



MATCH:-

MOBILISING ADVANCED TECHNOLOGIES for CARE at HOME

About MATCH:

Assistive technology helps those with disabilities cope with normal life. Specialised technology is also being used to monitor situations such as someone becoming immobile or incapable. Through use of sophisticated networking and management software, abnormal situations can be detected and reported to a responder.

The project is helping in a number of ways:

- maintaining the independence of those receiving social and health care at home
- improving their quality of life
- enhancing the care they receive at home
- easing the burden on their carers.



The project is funded by the SFC (Scottish Funding Council) from 1st November 2005 to 31st October 2009.

The project is a collaboration among the Universities of Dundee, Edinburgh, Glasgow and Stirling (lead). Each university brings a different expertise to the project and aims to build on existing work to develop research capacity in the following areas;

Dundee [lifestyle modeling]

At Dundee we intend to explore the value of lifestyle modelling from two perspectives. The first one is to consider the lifestyle of the dwelling, in terms of the business of those associated with it. The changes in the activities taking place within the dwelling are a reflection of the business of the occupant(s). Detected changes can become the basis of improved information for the occupant and can inform the discussion between the occupants and their carers, both formal and informal. The second perspective is to identify specific activities that are important indicators of well-being for specific conditions. These activities may provide insights into health and/or social well-being of the occupant, and changes may indicate a worsening of a condition or the need for care services intervention.

Edinburgh [speech technology]

At the University of Edinburgh, we are interested in speech interfaces to Home Care technology. This involves:

- teaching computers to recognise human speech
- creating computer voices that are easy to understand and pleasant to listen to
- teaching computers how to interact with users in a way that is helpful, polite, and efficient

For example, you could operate devices such as lights, windows, or alarm sensors by speaking to them. Or you could have a talking diary that will remind you of appointments on time.

Glasgow [Configurable multimodal systems]

Some of the technologies making up home-care systems will be a range of input and output devices (phones, handheld computers, speakers, microphones, TVs) and related interaction techniques (touch, speech, gesture). Home-care systems should be able to use the best set of these technologies in a way that is:

- effective in delivering care
- satisfying for its users and
- that adapts to different contexts of use.

We are investigating the most effective ways to communicate multimodally (different senses) between the users and the system, and how this can change according to who is using the system, what they are using it for, where they are using it, and the ever-changing needs and requirements of the people using it. Given the number of potential users of a home care system - from the people being cared for to the people directly involved in care, and those requiring access to the system in some way - this becomes a complex research issue both socially and technologically.

Stirling [home networking]

Our aim is to develop networks that can deliver health and social care to the home. One aspect of this is linking a variety of devices and appliances around the home. Our philosophy is to link simple devices in sophisticated ways. By doing this through software, we can easily adapt to what the user needs. We are also developing a range of services for health and social care. Our foundation is the industry-standard Open Services Gateway initiative. This allows a variety of services to be developed and deployed in the home over a network link. These services will support care, communication, information, entertainment, security, management and monitoring. A policy-based system will ensure that the wishes of all stakeholders are respected. Our work will provide a common network basis for other work in the project.