

MNT Project 72 - CHBS/004/00080C

Wireless Microsystem for Human Body Motion



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Details

- Project started - 1st October 2005
- Project completion – 31st August 2008
- Three partners
- Two subcontractors
- Project value – £1.78M



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The Purpose

- To develop a system to monitor the balance and fall detection of elderly persons
- Sensing technology to be wireless
- Trigger events to be sent over the mobile network automatically



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The partners

- European Technology for Business Ltd.
 - Expertise in motion technology systems from sensor design and specifications
 - Algorithm design
- Vodafone
 - Design data acquisition system and mobile phone application to detect stumble and fall
 - Validate balance and fall detection system in end user trials
- Zarlink
 - To enable electronic packaging to be miniaturised
 - Integration of wireless technology into the system



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The Result

- The project realised all of its objectives
- A real time sensor was developed to detect stumbles and raise an alarm when a fall occurred
- The sensor system is linked to the mobile phone
- When fall detected the phone sends a automatic message to the person defined by the user



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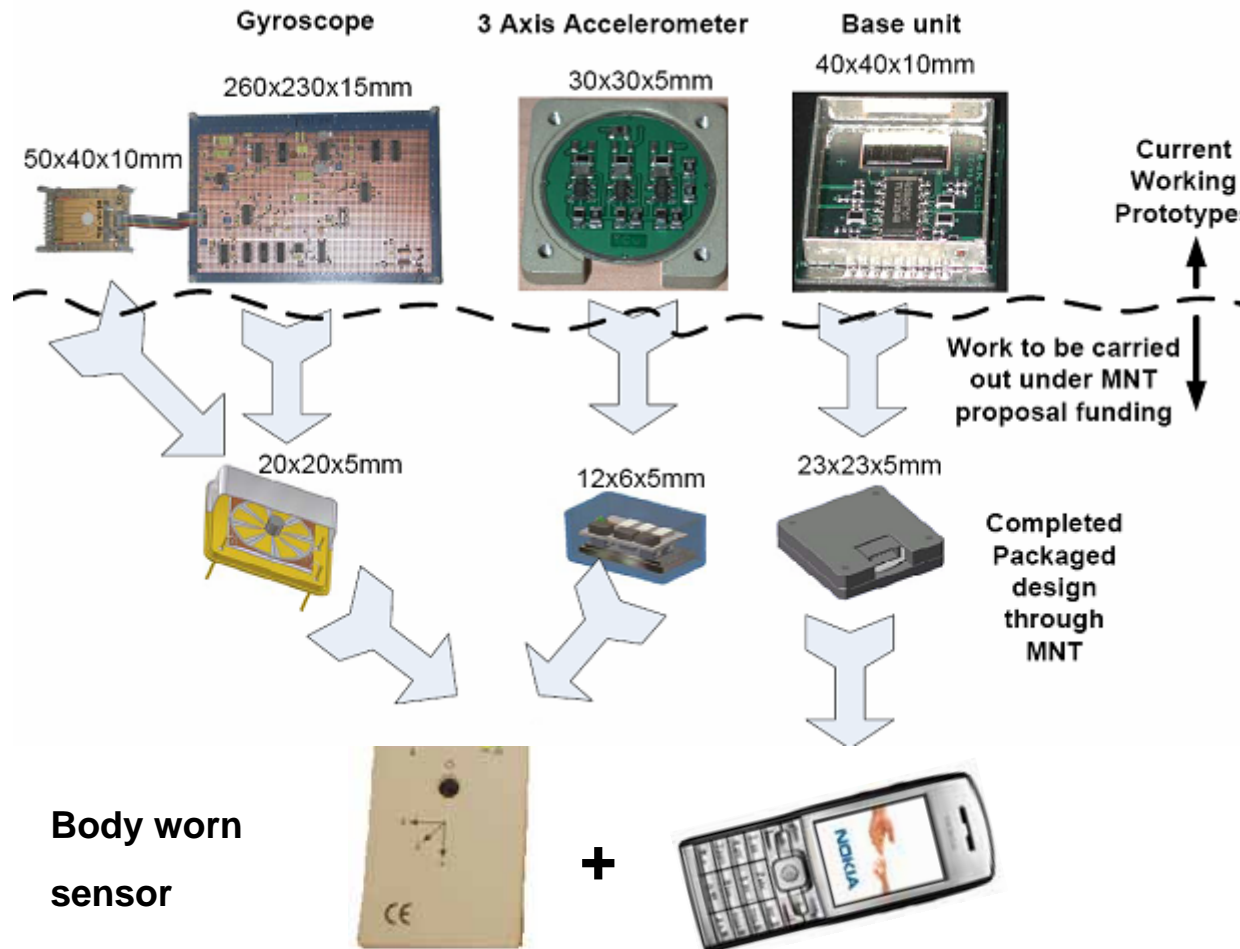
Further results

- Trials carried out in two research centres and at a elderly care home
- The modular system enabled other applications to be initiated
 - Equine stride system
 - Human gait monitoring
 - Heart Rate monitoring



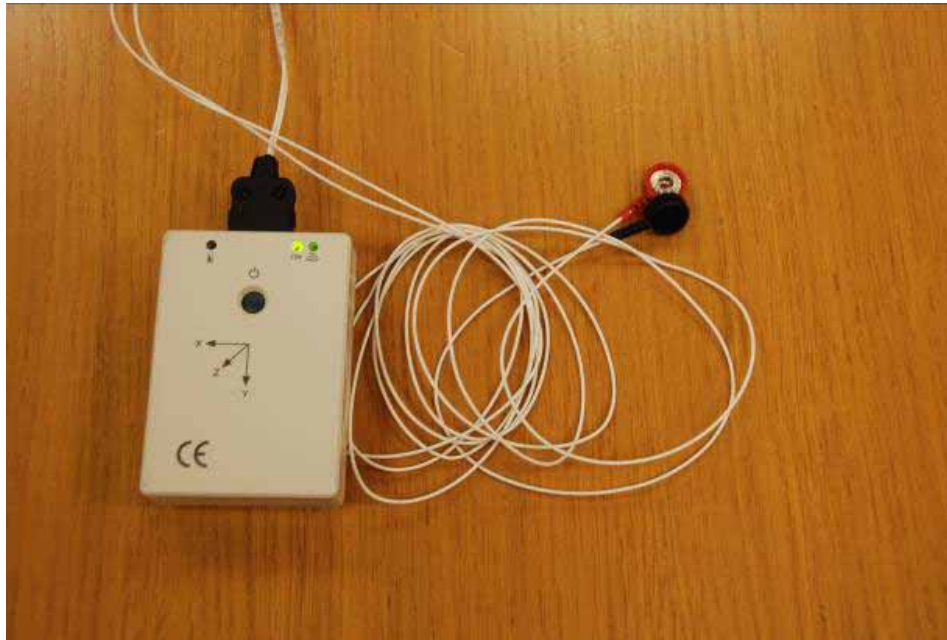
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Technology roadmap



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Developed System



One simple motion unit, can do heart rate as an option.

Algorithms detect motion then wirelessly sends stumble information to the phone. This data then sent to a healthcare centre on a daily basis.

For a fall detection, the phone is rung, if no answer, then a nominated number (concerned relative or doctor) is notified.



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The future

- ETB are looking for suitable partners to exploit the technology.
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