



**@MyRoomResearch**

**Calm Technology**

**in**

**Quiet Architecture**

**When architectural interaction meets affective computing**



# Affective Computing



**Affect** can be inferred from bio-signals

Sensed affect can be interpreted  
as a gauge of **USABILITY**



# Responsive Architecture

Responsivity to environmental context

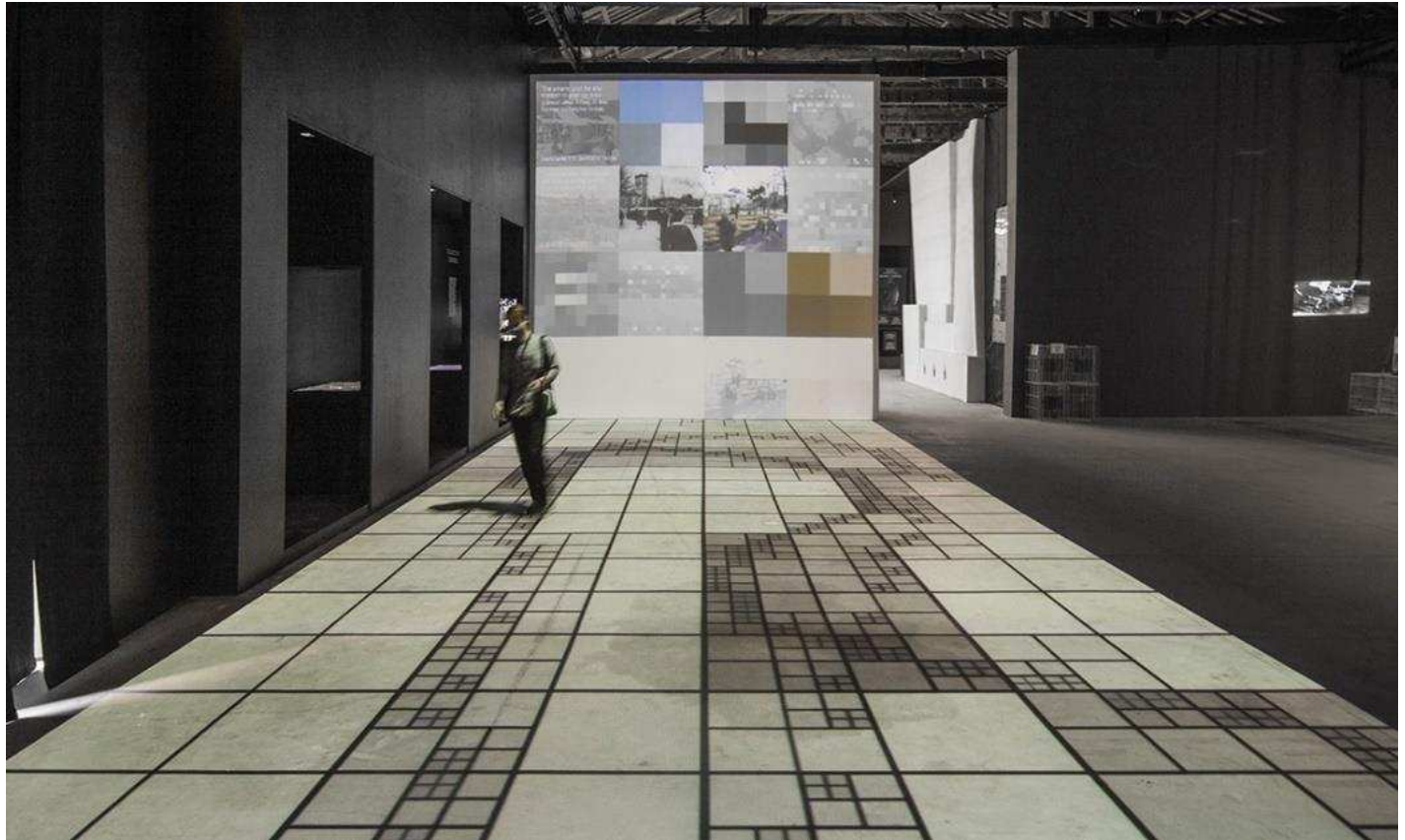
Pourquoi pas toi? Denis Connolly & Anne Cleary



Responsivity to user activity, in real-time



***Shortcut (Jason Bruges Studio)***



**Interspace**

**Architecture as interaction design?**

**WHY?**

Functional  
fit



Psychosocial  
fit



Person/  
Environment  
fit  
(congruence)

# supporting functional fit

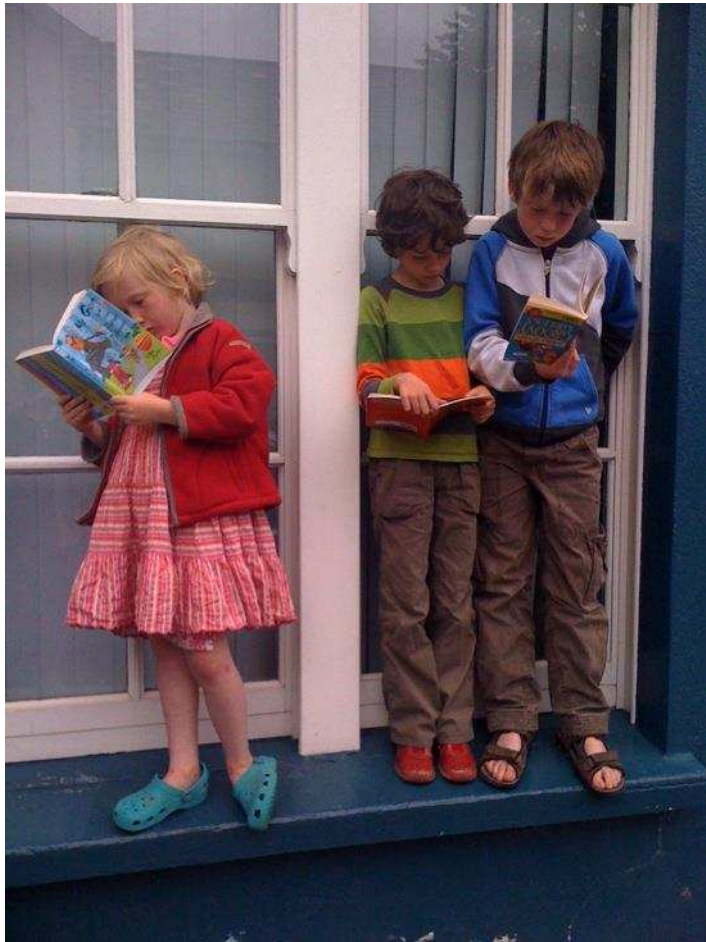
TASK: reading a book



## **interventions**

**also support psychosocial fit**

- quiet relaxation
- personal recreation (reading, TV, etc.)
- private socialisation

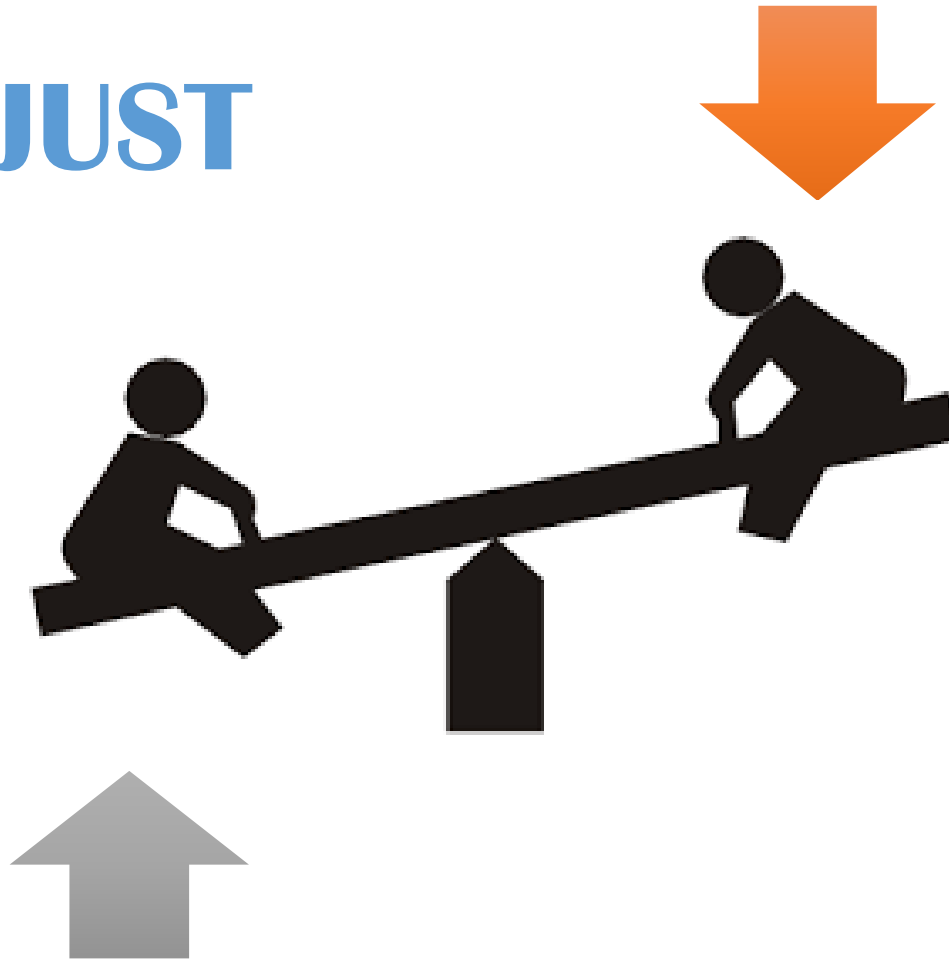


**needs change**

environment incompatible with needs/ preferences

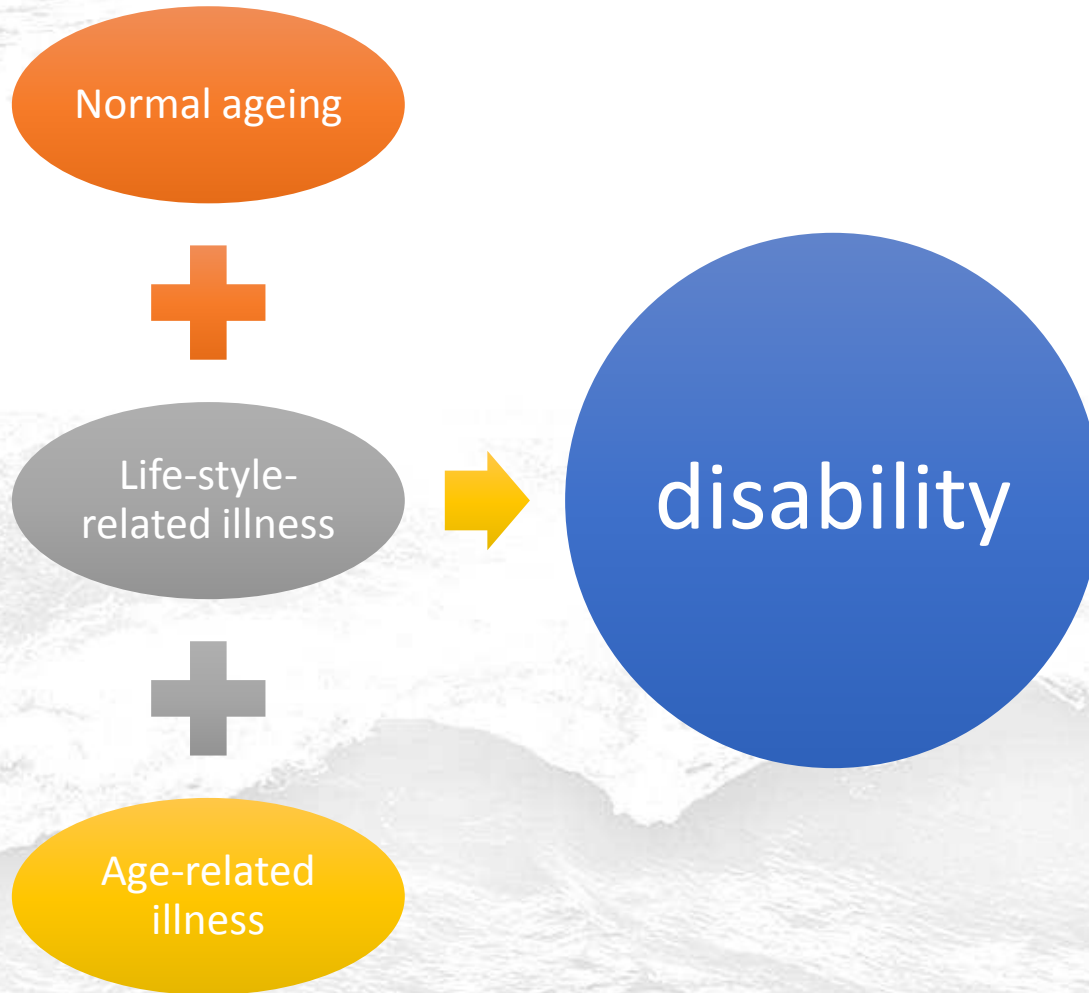
environment

**ADJUST**



relationship with environment

# Ageing affects person/environment fit



```
graph LR; A[Adjustment not possible] --> B[STRESS]; B --> C[psychosocial maladjustment, stress-related illness];
```

Adjustment not possible

**STRESS**

psychosocial  
maladjustment,  
stress-related  
illness

and you  
for the  
**stress**  
on a new  
of

**WHO?**

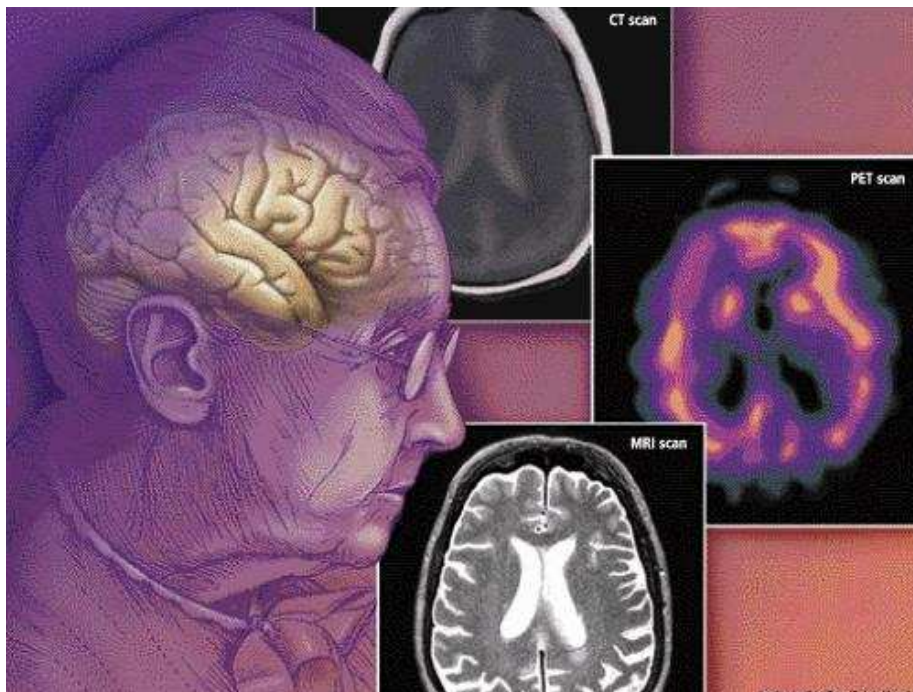
**WHAT?**

**WHERE?**

interaction design

**WHO?**

Responsive environments in a specific context:

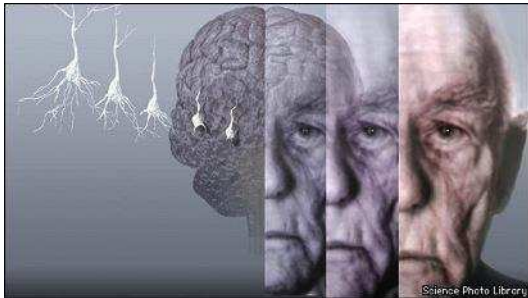


Elderly care/dementia care

# Dementia

Progressive cognitive decline

Memory



Verbalisation

Temporal sequence

Learning



Motor function



Why?

Recognise/anticipate behavioural patterns

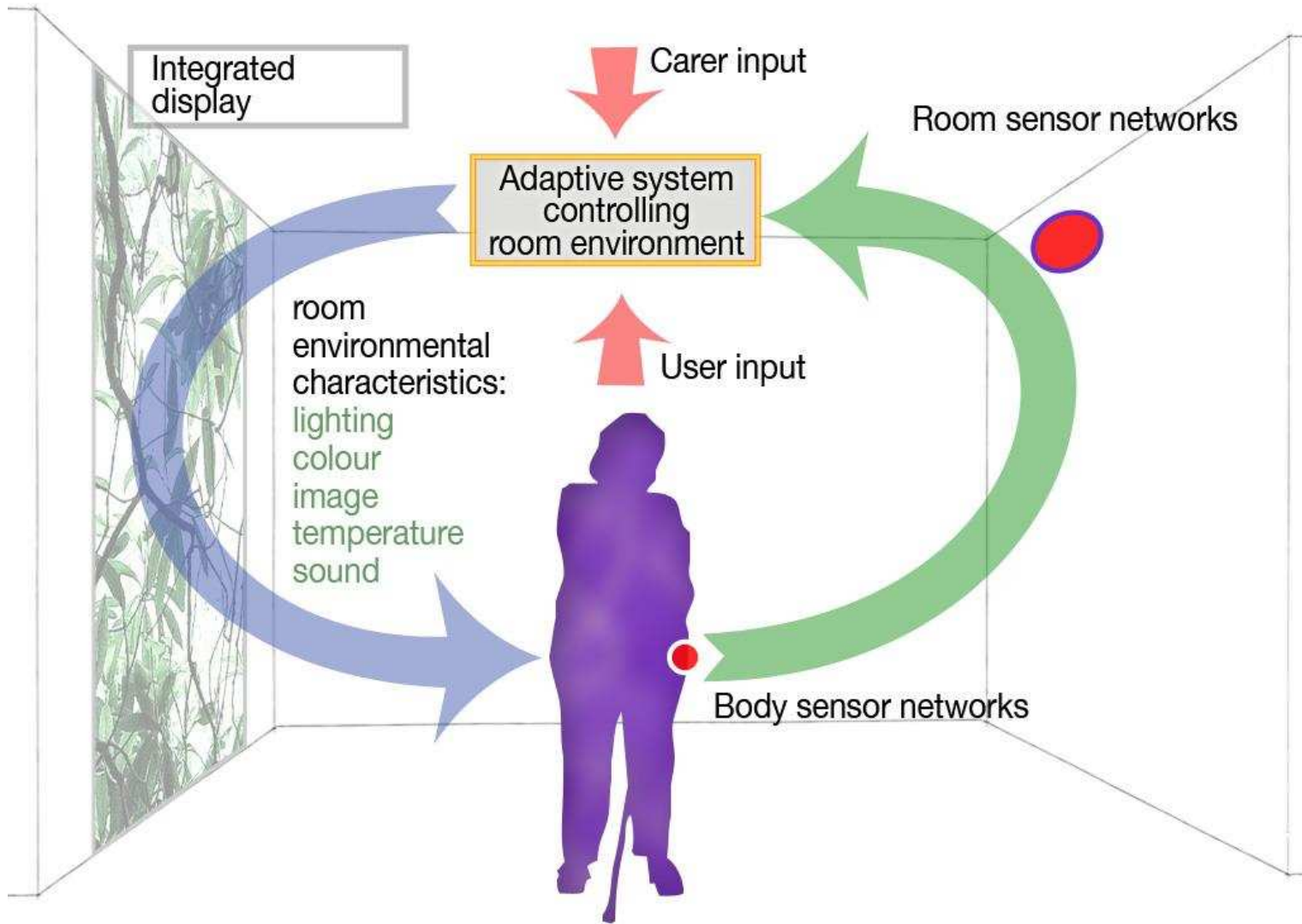
Effective intervention  
(including design modification)

Better **FIT**

affective responsive environment



**PERSONALISABLE**



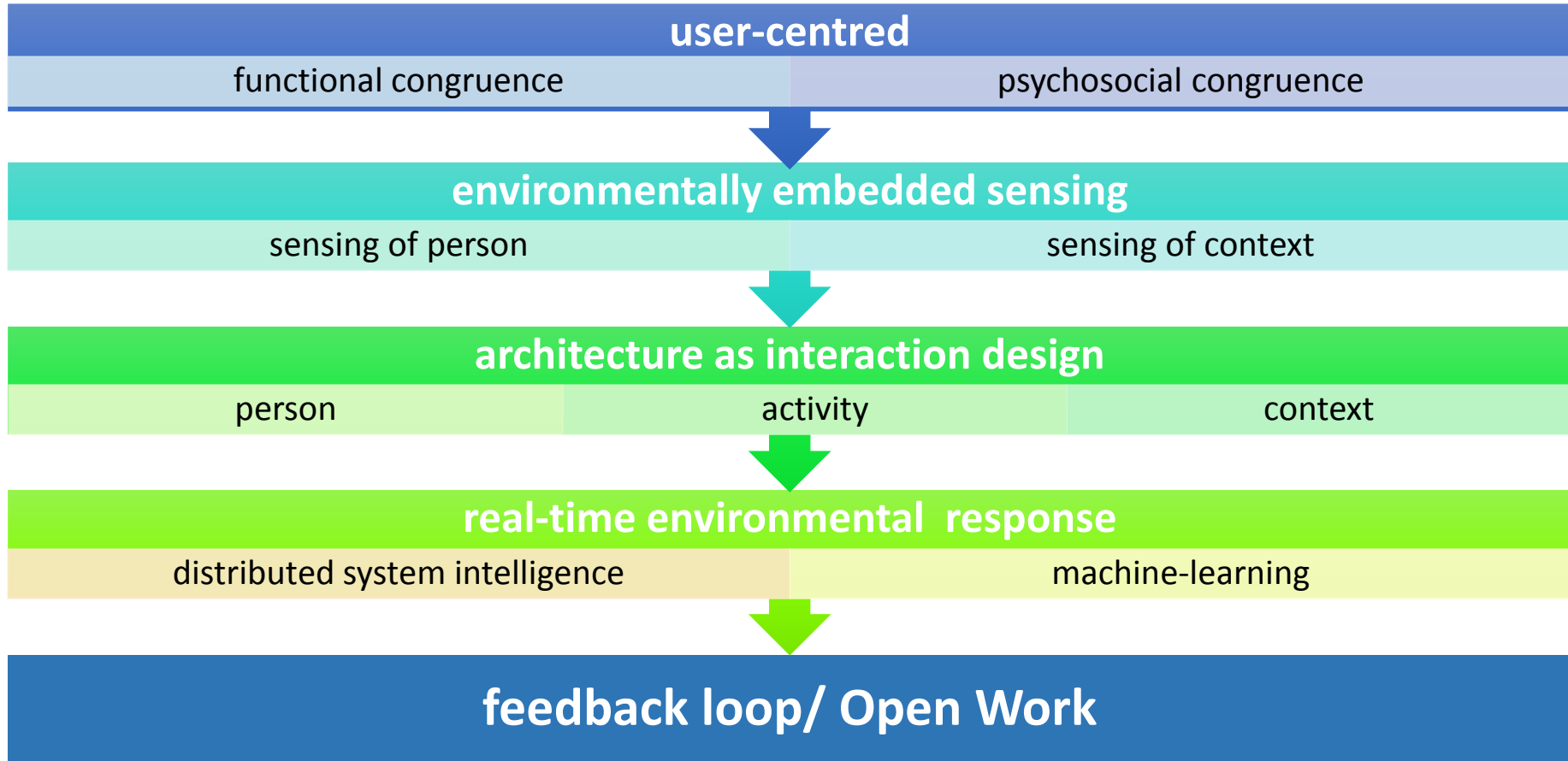
# Self-adapting environment

continually learning from occupant and context

enabling “best fit” for an individual

adjusting to **changing user needs**

# SYSTEM CHARACTERISTICS





**I'll have what she's having...**

