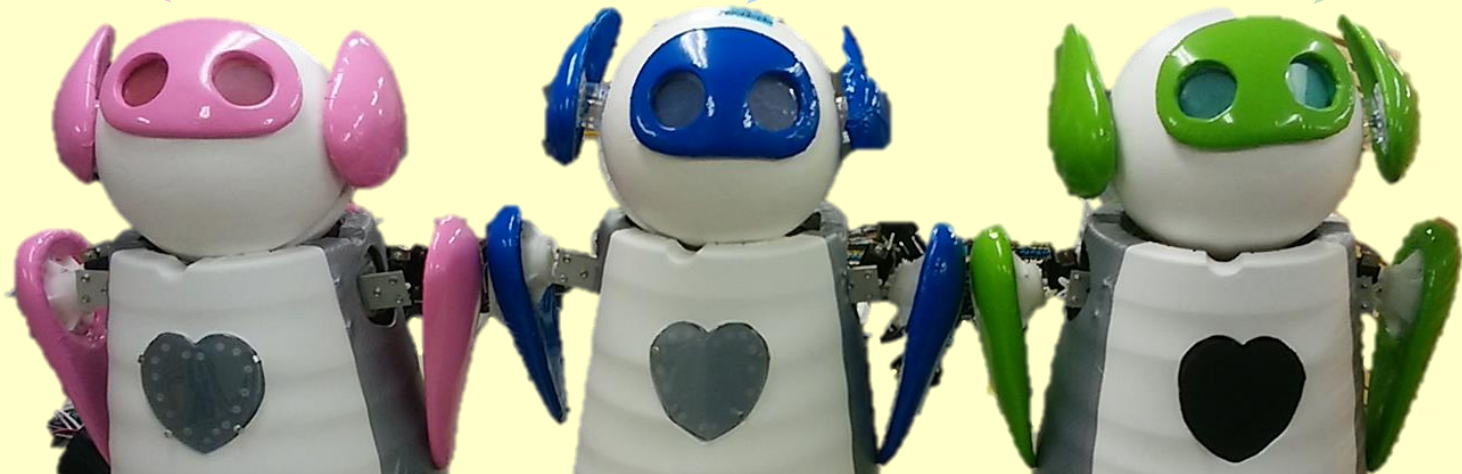




In the future, we may be more intelligent.



We hope that many people use
PORON-shaped robots at ON
STAGE in the future!





Thank you for listening!

