Overview of MATCH:
Mobilising Advanced Technologies for Care at Home

Prof. Ken Turner *(kjt@cs.stir.ac.uk)*
University of Stirling

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www.match-project.org.uk

The MATCH Project

- Mobilising Advanced Technologies for Care at Home
- Supported by Scottish Funding Council (not 100%) for four years from November 2005
- Focused on development and integration of home care technologies:
  - Home Care Networks
  - Lifestyle Monitoring
  - Speech Communication
  - Multimodal Interfaces
  - Integration and Demonstration

Partners

- Academic:
  - Universities of Dundee, Edinburgh, Glasgow, Stirling (lead)
- External Partners:
  - Social/Health Care:
    Dementia Services Stirling, Falkirk Council, Hanover Housing Association, Midlothian Council, National Health Service Forth Valley, North Lanarkshire Council, West Lothian Council
  - Commercial:
    British Telecom, Intermediate Technology Institute, Scottish Enterprise, Sensorium, Tunstall

Objectives

- Develop home care systems that support independent living

- Create a Scottish centre of excellence in the field of home care systems

- Establish partner networks, integrate current practices

- Develop specialised laboratories and demonstration centre to showcase advances

- Provide specialised training and guides

- Establish care models for appropriate and ethical use of the technologies

Project Philosophy

- Develop home care systems for:
  - independent living
  - care in the community
  - improved quality of life
- Use technology *as appropriate*
- Aim to deal with:
  - the real needs of users
 - what is acceptable and usable

Target Users

- Those with complex care needs:
  - the users themselves
  - their formal and informal carers
  - associated health and social care staff
- Allow authorised people to:
  - view information remotely:
    alerts, behaviour patterns, well-being issues
  - modify system remotely:
    changes in client needs, new services, updates

System Overview

... Carers ...

| Healthcare | Social Work | Residential Care | Informal Care |

Internet

Cellular Network

Residential Gateway

| Inputs | Outputs | Storage |

... Users ...
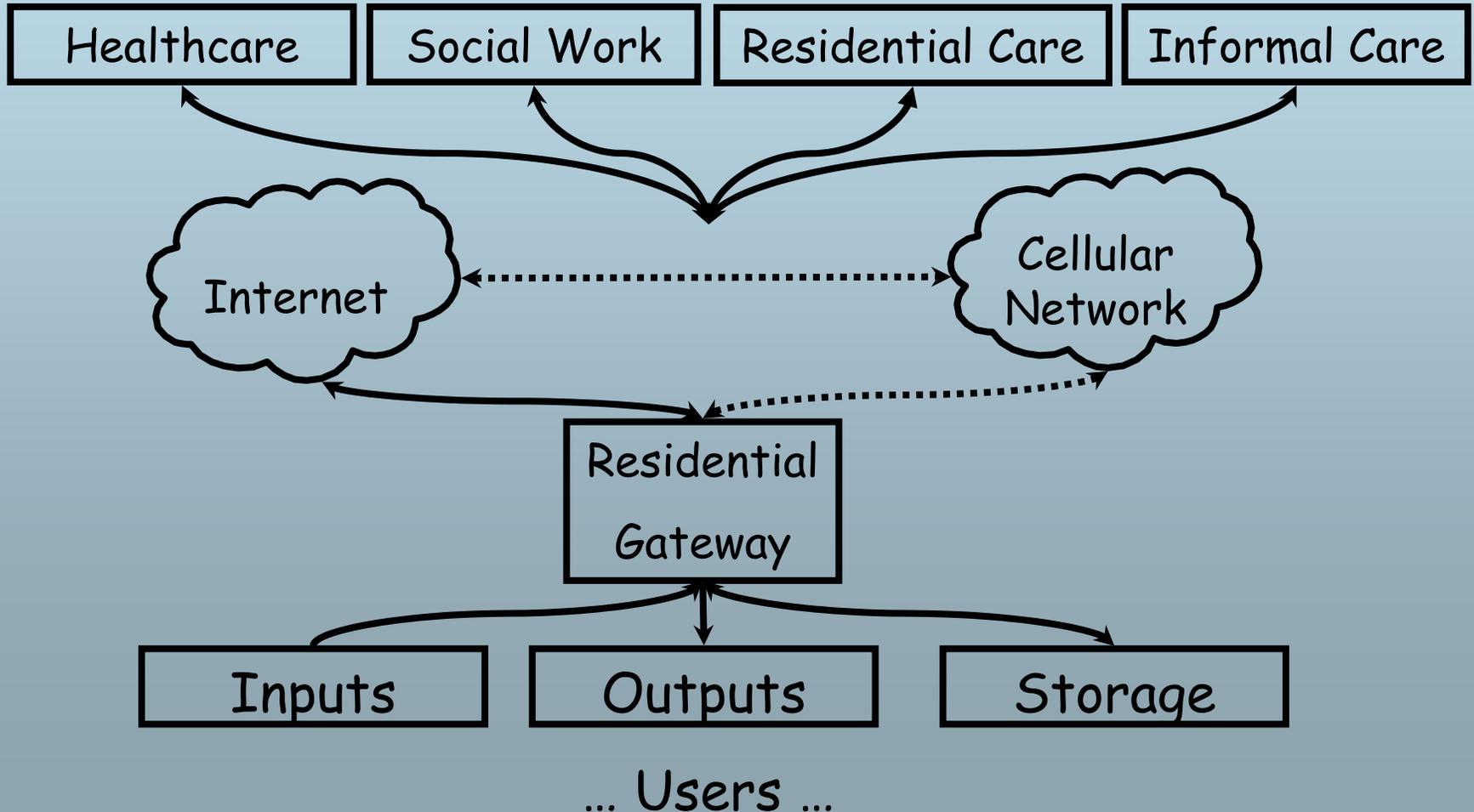
Dundee Research

- Activity Monitoring:
  - types of activity
  - data representation

- Lifestyle Monitoring:
  - patterns of activity
  - trends in daily living
  - measures of well-being

Edinburgh Research

- Speech Input and Output:
  - speech recognition
  - speech synthesis

- Spoken Dialogue Systems:
  - booking appointments
  - help with medication
  - reminders

Glasgow Research

- Multimodal Interaction:
  - multiple interfaces (e.g. gesture, touch, audio)
  - adapting to user preferences

- System Configuration and Evolution:
  - configurable by users
  - goal-oriented

- Capturing Stakeholder Viewpoints:
  - input to home care system design
  - identifying and handling conflicting views
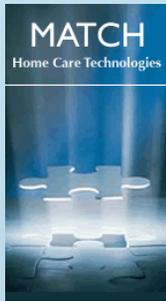
Stirling Research

- Home Care Networks:
  - create smart services using dumb devices
  - use off the shelf devices where possible
  - simplify installation and management

- Care Services:
  - communications infrastructure
  - care services built from common components
  - automated rules for how support is provided

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