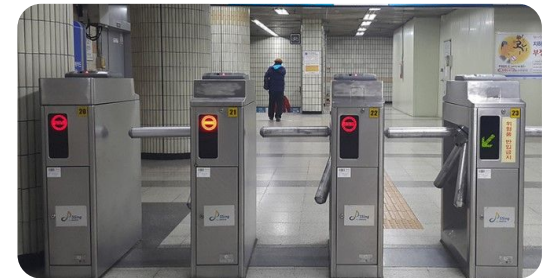# Interaction Restraint Framework for Digital Wellbeing

Uichin Lee, Jaejeung Kim

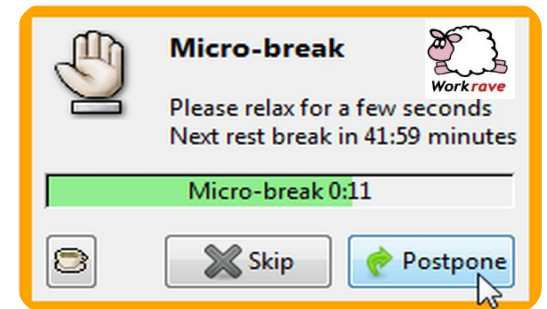KAIST, Korea

Ice-cream refrigerator that blocks frequent door openings

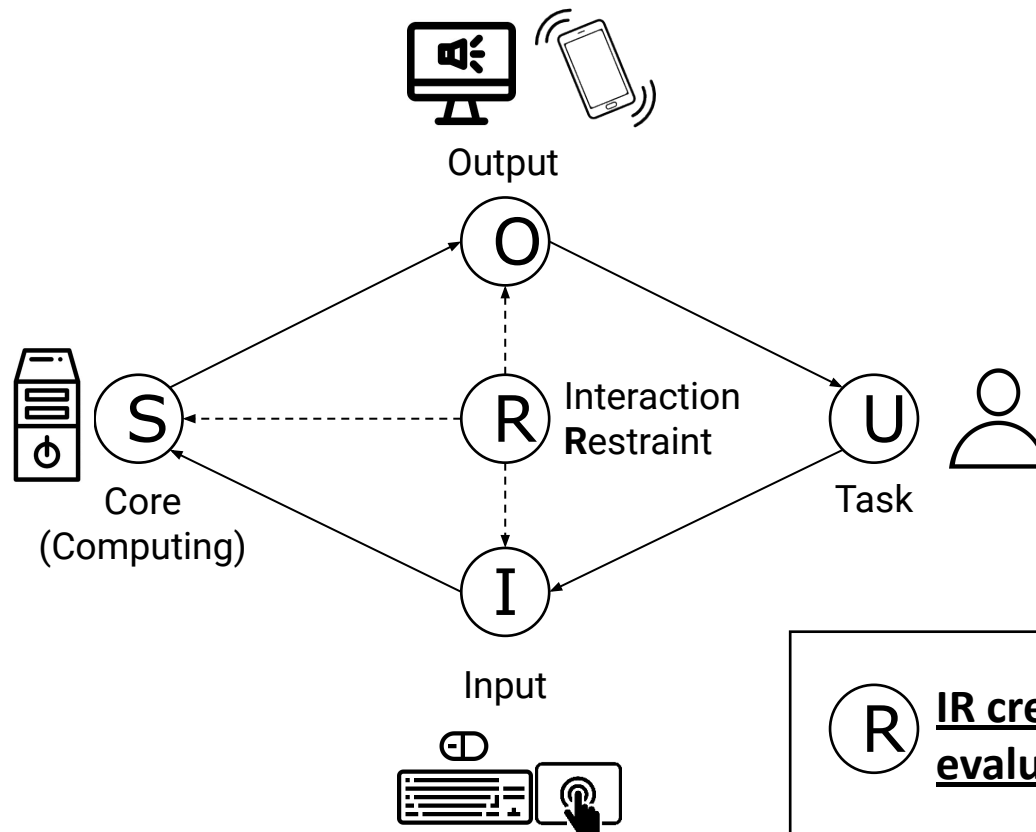**Subway gates** that are programmed to operate in a specific direction

Eco-driving mode that blocks sudden acceleration in a car

Micro-break prompt that blocks user input (typing) for "rest breaks"

Interaction (Restraint) Framework

Gregory Abowd, Russell Beale. 1991. Users, Systems and Interfaces: A Unifying Framework for Interaction.

IR creates the gulfs of execution & evaluation for positive purposes

Related Concepts:
- *Uncomfortable Interaction (Benford et al., 2012)*
- *Inconvenient Interaction (Rekimoto & Tsujita, 2014)*
- *Mindful Interaction (Cox et al., 2016)*

Exploring Interaction Restraints

- **Design dimensions of interaction restraints**
  - **Who** sets (e.g., self, assigned, group, guided) **what types** of interaction restraints **on which interaction** (target: e.g., phone)?
  - **Restraint type**: **intensity**, **trigger** (when), **mutability** of assigned restraints
- **Examples of interaction restraints for digital wellbeing**
  - **Popup warning** for self-reflection
  - **Blocking**: temporarily/complete/selective lockout
  - **Lockout tasks**: imposing users to do extra tasks in order to use an app/phone (e.g., typing 30 random digits, or walking for 1 minute)
  - **Resource throttling** (e.g., computing, networking, input modality)
- **Discussion & outlook**
  - Exploring design space of interaction restraints (+beyond digital wellbeing)
  - Enabling intelligent, context-aware, proactive interaction restraints (+agents)