


科技藝術 書報討論課程

20201213

授課教師: 游創文 教授


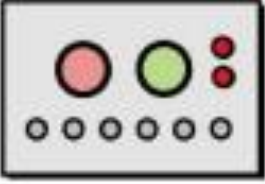

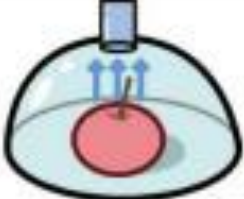

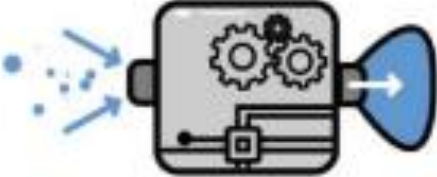


報告學生: 翁政弘 iPhD109人工智慧組



Exploring Potential Scenarios and Design Implications Through A Camera-like Physical Odor Capture Prototype

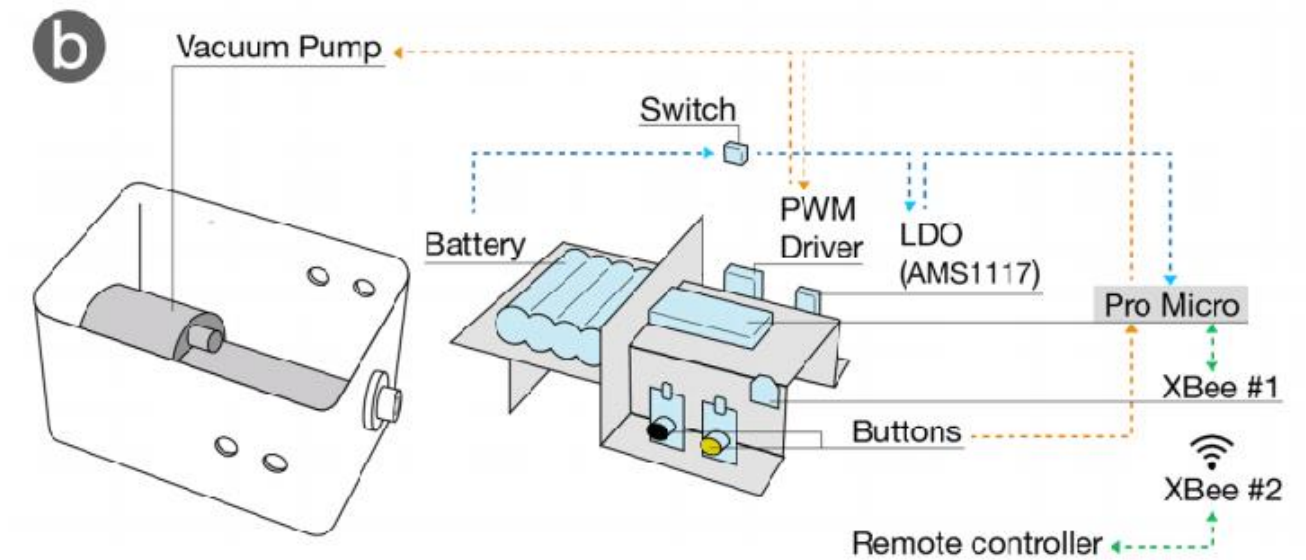
Qi Lu^{1,2,3}, Wan Liang^{1,2}, Hao Wu^{1,2}, Hoian Wong^{1,2}, Haipeng Mi^{1,3}, Yingqing Xu^{1,2,3*} ¹Academy of Arts & Design, Tsinghua University, Beijing, China ²The Future Laboratory, Tsinghua University, Beijing, China ³Tsinghua University-Alibaba Joint Research Laboratory for Natural Interaction Experience, Tsinghua University, Beijing, China {luq17, liang-w18, h-wu18, hkx18}@mails.tsinghua.edu.cn, haipeng.mi@acm.org, yqxu@tsinghua.edu.cn

DIS '20, July 6-10, 2020, Eindhoven, Netherlands

Function	Camera	Smell Camera
User Controls		
Information Entry		
Core Capture Unit		
Storage Unit		

How to record the Odor?

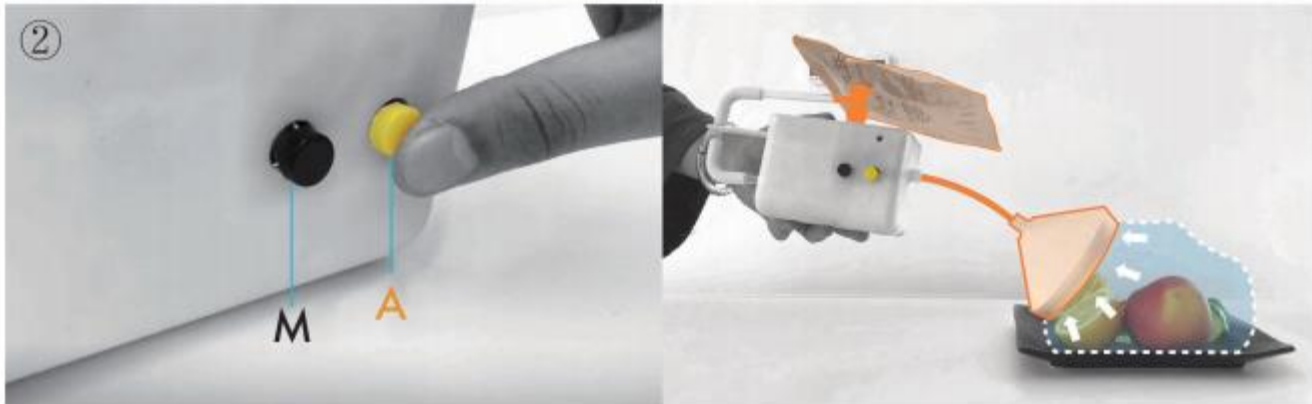
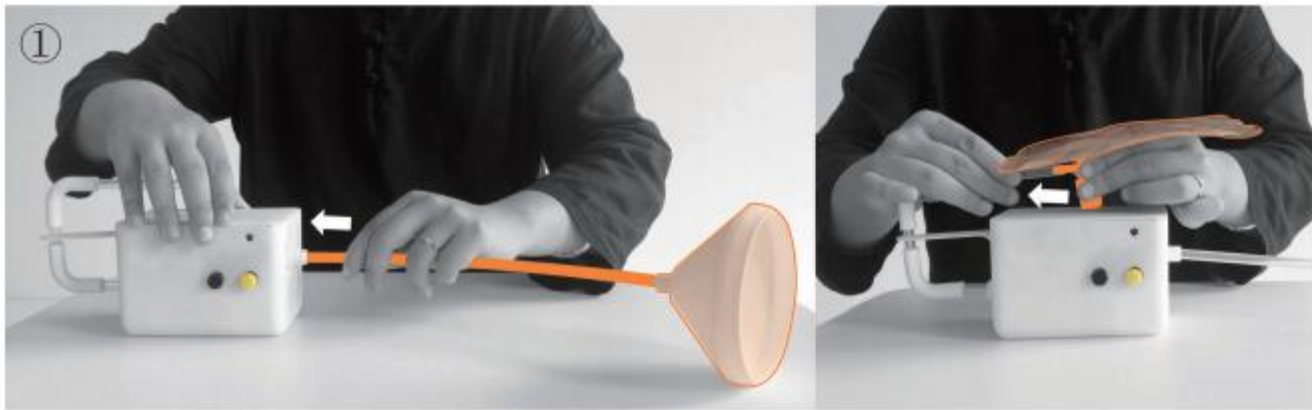
The corresponding components of a camera and an odor capture device..



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Prototype

- a) A hardware overview of the prototype.
- b) The internal structure of the main control module.



The typical interactive process of this prototype

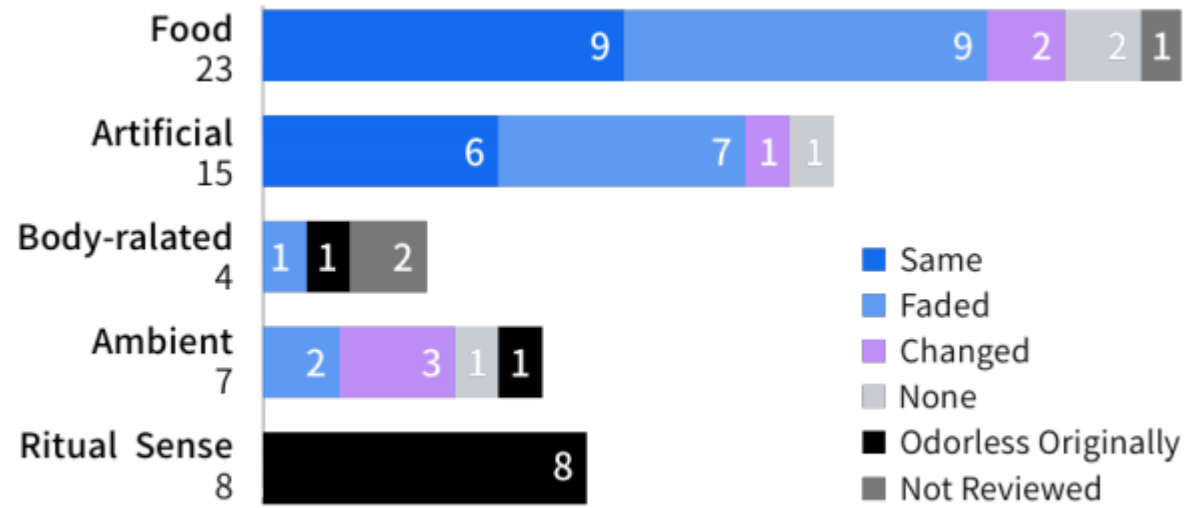
- 1) installation.
- 2) Press to start collecting.
- 3) Detach the bag and turn off the valve to store the air.
- 4) Playback: turn on the valve and press on the bag.

- Pilot Interview 10 P (20~29yr, M=25.2, SD=2.6) => Smell Camera Design " a Point-and-Shoot" like "Polaroid" camera
 - Design Structure
 - ✓ User Control
 - ✓ Information Entry
 - ✓ Core Capture Unit
 - ✓ Storage Unit
 - Design Parameters (v.s. Video Recorder)
 - ✓ Fidelity
 - ✓ Time cost of capture process
 - ✓ Storability
 - ✓ The appearance of the device
 - ✓ Interaction method
 - Prototype implementation

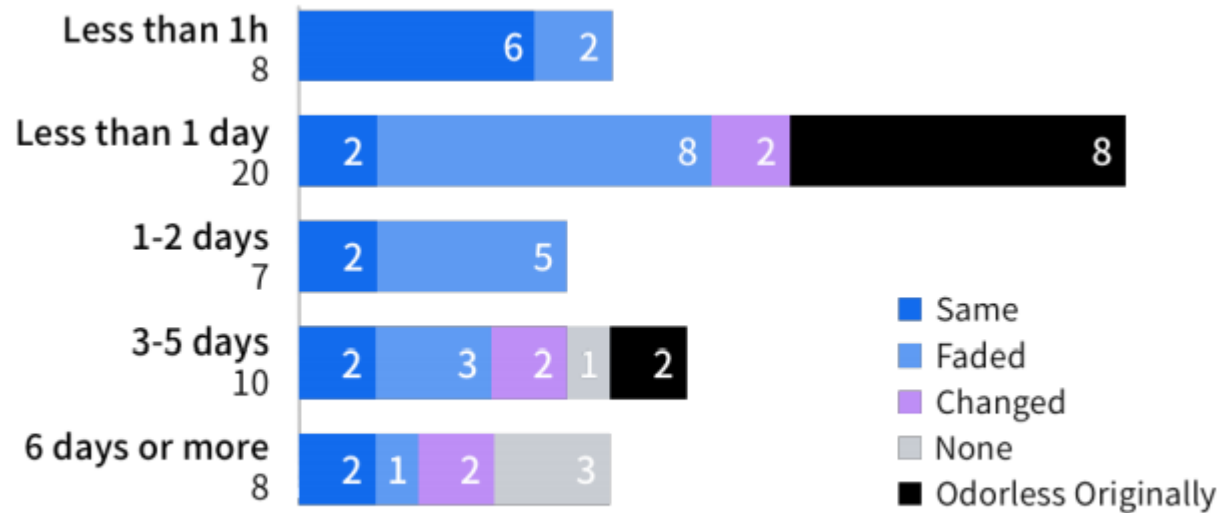
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Research Methodology (I)

How to Design-Smell
Camera?



(a) Odor types - Review performance



(b) Storage duration - Review performance

The basic capture performance of the prototype

57 scents bag review performance 5 level:

- 1) Odor classify into 5 types
- 2) Storage duration in 5 period



a) Using the prototype to capture the smell of coffee powder.

b) Giving a scent gift to a passerby. (Photos provided by P2)

- Exploratory by diary study & post-hoc interview
 - Participants 13 (7 female), 18~57yr (M=27.92, SD=9.76)
 - Research Question
 - 1) What motivates users to capture odors?
 - 2) How do they interact with the prototype smell camera?
 - 3) What odors user will capture?
 - 4) What value can olfactory interaction contribute to?
 - 5) What is the user preference on the design parameters?
 - Preparation
 - 1) 6 clean bag
 - 2) IF people feel the smell has deteriorated, stop reviewing and no longer use the bag
 - 3) They should collect diary life odors instead of toxic gas
 - 4) Keep the device clean
 - Activity
 - 1) Keep 2 weeks
 - 2) Daily update 4 logs
 - 2 capture experiences logs
 - 2 playback experiences logs

Research Methodology (II)

Exploratory data
collection--diary study!

How do you think the smell camera?

Summary

- In market : Like Cama Café selling smell point
- Not only Video/Audio/Touch. But also Odor is an import human sense, we can focus on ART or Daily-life
- Storage of odor is an interesting topic and also how to condense.