

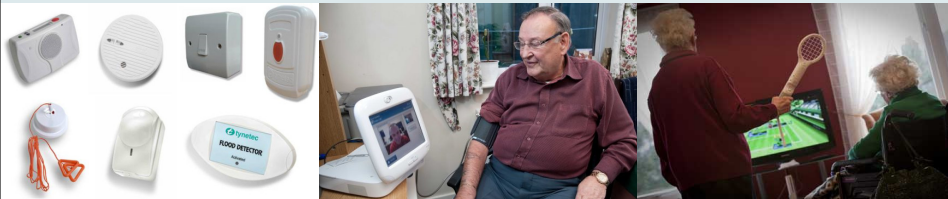
Reminders that Make Sense: Designing Multimodal Notifications for the Home

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Technology for Care at Home



Health + social care
Mainstream technology
Integrated into daily lives

The Importance of Reminder Systems



"By the time you're eighty years old
you've learned everything.
You only have to remember it!"



The
MultiMemoHome
Project

Reminders can help us to structure our working
day or manage our lives at home

But how should these reminders be delivered?

We are looking at novel **multimodal** ways to
deliver reminders

www.multimemohome.com

Understanding the Reminder Design Space

- What do people need reminders for?
- Why do people forget?
- How do people currently remember?
- How would users would like to receive reminders (devices and modalities)?

M.R. McGee-Lennon, M. Wolters, S. Brewster, "User Centered Design of Multimodal Reminders for Assistive Living". Proc. ACM CHI 2011: Vancouver, Canada.

M. K. Wolters and M. R. McGee-Lennon, "Designing usable and acceptable reminders for the home", In Proc. AAATE, 2010.

M.R. McGee-Lennon and M. K. Wolters, "Desinging Reminders for the Home: The Role of Home Tours". In Proc. INCLUDE, 2011, London, UK.

Reminders People Want

Main Categories	Popular Examples
Environmental controls	Closing windows and doors
Daily chores	Unloading the washing machine
Weekly chores	Putting out the bins
Less frequent events	Appointments
Objects	Keys, Bus passes (where / taking them)
Care regime	Taking Medication



Reminders Should Be ...

- Effective
- Accessible
- Adaptable
- Acceptable

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Multimodal Toolkit

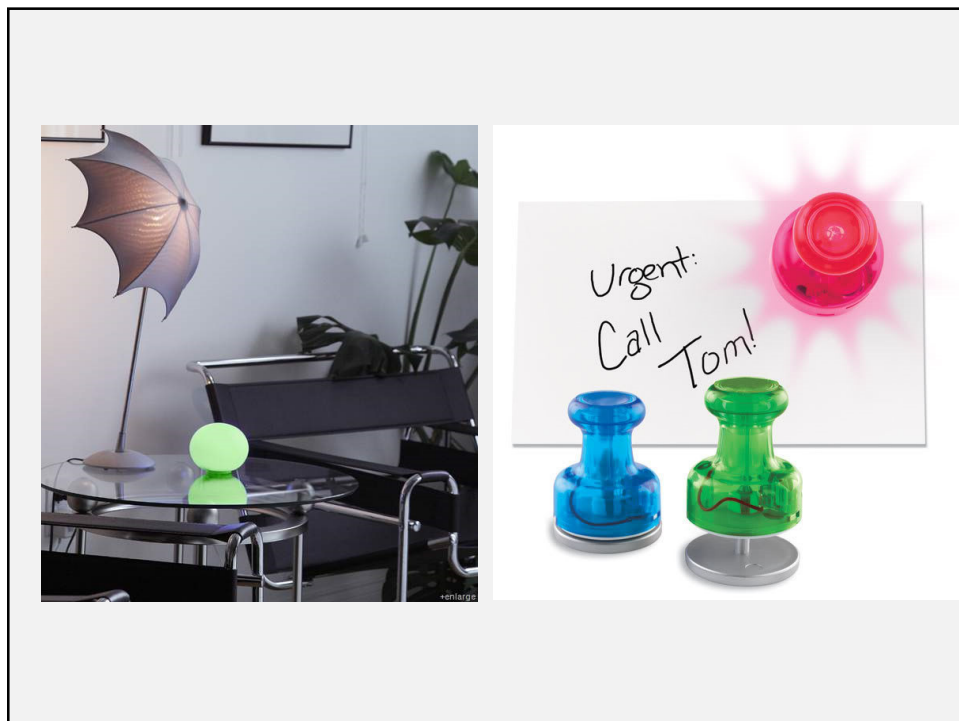
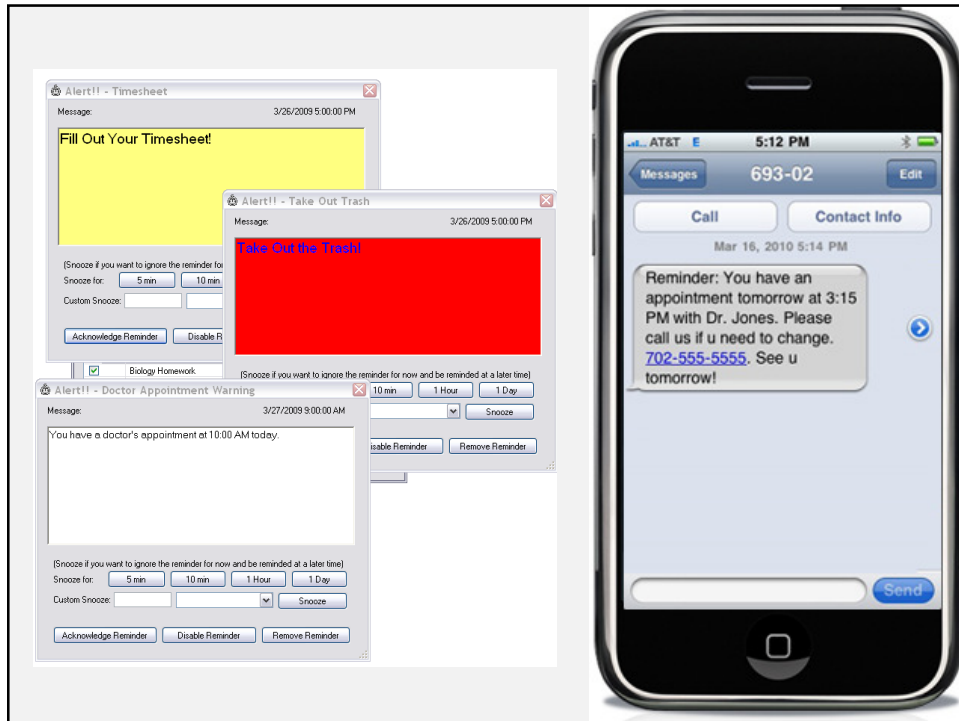
Visual

Auditory

Tactile/haptic

Olfactory

Visual Reminders



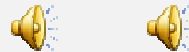
Auditory Reminders

Auditory Reminders

Speech



Spearscons



<http://sonify.psych.gatech.edu/Insert>

Little learning required
Delivery time
Privacy

Auditory Reminders

Auditory Icons



Earcons



Implied meaning Vs learned meaning
Less obtrusive than speech?

'Musicons'

Short recognisable snippets of sampled music

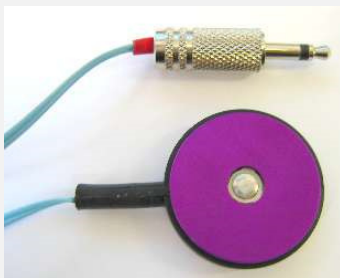


- > **learnable** and **memorable**
- > **private** and **personal**

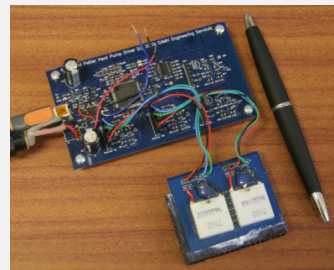


Tactile Reminders

Tactile Reminders



Tactons



Thermal icons

Private
Contact required – wearables
Affective/emotive

G. Wilson, M. et al.
"Some Like it Hot?"
Thermal Feedback for Mobile Devices",
ACM CHI 2011 (Vancouver, CA)..

Olfactory Reminders

Olfactory Reminders



Memory and reminiscing

Ambient reminding

Delivery time

Dissipation

How Should Reminders Be Delivered?

It Depends.....

- **personal preference**
- **impairments and abilities**
- **available devices**
- **importance of reminder**
- **social context**

Provide an
appropriate
choice of
modalities






Performance and preference don't always correlate

What
DRIVES
us?
preference

The image features a dark-colored vintage Volkswagen van in the upper left. The background is split into a grey top half and a blue bottom half. The text 'Performance and preference don't always correlate' is in the grey area. The title 'What DRIVES us?' is in the blue area, with 'DRIVES' in large, bold, white letters and 'us?' in a smaller, white, lowercase font. Below the title, the word 'preference' is written in a brown, cursive font.



Impairments of
always predict
preferred mod

A close-up photograph of an elderly person's ear wearing a hearing aid. The person is also wearing glasses. The background is a warm, yellowish-orange color.



Personalisation is key

Designing Multimodal Reminder for the Home

Thank you for listening

www.multimemohome.com

