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Demobooster Tampere

Automatic detection of activity type inside a pod

Motivation

- Meeting culture has changed – **today 80% of meetings are between four people or less**, rendering traditional large meeting rooms an inefficient investment for most cases.
- Addressing this, Framery makes workplaces happier and more efficient with its pioneering **soundproof office pods and workspaces** [1].
- Going forward, Framery wants to understand **FOR WHAT office pods are REALLY being used**, to enhance its offering; e.g.
  - Usage data to pod owners (e.g. are the pods being used for those activities they were intended)
  - Make pod to adapt (e.g. lighting) automatically to the current activity within the pod
  - Learn about pods' usage activity patterns for future product development

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[1] https://www.frameryacoustics.com/en/products/

Demo description and expected functionality

- A feasible technical concept which
  - can **automatically** determine for what purpose (i.e. an activity type) an office pod is being used
    - For the minimum set of activity types to be identified, see the next slide
  - is possible to implement as a POC with currently available technology in a 4-person or 6-person Framery pod
- The concept may **not** be premised on
  - using optical (visible wave length; ‘conventional’) camera(s) (privacy concern)
  - using voice (human voice spectrum) recording microphone(s) (privacy concern)
  - requiring pod user’s own actions such as pressing buttons, selecting a usage mode etc. (not automatic)
  - only on analysis of pod’s calendar reservations (does not track what *actually* happens within the pod)

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Minimum set of activity types to be identified

	Video call	Phone call	Laptop work	Within-pod discussion
One person	✓	✓	✓	✗
Several persons	✓	✗	✗	✓

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Physical concept context: Framery 2Q ‘huddle’

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See e.g. https://www.frameryacoustics.com/wp-content/uploads/2021/05/framery_2q_en.pdf

Technical framework: outlines (1/2)

- The context Framery 2Q offers the following resources and interfaces:
  - An enclosed space with standardized dimensions
    - 2 glass walls (glass door with aluminium frames on one of these)
    - 2 plywood/steel/absorber sandwich walls
    - Plywood/steel/absorber sandwich roof
    - Thin plywood floor
  - Electrical power (any voltage and consumption required)
  - Ventilation with roof-mounted inward-blowing fans
  - Roof-mounted interior lights
  - Control panel for user adjusting of ventilation and lights (rotary knob)
  - Infrared presence sensor (someone in the booth: yes/no)
  - A table and, number of seats and a wall-mounted screen

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Technical framework: outlines (2/2)

- In addition, it can assumed that
  - The pod is within a WiFi range and that the WiFi can be used for the concept if needed
  - The pod is reservable in an organization wide calendar system
  - Required equipment can be embedded within or mounted onto 10 cm thick sandwich walls and roof, if required
    - Innermost layer felt with ~5 mm thickness
- Note! The concept **does not** need to be actually built into an office pod at this stage
  - Real-world power consumption, physical size and weight, noise level, design or cost are not the primary drivers but instead the feasibility of the concept as such

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