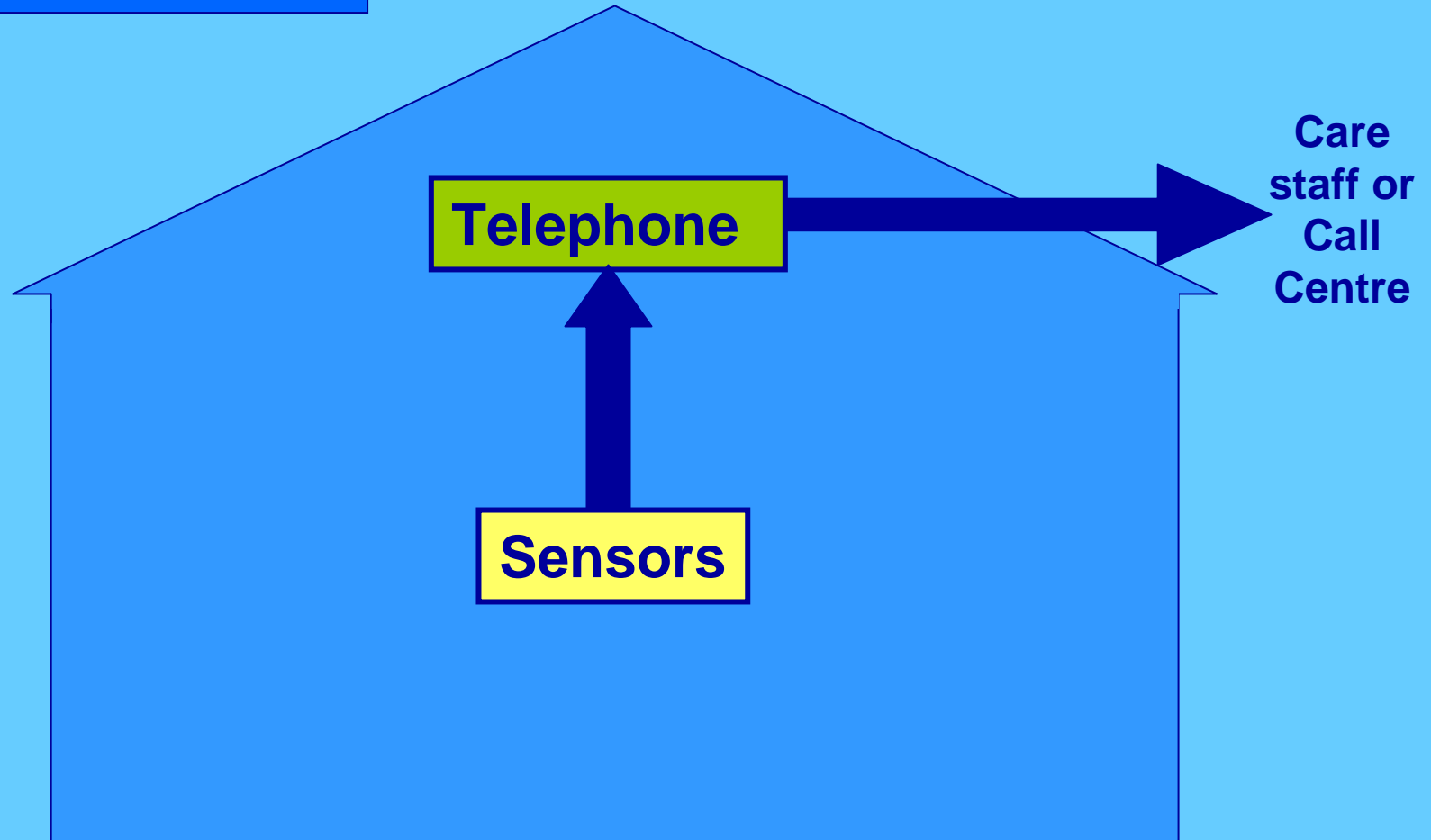


SMART homes: emerging technologies

Roger Orpwood

**Bath Institute of Medical Engineering
University of Bath**

Telecare



Telecare



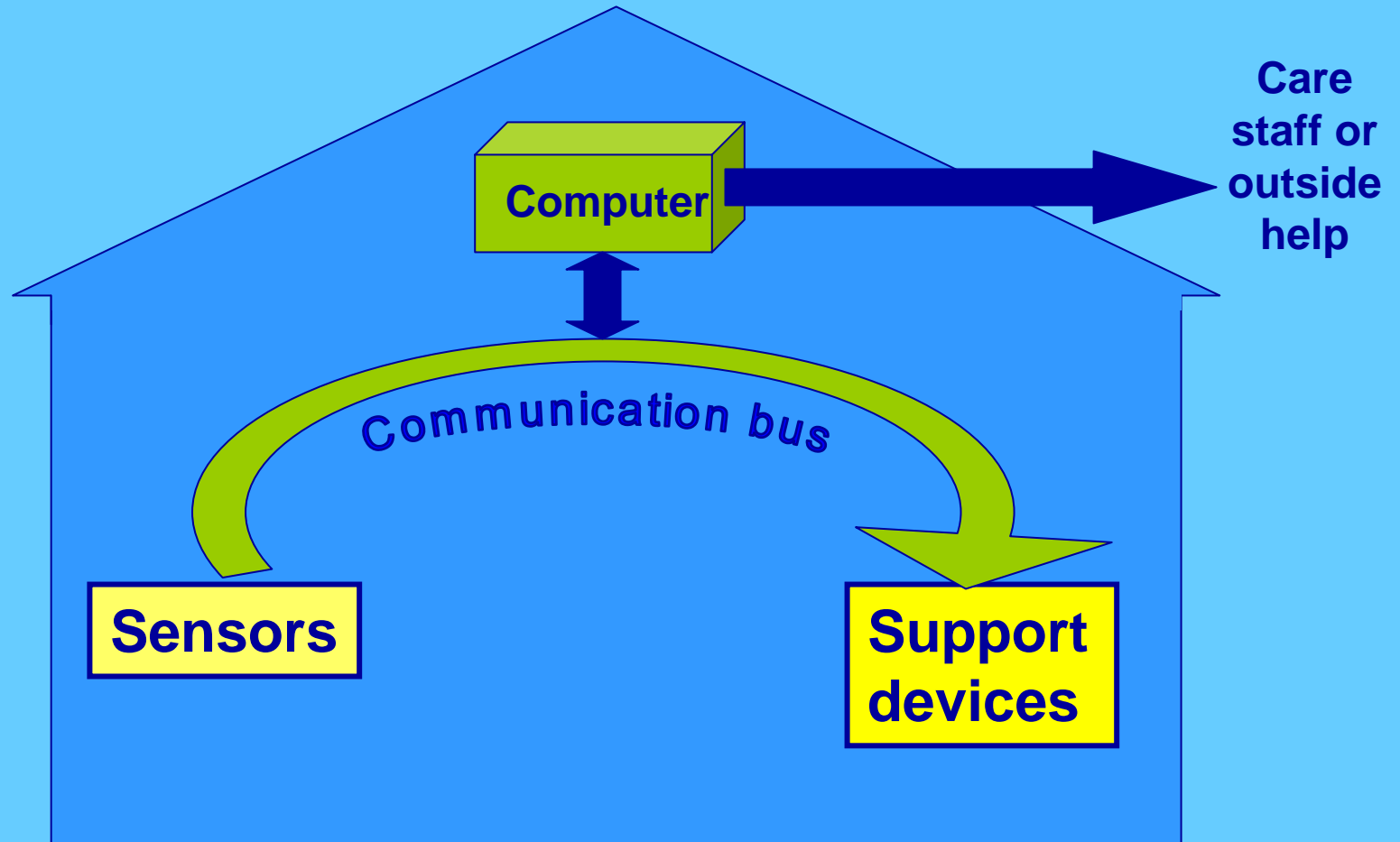
How

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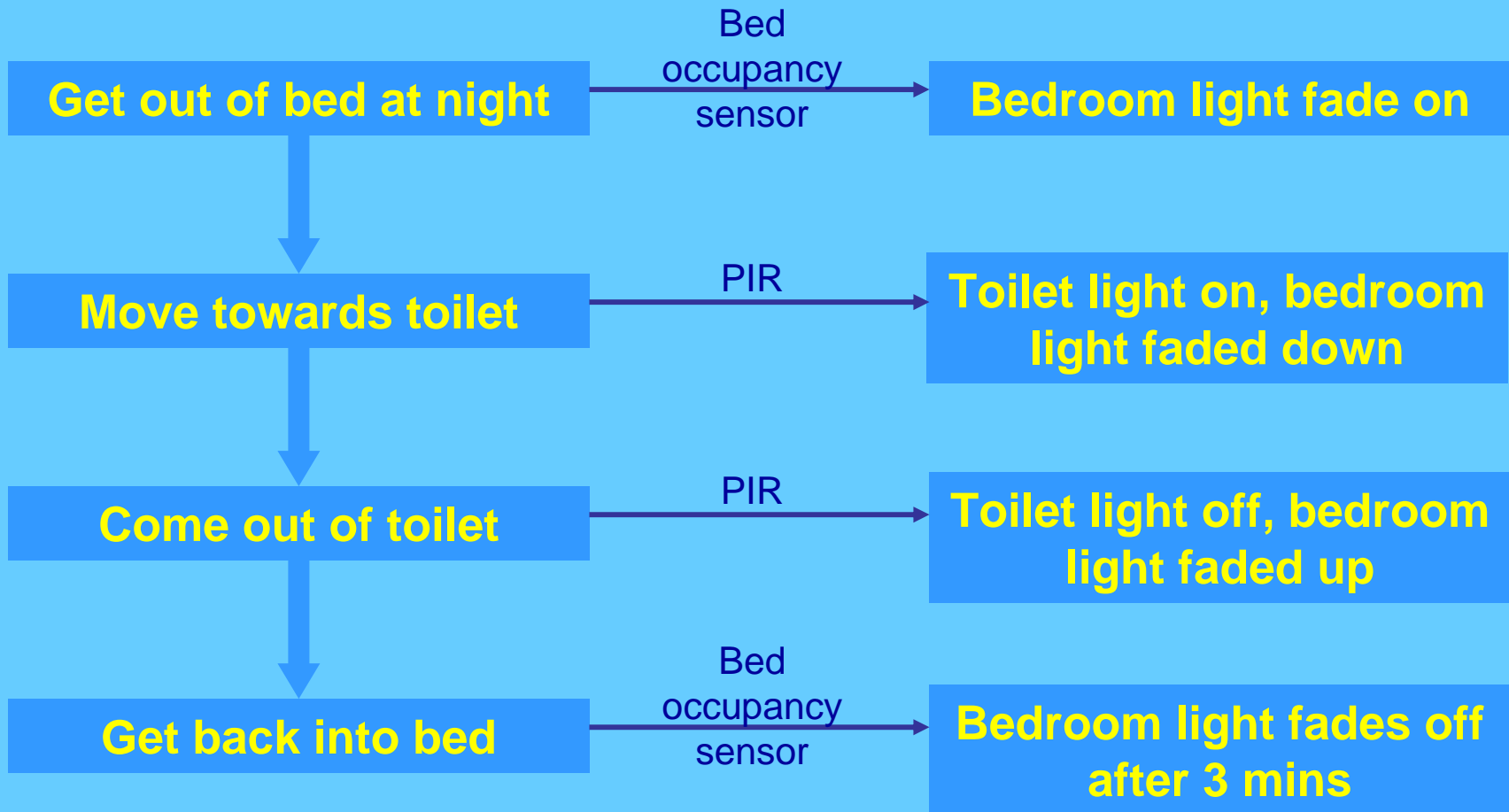
Smart home





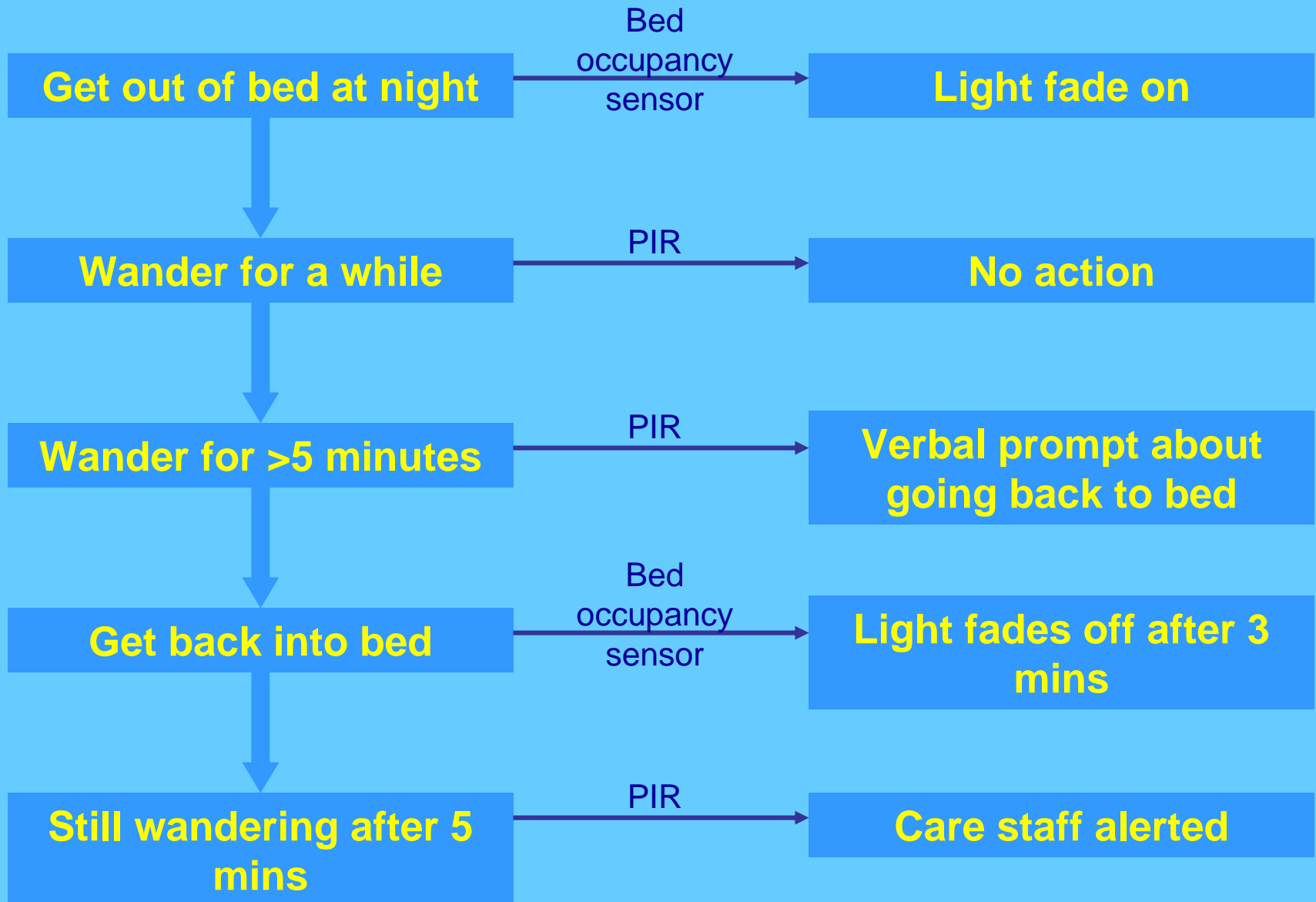
User behaviour

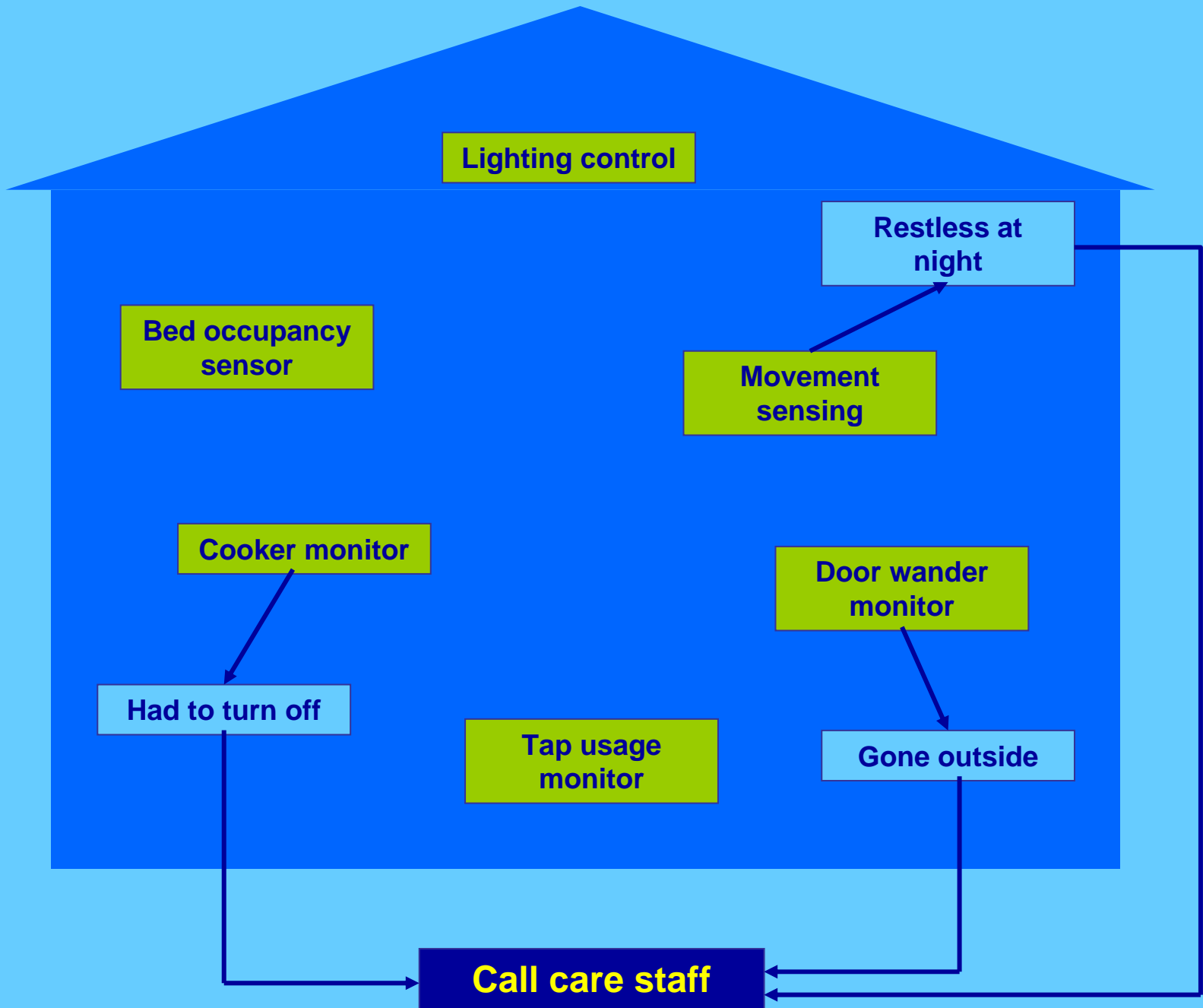
House reaction



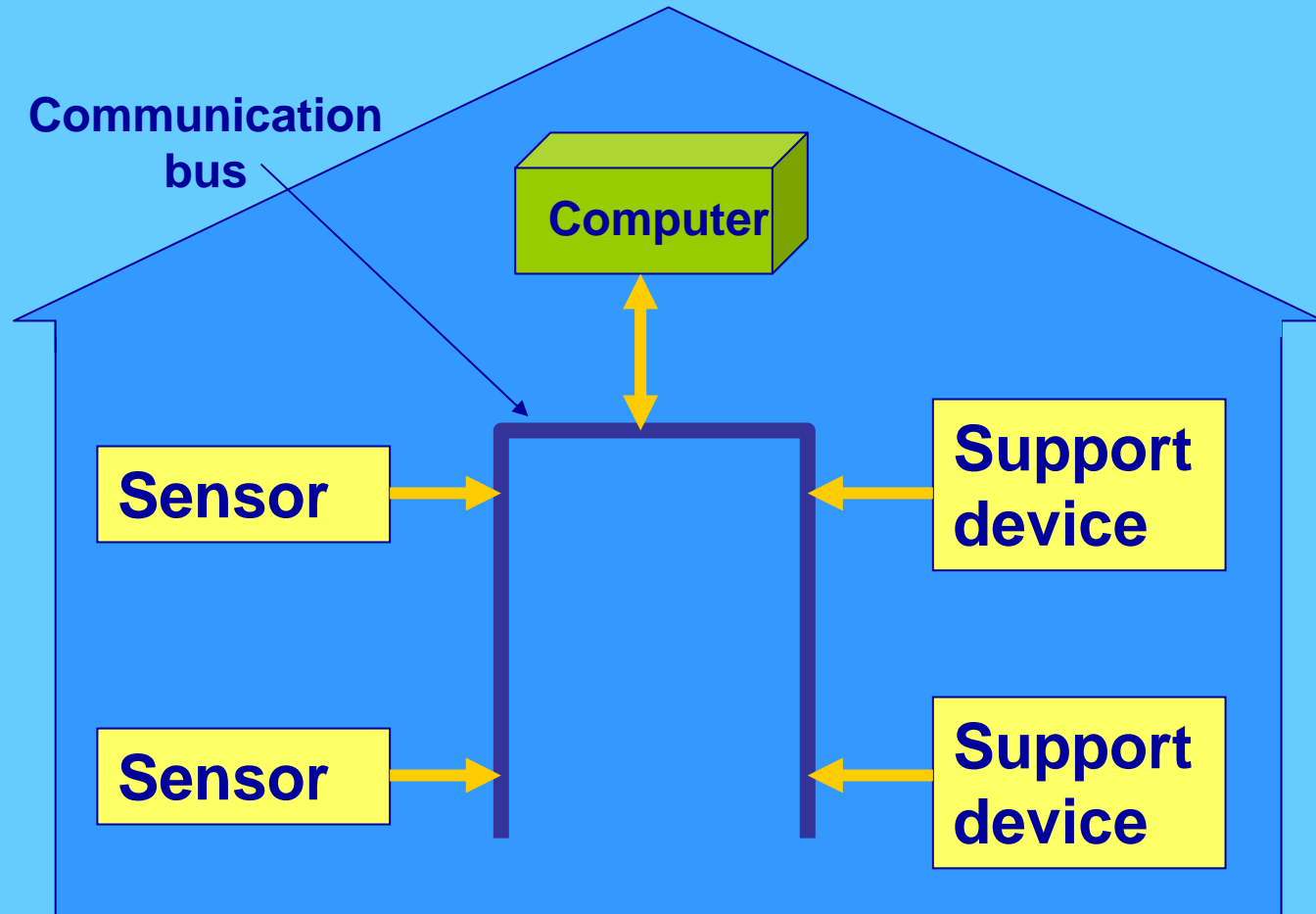
User behaviour

House reaction



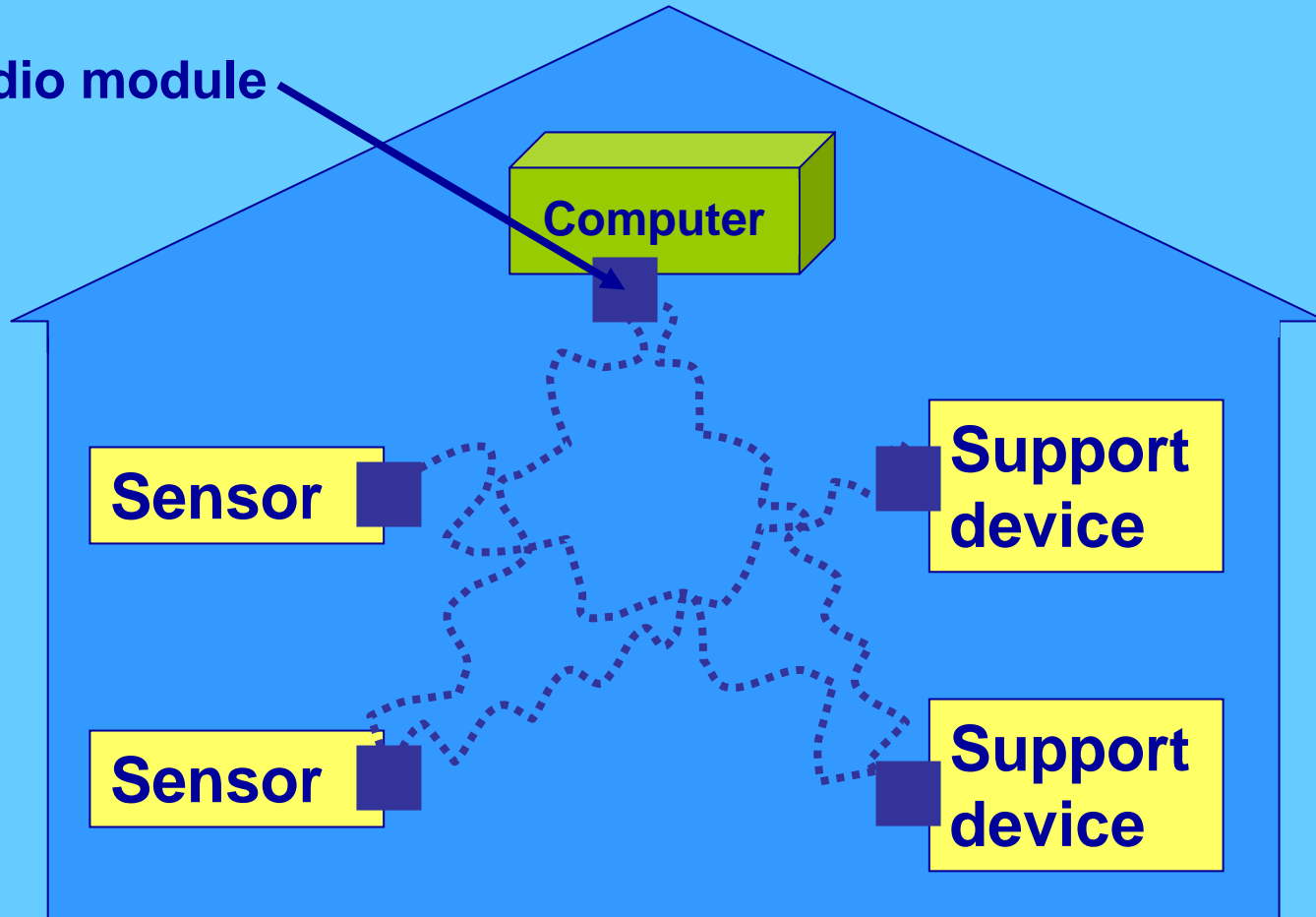


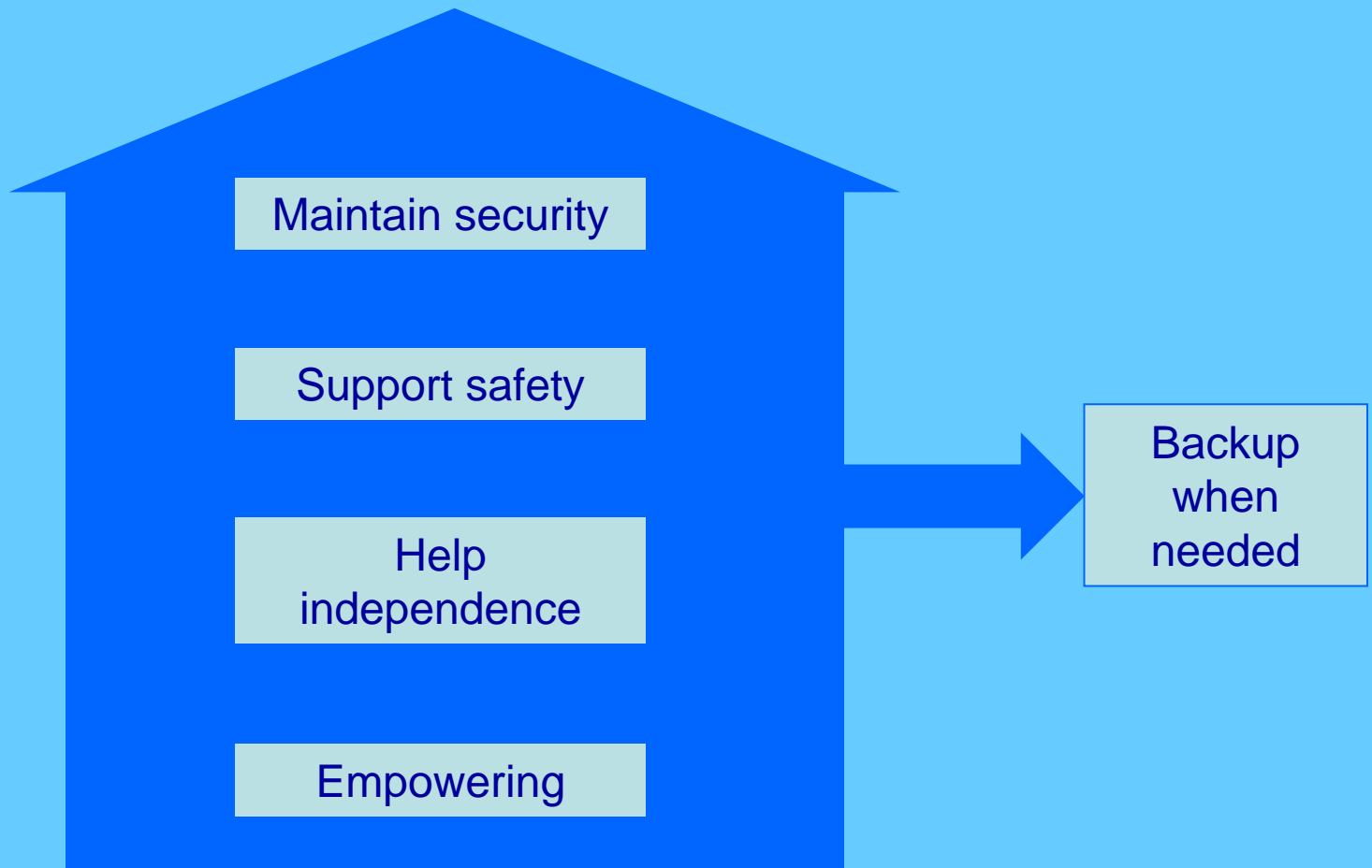
Hard-wired communication bus



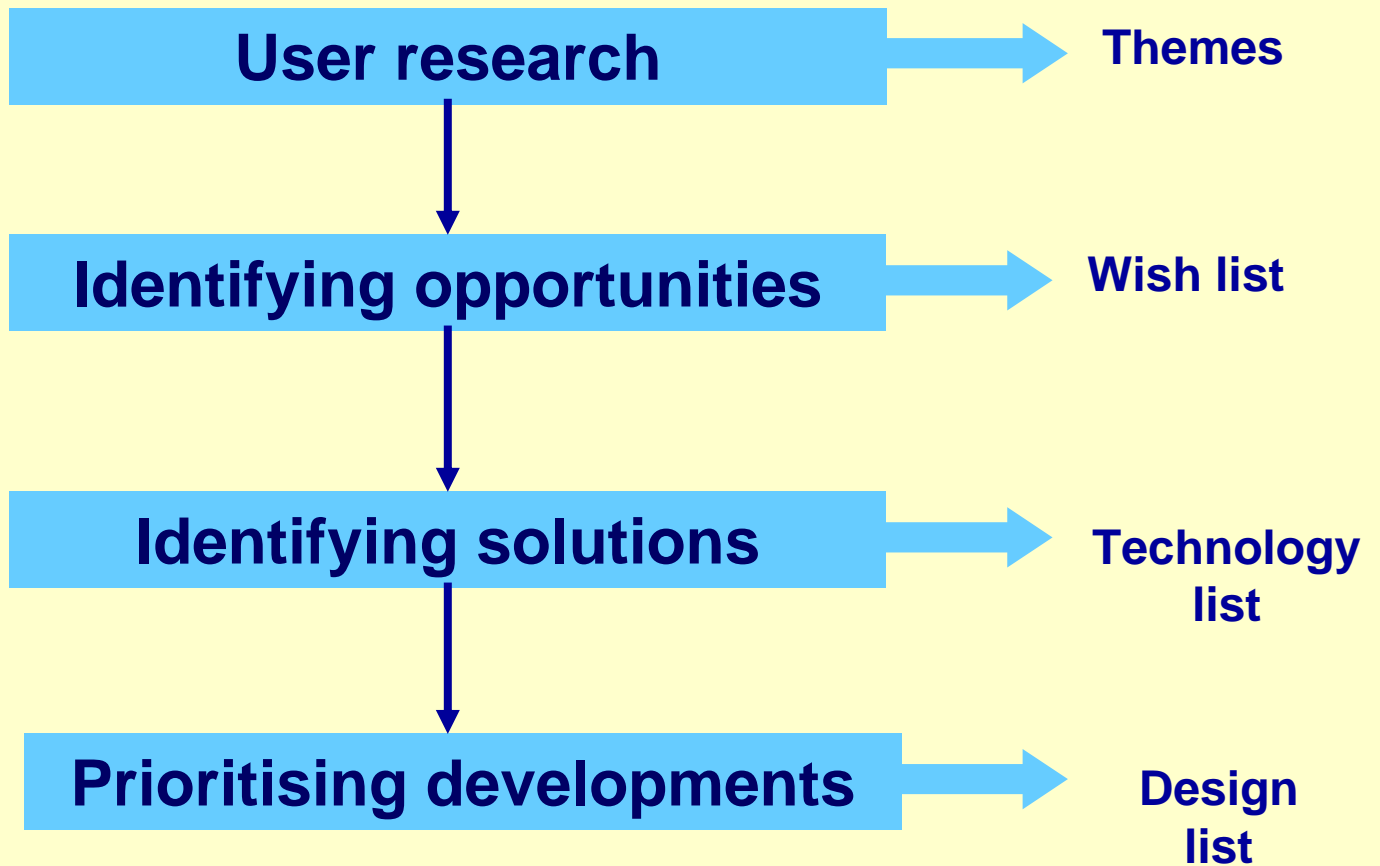
Radio communication bus

Radio module





But what then.....



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- **identity and personal history**
- **enabling relationships**
- **encouraging social engagement**
- **conversation prompting**
- **music**
- **supporting activity sequences**
- **access to nature**
- **creative activities**

- 1. Music (easy access)**
- 2. Encouraging social engagement
(window on the world)**
- 3. Conversation prompting**
- 4. Supporting activity sequences**

Easy access to music



Sessions in care homes



Usability tests

- Is the operation obvious?
- Does it look like it should play music?
- Do users do anything unexpected?
- Etc



Simple Music Player III

- Raised touch sensor
- Brighter LEDs
- Better Diffuser



Window on the world

Window through the d-i-r-o-w



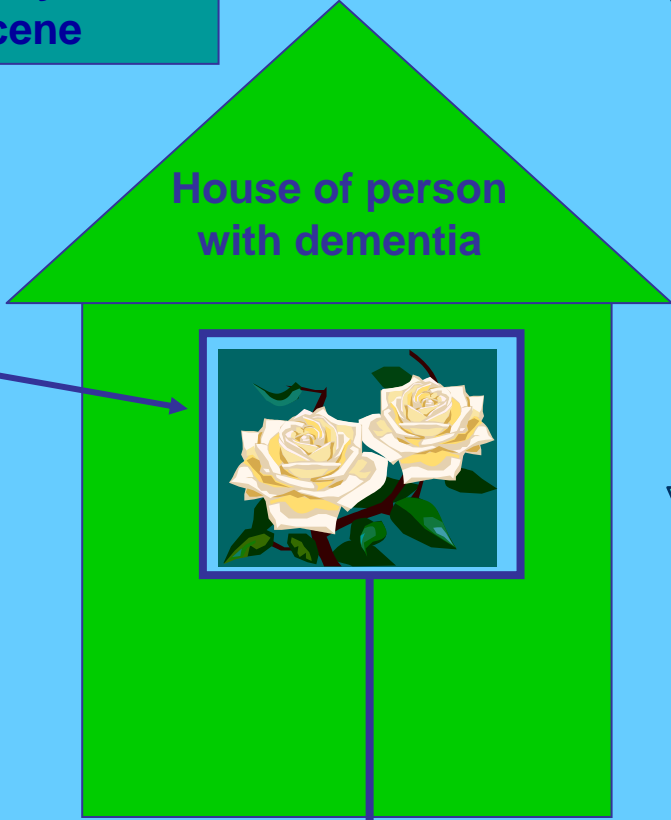
People walking in street



Countryside scene



Garden scene



House of person with dementia

TV screen

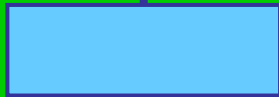
Camera

Internet

Carer interface

Allow inside
'Time to go now'

House of family
carer



Person with
dementia interface

'Can I come in'

House of person
with dementia



TV with
webcam

Interface

Internet

Window
through
the
door

independent

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- Technology identified for up to 5k range
- Many web cams found for local scenes
- Tests in care homes with group of users
- Able to recognise the view
- Found to be engaging, despite little action

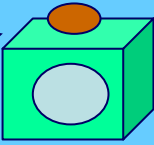
Conversation prompter

Conversation
prompt

"Dinner was nice.
We had chicken
and potatoes and
l.....?"



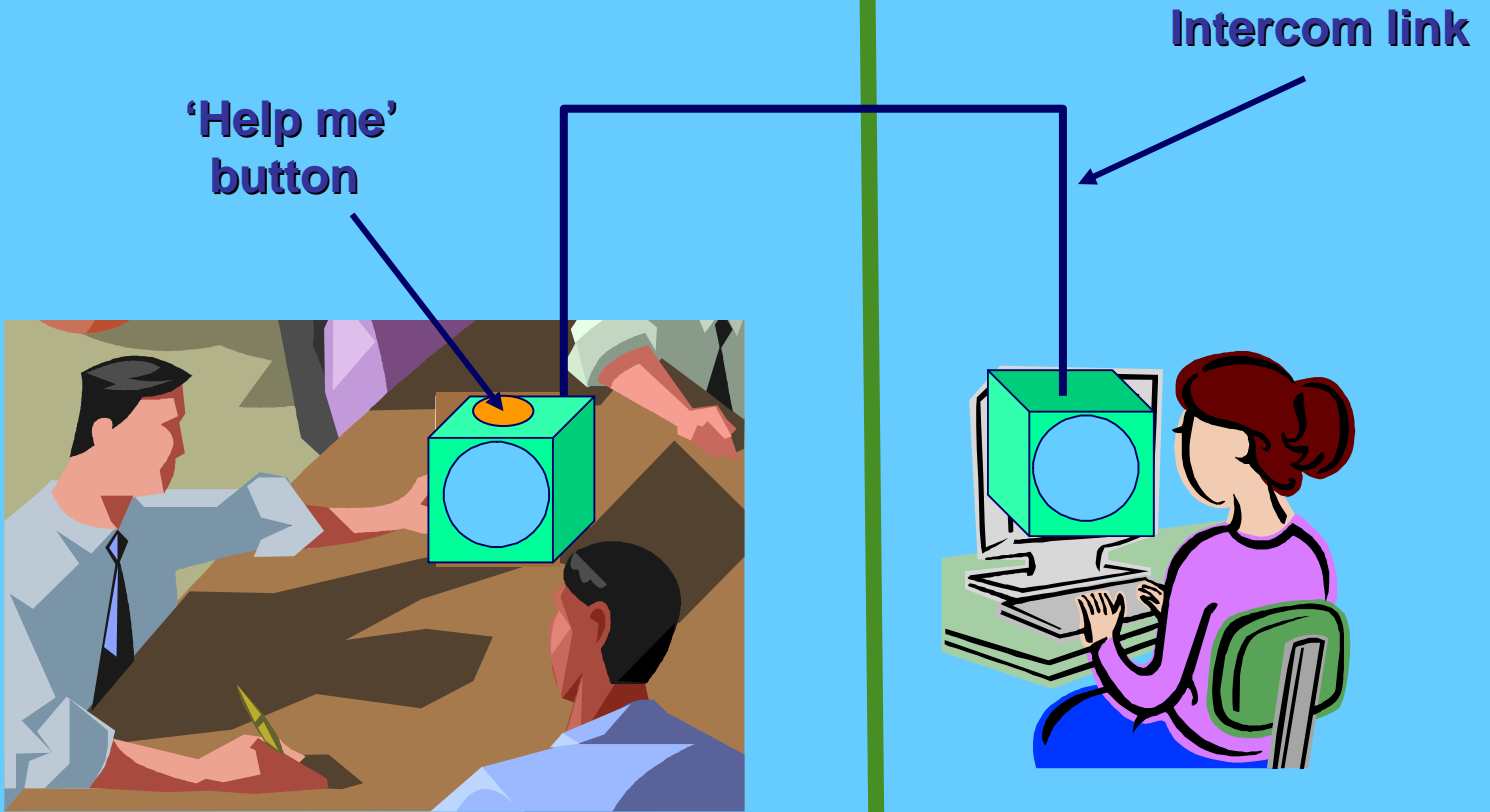
'Help me'
button



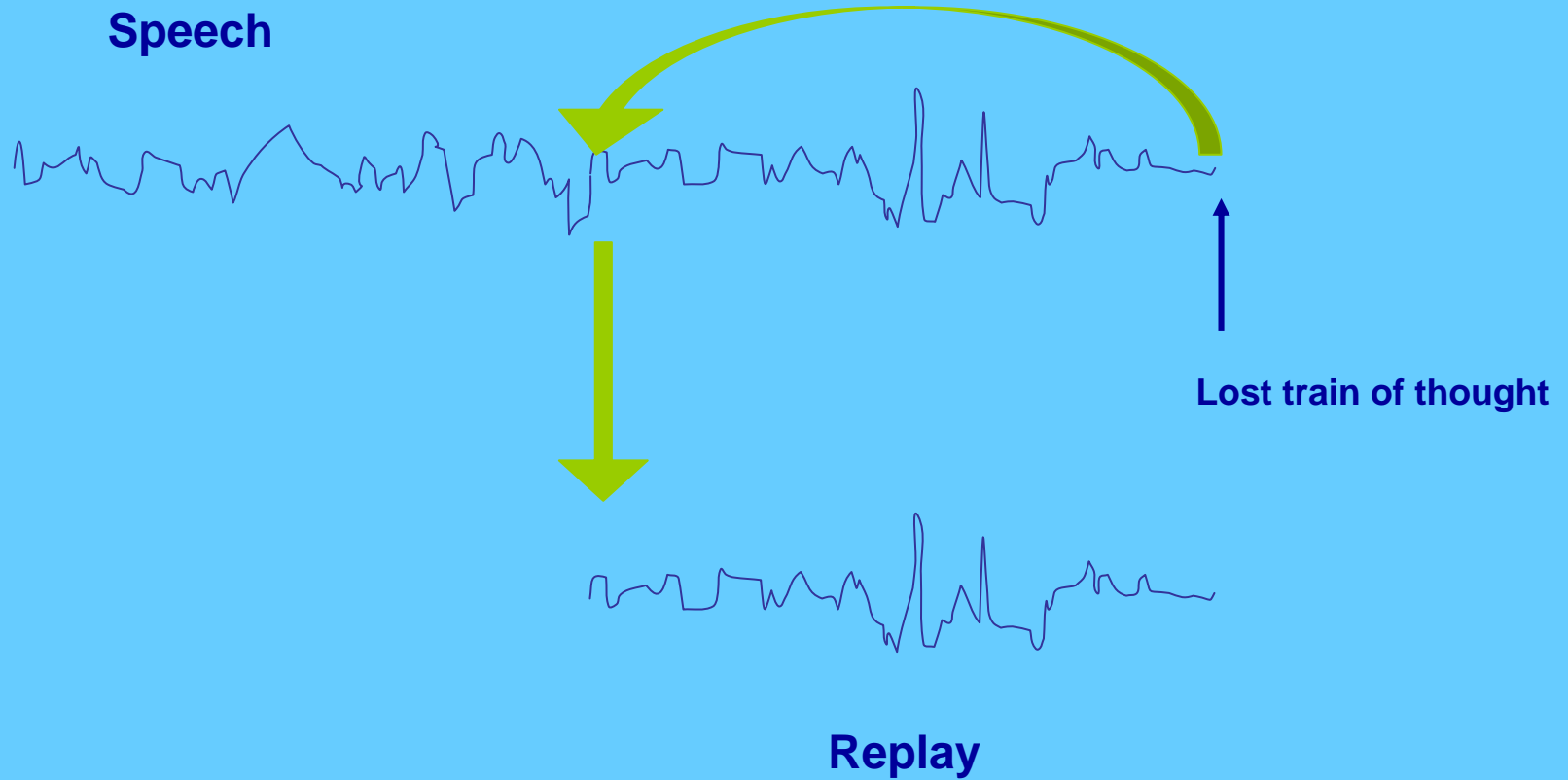
Last few words replayed

Reminder about topic

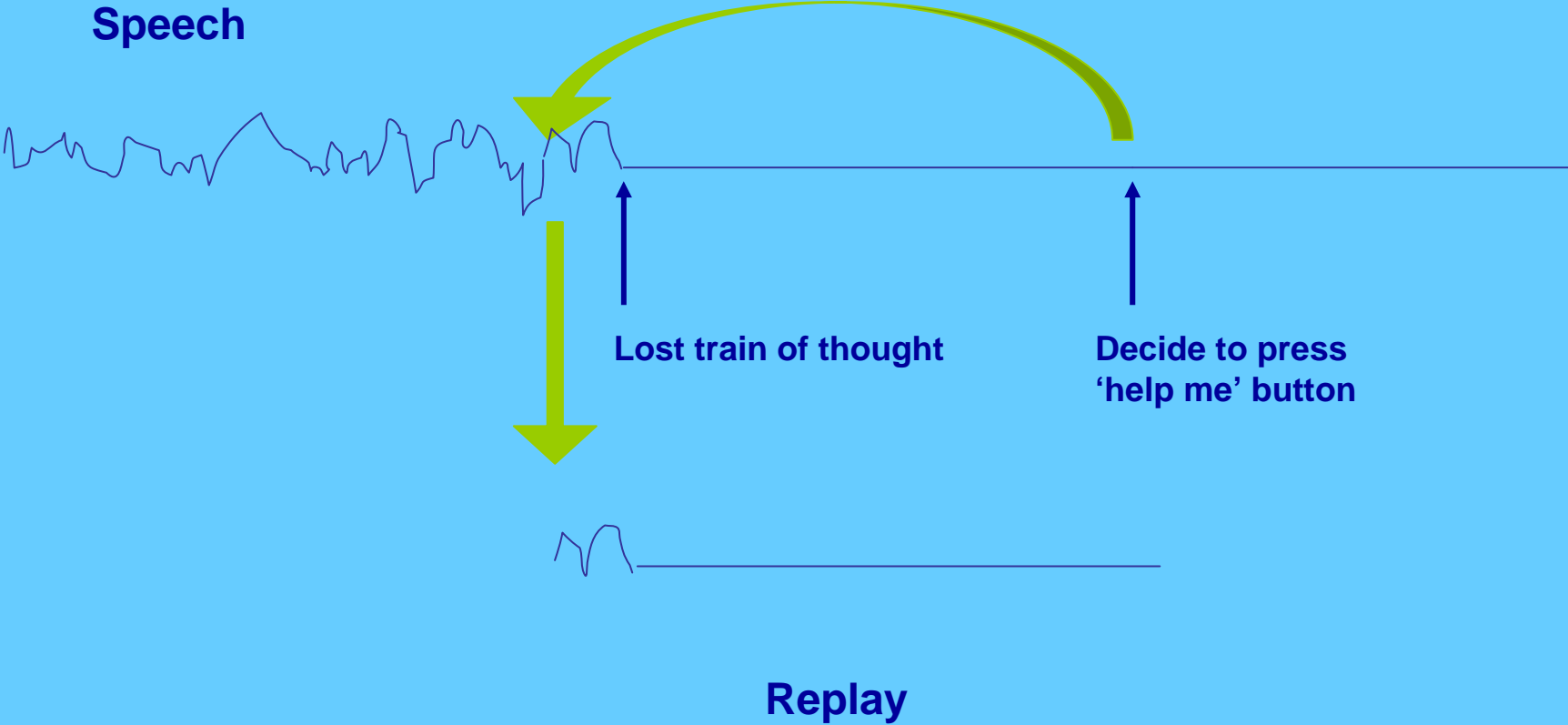
Conversion prompt



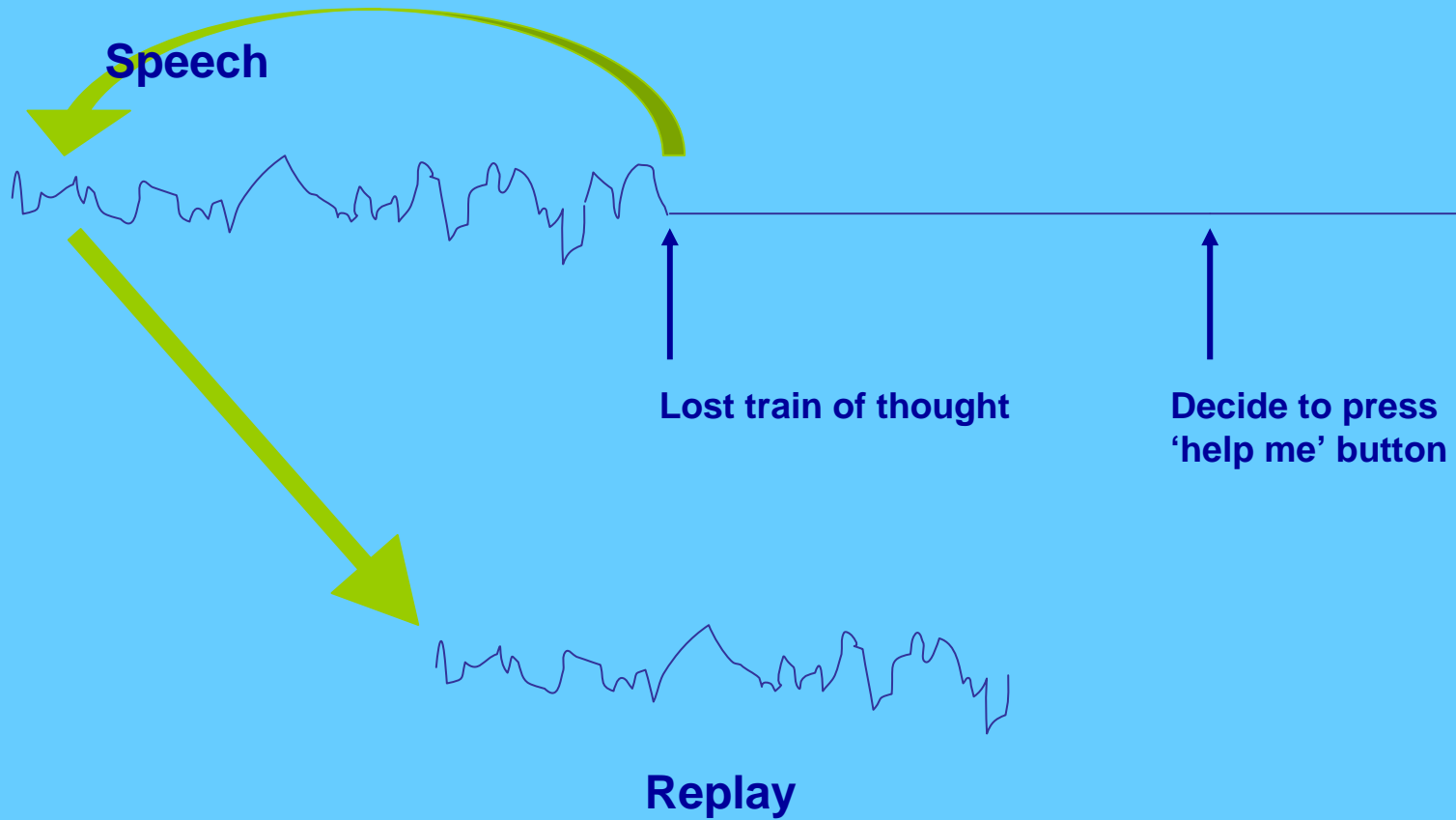
Tape loop



Tape loop



Solid state recording



Scheduling support

www.bime.org.uk



Acknowledgements

Work presented here supported by:

- EPSRC grant as part of the EQUAL programme
- European Commission 5th Framework Quality of Life Project – ENABLE
- EPSRC INDEPENDENT project, part of EQUAL 4 programme