



Research Consortium in Speckled Computing

Empirical Assessment of Specks for Healthcare Applications

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Research Consortium in Speckled Computing



Programme

- Introductions
- Overview
- Project Presentations
- Drinks Reception
(Posters and Demonstrations)

Chronology of Events

- **23Apr08**
Presentation by DKA to the senior management of NHS Lothian at Barony Castle
- **05May08**
First meeting at Edinburgh Royal Infirmary (ERI)
- **May – Aug 08**
4 meetings at ERI organised by Nichola MacDuff
- **01Jul08**
Appointment of Janek Mann

Chronology of Events (Contd.)

- **Sept.08 onwards**
Road Show - demonstration of speckled technology to Gordon Drummond, Ian Grant, Janet Hanley, Andrew MacDuff, Brian McKinstry, Sheena Millar, Sai Prasad, Alison Richardson, David Scott
- **11Dec08**
Annual Speckled Computing Workshop
Janet Hanley, Alison Richardson, Charles Swainson
- **04Mar09**
Ethics Committee Meeting
Janet Hanley, Janek Mann and DK Arvind
- **02 May, 20 May, 30 June09**
Review Meetings of the Speckled Healthcare Pilot Study

Projects

- Non-invasive Respiratory Rate Measurements
 - (Remote) Monitoring in COPD
 - Intensive/Critical Care Medicine
 - Sleep Research
- Wireless motion capture
 - Physiotherapy (stroke, orthopaedic patients)
 - Identifying elderly at risk of falls
 - Gait Analysis
 - Smart Prosthetics

Questions

Does Speckled Computing meet existing or emerging healthcare needs?

For each project:

- How does Speckled Computing compare against existing methods
- What advantages (if any) does it offer over existing methods
- What can you do using Speckled Computing which you could not do otherwise
- Acceptability by patients
- What is the impact on the economics of healthcare

Pilot Study

- 7 months duration
- 10 patients max. for each study
- Workshop on 2nd December, 2009
- Assess the results and choose the ones to take forward for large-scale clinical trials

Headline Results

- Good concordance of respiratory rate measurements using specks and the canula
- Abnormal patterns of timing clearly shown in the breathing data from sleep research studies
- Specks could detect changes in the prosthetics alignment which was difficult to observe visually

Collaboration with the Glasgow School of Art

- Healthtrace: Exploring the Design of Speckled Healthcare Services
- 3-week project by 2nd Year Product Design Students
 - Tutor: Dan Smith
 - 27 students in 9 groups
 - Exhibition on 2nd December
- Gordon Hush –
“Designing Services, Exploring Speckled Interactions”

Speckled Computing Team

- Administrative Support – Charmaine Wilson (ccw@inf.ed.ac.uk)
- Speckled Computing Applications Centre – Janek Mann (janekm@gmail.com), Andrew Bates and Chris Davies
- Speckled Computing Research Group – Mat Barnes, Martin Ling, James Mathews, Paul McEwan, Ryan McNally, Aris Valtazanos, Alex Young

Thank you

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<http://www.specknet.org>