

01.

02.

03.

04.

05.

QueueP

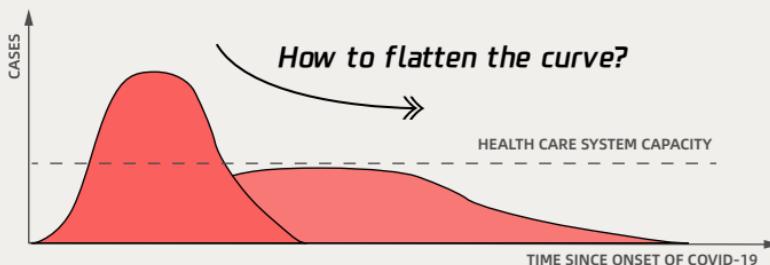
Keep social distance by interfering with queuing behavior.

PERSONAL PROJECT

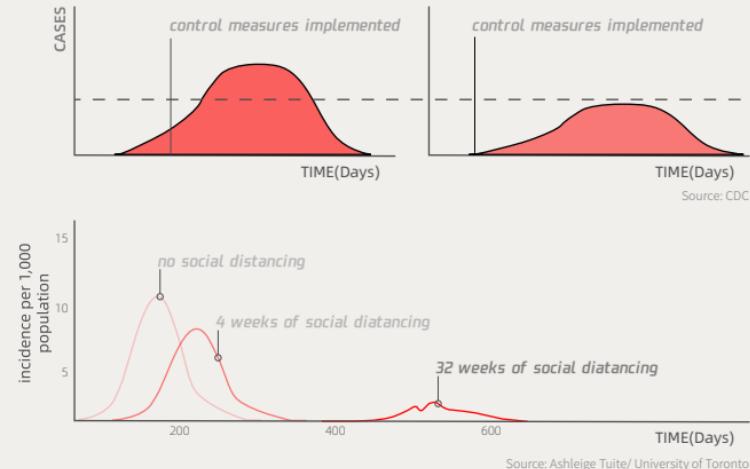
Interactive Design / Product Design / Experiment Design



Covid-19 caused by a coronavirus has led to **a pandemic that threatens everyone**. And a lot of people died. In an effort to flatten curve of the COVID-19 pandemic the world has been forced to come to a standstill. Streets are empty, shops are closed and people are out of work, public gatherings have been banned in many places and travel restrictions have been imposed. And all of this is having a major impact on the global economy.



The significance of social distancing



Keep social distancing earlier and longer is a key factor to flatten the curve, which refers to take measures aimed at reducing close contact between people. This is why governments are closing schools, non-critical businesses, and other places where people gather like sporting and social events.



• RESEARCH / 背景现状 Background

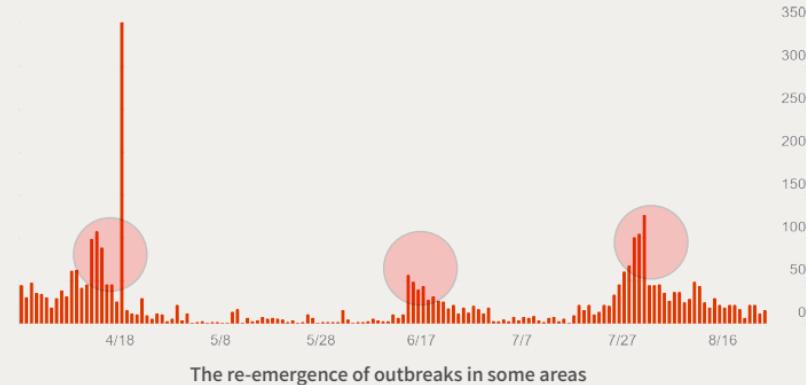
- And according to the following matrix analysis, **social distancing line** is a cost-effective way to keep social distance.

<i>How to keep social distance?</i>	<i>Source</i>	<i>Transmission</i>			<i>Susceptible Person</i>		
Ways	vaccine	sanitizer	mandatory quarantine	social distancing line	health code	mask	hand washing
Matrix analysis	-1	0	-3	2	0	1	1
Low Price	-2	0	-1	1	0	0	1
Low Staff Cost	-2	-1	-2	0	1	0	1
Good Effect	2	0	2	1	-1	2	-1
Low opposition	1	1	-2	0	0	-1	0

But now...



The average distance between people << 1m in most areas



The re-emergence of outbreaks in some areas

Persona



Jeremy 21 Student

I only follow this rule if someone is watching or If I realize that the person in front of me is far away.

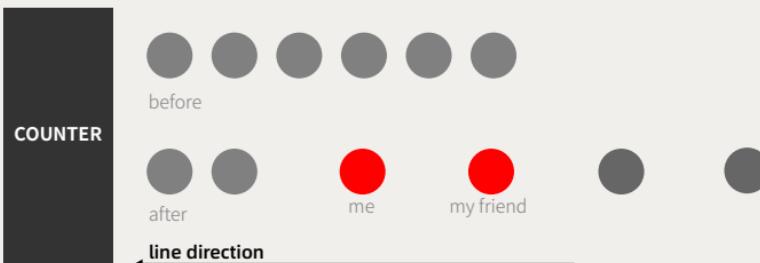


Ivan 48 Cafe supervisor

Only in an emergency, I will supervise carefully. Because it's mandatory, I'm not averse to it.

An interesting phenomenon

When my friend and I were lining up according one-meter line, people behind us would follow us.



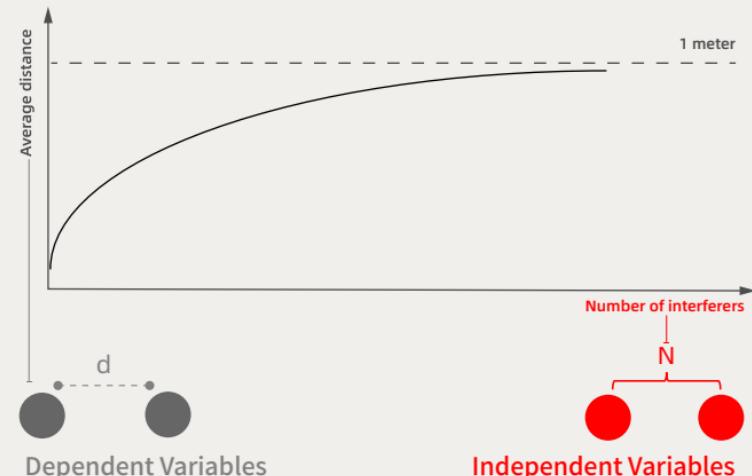
Experiment

Experiment Question

What underlying factors contribute to this phenomenon?

Hypothesis

The more interferers lining up 1 meter apart, the higher standardization of queue.



- Experimental Control

No supervisor, vertical lining, canteen of ZJU

- Experiment Record

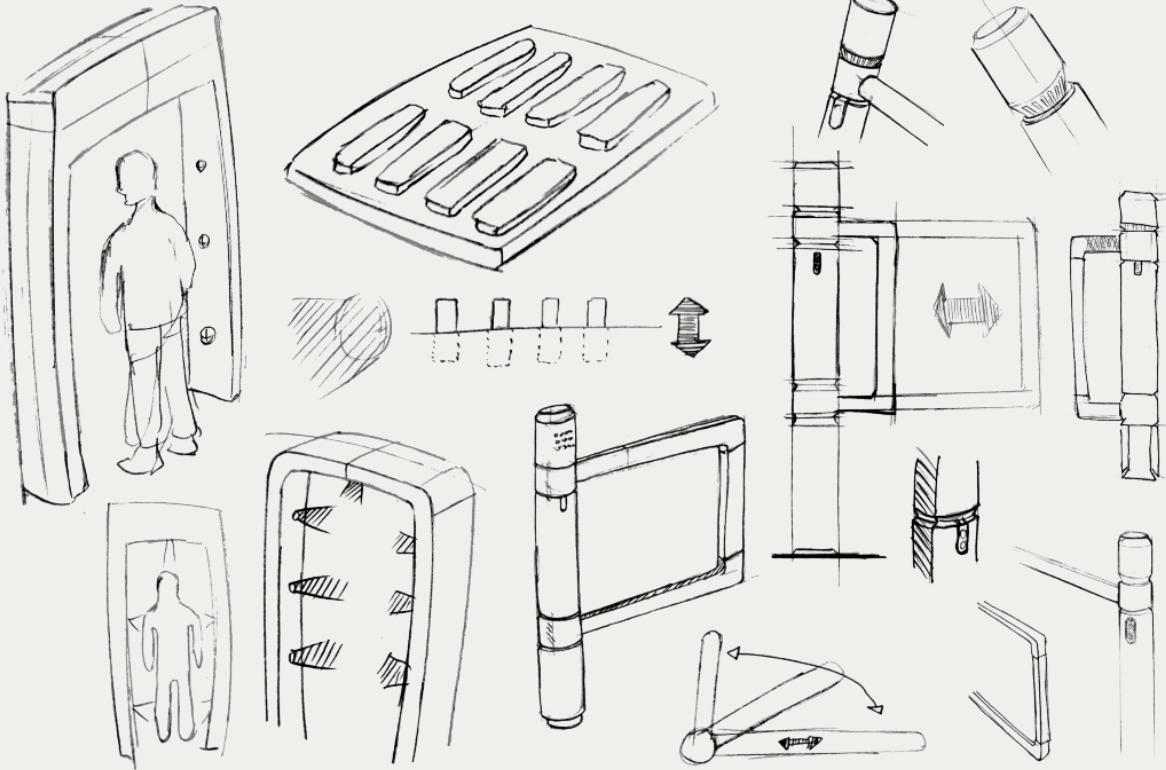


- Experiment Data

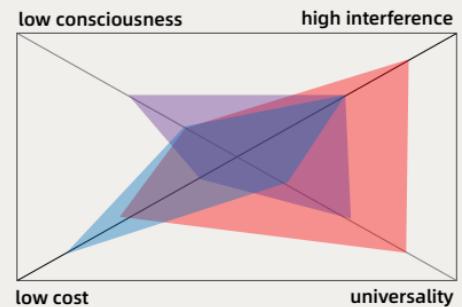


- Conclusion

In the above scenarios, the standardization of queue increases with the increase in **the number of interferers**. And when there are **two standard distances**, the standardization of queue can be basically realized.

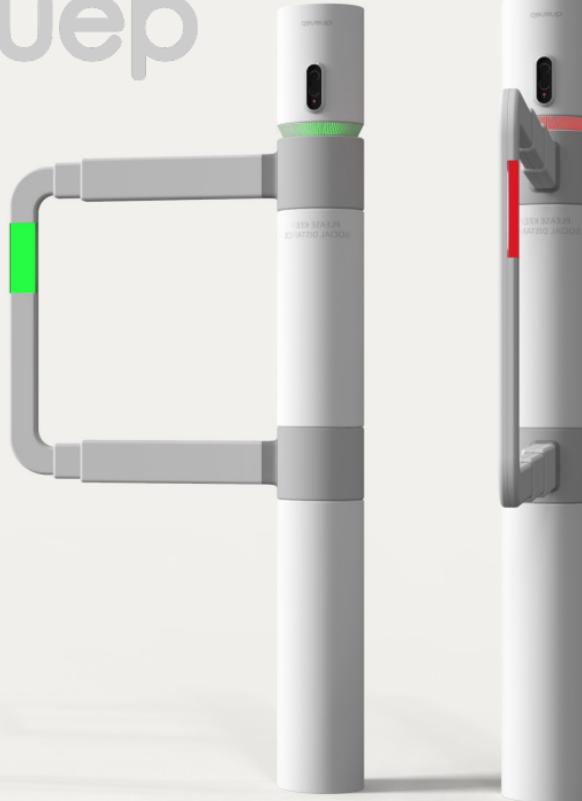


- Interactive Holograms Gate
- Reactive Floor
- Unconscious Interference Barrier





queuep



● SOLUTION / 故事板 Storyboard

BEFORE



Queuing for meals is not standard.



After installing QueueP, it detects that the distance between users is too close.

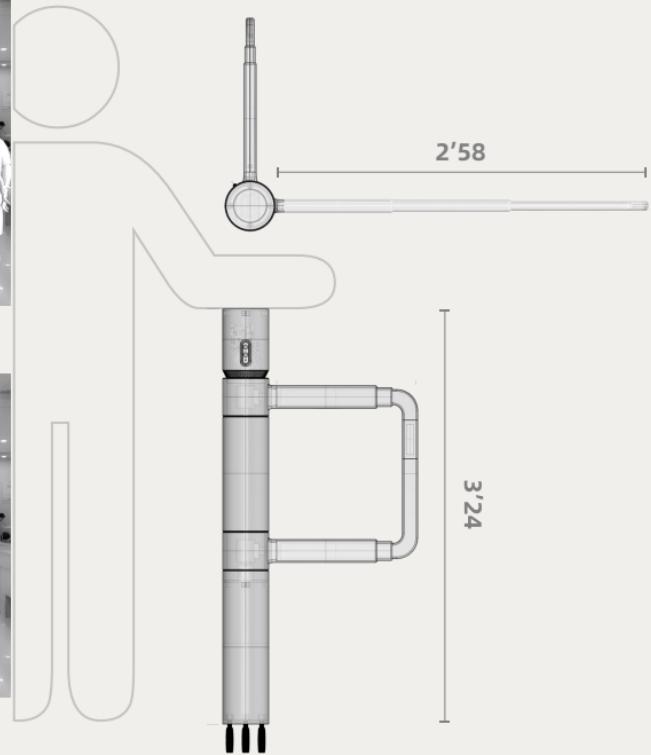
AFTER



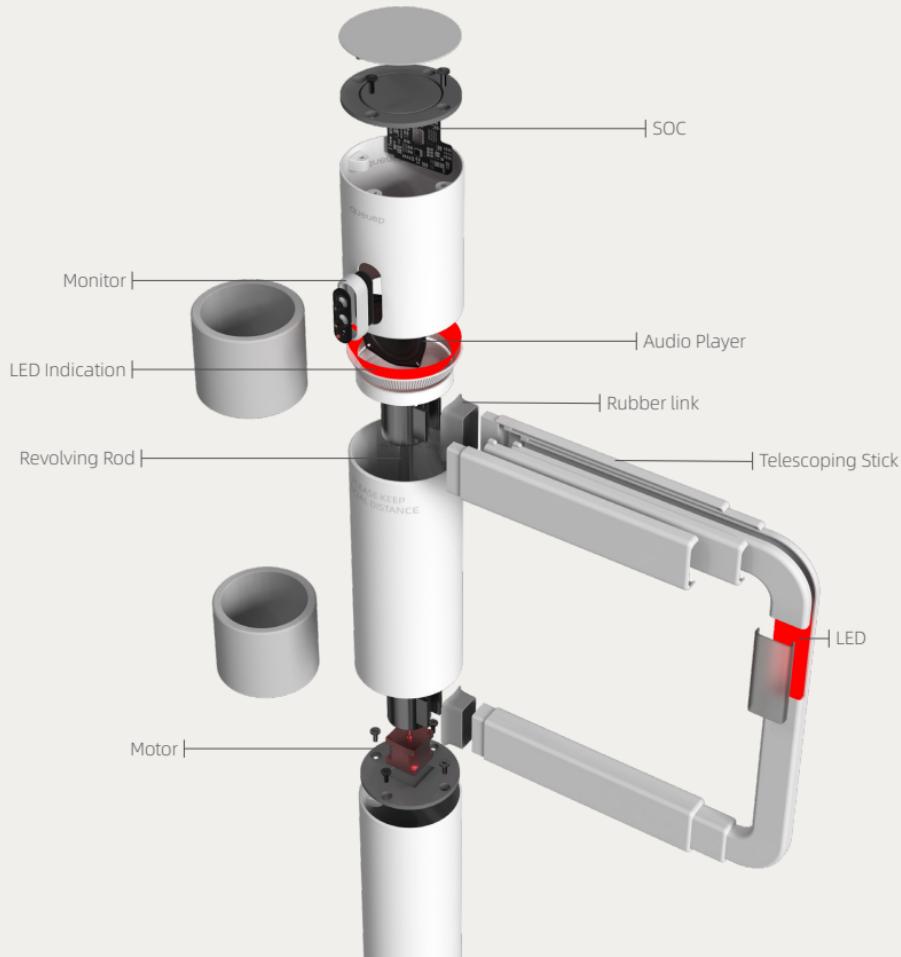
QueueP controls the distance between users by sticking out the railing.



Finally, the lines in the back are normalized, ensuring social distance.



● SOLUTION / 产品细节 Details



Monitor & Indication

It uses IR sensors and cameras to monitor users' behavior and alerts users to keep social distance through lights and sounds.

