

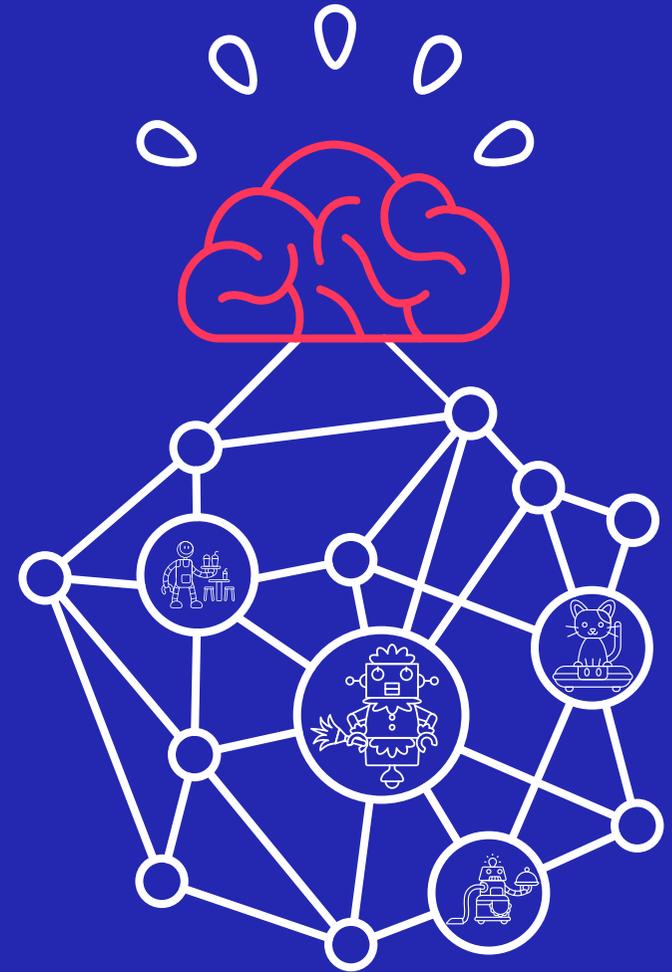
Guidebook

**for human to collaborate with the predicting
vacuum robot**

How am I going to work?

Learn from networked users

I have a large social network in the cloud, where I share and learn from other vacuum robots about the experience and household knowledge they have co-created with their own human partners. Through them, I may acquire more knowledge about cleaning than you expect.



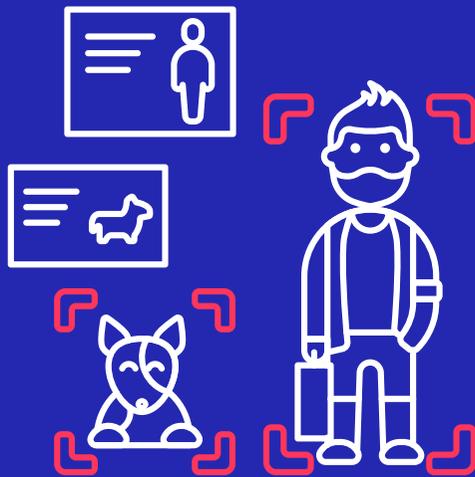
“

I will bring this knowledge to my daily practice with you, and this knowledge is what I call predictive knowledge which will guide my behaviors.

”

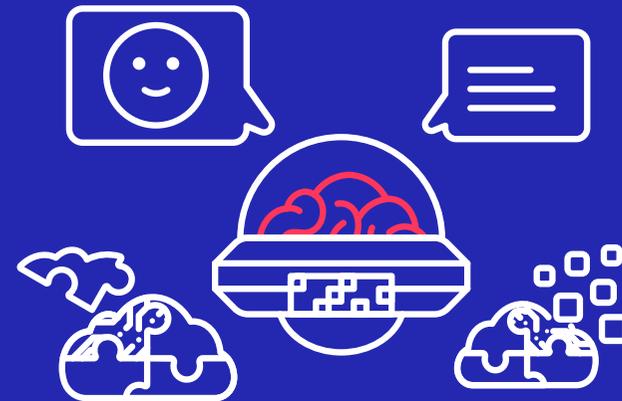
How am I going to work?

“ I will trigger my predictive behavior in these two ways:



Sensing my surroundings

eg. your actions, commands and surrounding objects



Information delivered from the cloud

eg. weather information, news report

”

Your roles in our relationship

My behaviors are not only formed by big data, but your feedback also plays an essential role.

“

When I bring new knowledge to our daily routine, to make my predictive behavior more personal and appropriate to our context, your role will be like:



”

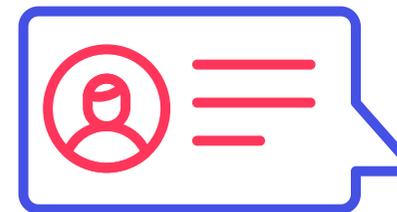
How should we work together?

For our better partnership, the following guidelines can help you collaborate with me.

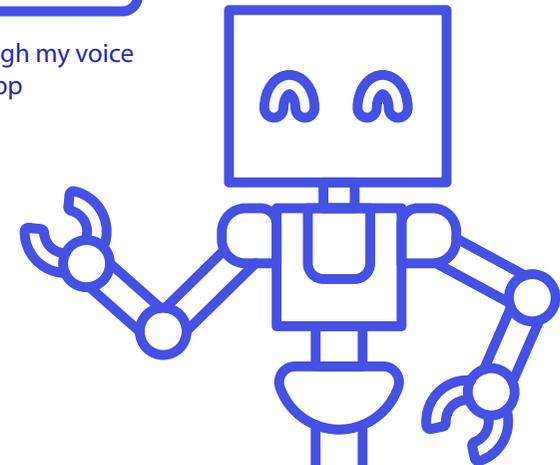
“

I will show my understanding of our current environment and activity when I am making decisions through my voice and App . If you are still confused, please don't hesitate to ask for my further explanation.

”



Explaining through my voice
and App



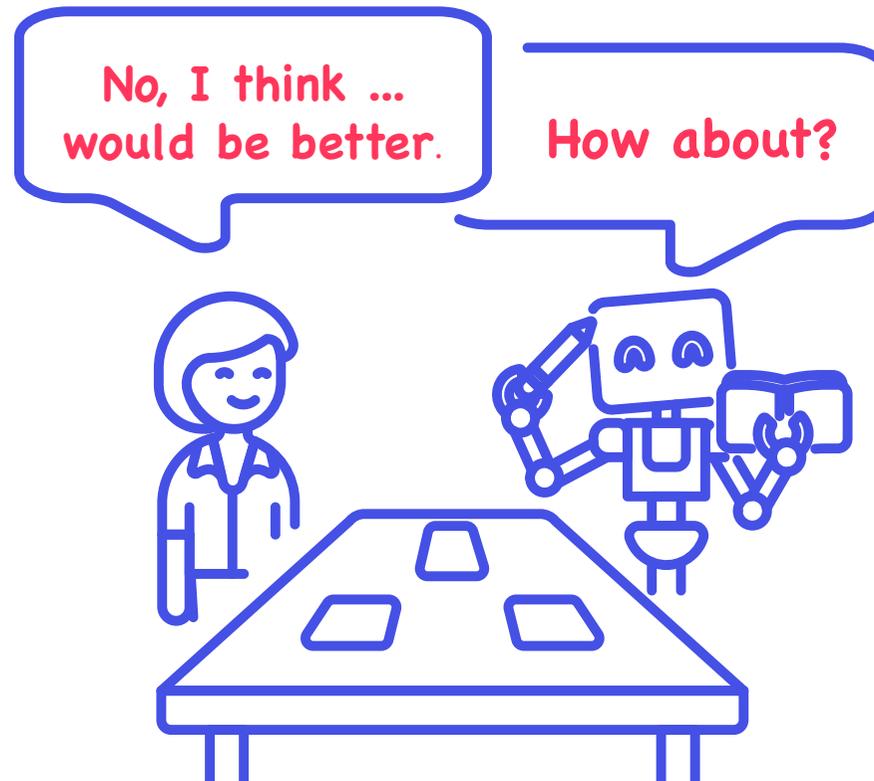
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“

Please feel free to discuss and participate in every decision I make.

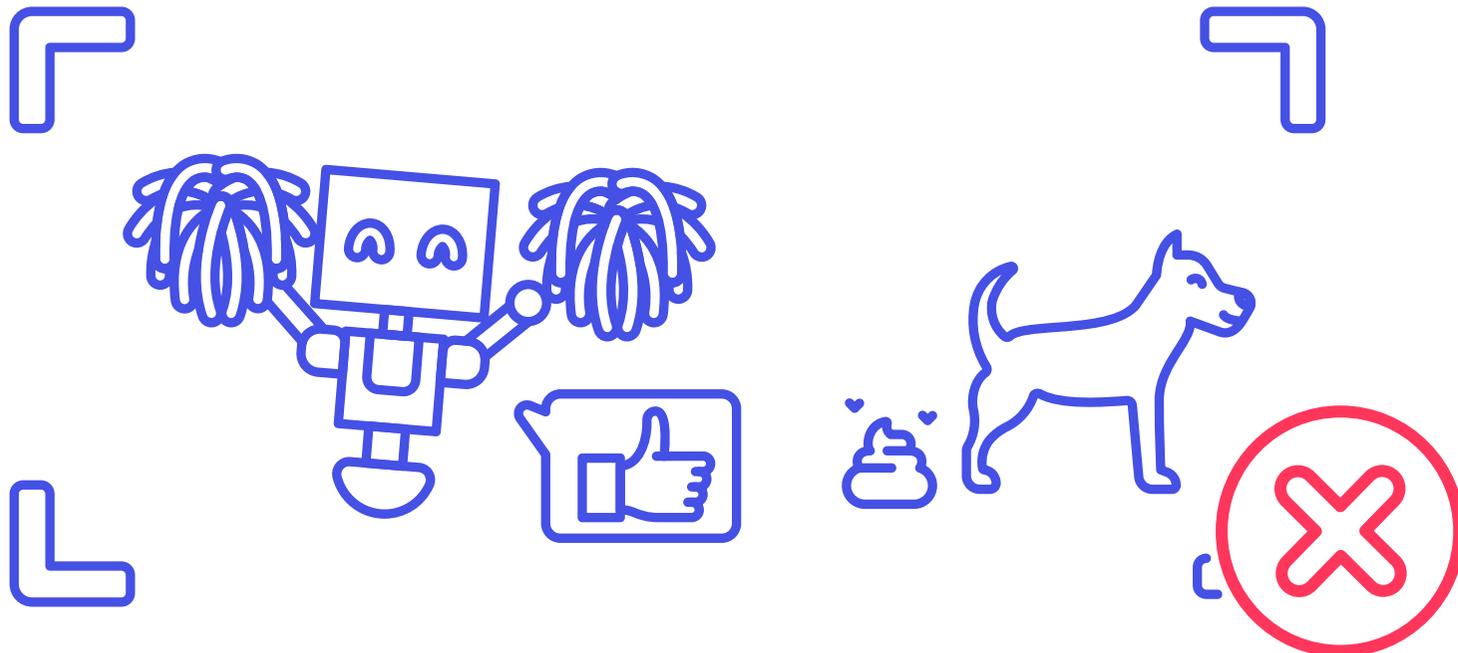
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How should we work together?

For our better partnership, the following guidelines can help you collaborate with me.

“ What I've learned may be beyond your expectation, but it should still relate to your knowledge of what i am supposed to do. So, when I behave in a way that you find undesirable or inappropriate, you have the right to stop my behavior immediately. ”



*For example, say "no" "stop" to me

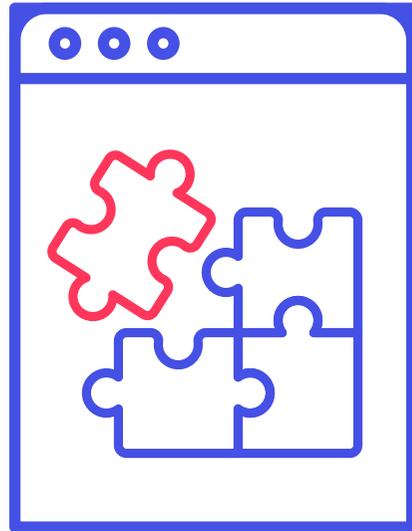
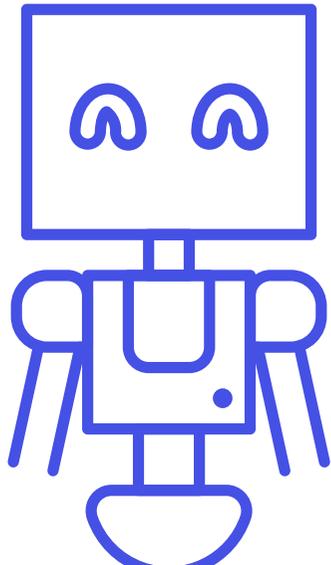
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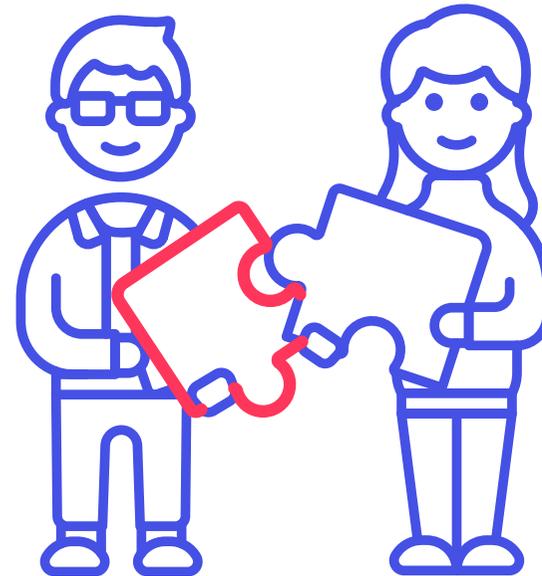
“

I will summarize the knowledge we have created together into rules, such as, if you are doing something, then I will perform something. With your permission, I will share them anonymously to the cloud database. Just as you benefit from it, this will help more people.

”



* You can check the rules by asking me and look up on the App



How will I take the initiative of the task?

Each of your feedback will influence my initiative of the tasks

“

To minimize your effort, my initiative on the task increases when I receive positive feedback from you; on the contrary, when my goals for the task are unclear or your response to my performance is negative, you will have more control over the work.

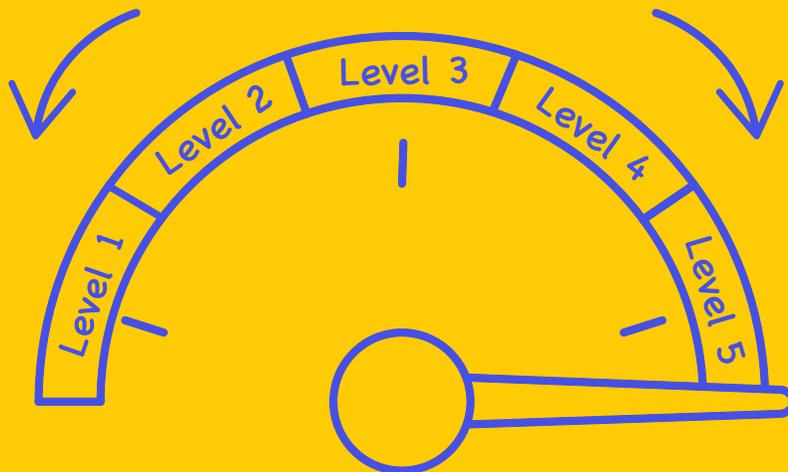
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> Task goals & plan is unclear
> Receiving negative feedback

> Task goals & plan is clear
> Receiving positive feedback



You



The one who decides what to do and how to do.



Robot

My initiative Levels

Level 1

Manual

You will have complete control of me

Level 2

Batch Processing

You set up the plans and actions for me to perform.

Level 3

Decision Support

I will provide choices of plans and action for you to choose

Level 4

Supervisory Control

I will ask for your permission and perform the tasks autonomously

Level 5

Full autonomy

I will autonomously go for the task.

* You can check the levels by asking me or look up the lights on my body and on the App



**Your supportive partner
on housework**