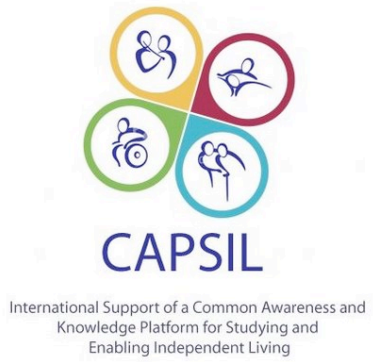

CAPSIL Project Periodic Report One
Grant Agreement: 215639
April 2008 – June 2008

Lead Author: Michael McGrath
Secondary Author(s): Rachel King, Benny Lo

Project Objectives for Period

2.11	Body Sensor Network Roadmap	2	R	PU	Month 3

Please provide an overview of the project objectives related to your work package for the reporting period in question, as included in Annex I of the Grant Agreement. These objectives are required so that this report is a stand-alone document.

The following are the objectives for the Body Sensor Network Roadmap

- Perform a baseline analysis of sensor networks focusing on the following topic areas:
  - Computational Capabilities
  - Radio Performance
  - Battery Life and Power Optimisation
  - Data Formats
  - Usability and Durability
  - Electrical Compliance
  - Contextual Collection of Data
  - Data Processing and Presentation
  - Sensor Data and Patient Outcome
  - Sensor Reliability

- Perform analysis of key research challenges for body sensor networks and document them into a roadmap document.
- Present roadmap in appropriate forums and collect feedback from content experts

Work Progress and Achievements during the Period

- Initial resources assigned to CAPSIL road mapping activates from Intel (Michael McGrath and Terry Dishongh)
- Initial resources assigned to CAPISIL road mapping project from Imperial College (Benny Lo,)
- Attendance at the initial CAPSIL Workshop held in Imperial College London. Initial subject areas for WBSN roadmap reviewed and agreed with partners. The following four areas were identified as the initial targets for road mapping activities.
    - Power and Computation
    - Interoperability and Standards
    - Usability, Practicality and Reliability
    - Clinical Benefits
- Literature review of the current state of the art in WBSN and identification of the current gaps and trends to address these gaps.
- 11th April 2008: Philips Research, Aachen Germany, Keynote "Body Sensor Networks".
- 14th April 2008: Johnson & Johnson, UK, Discussed the application of BSN for treatment and compliance (Imperial).
- 30th – 31st May 08: The 5th IEEE International Conference on Information Technology and Application in Biomedicine (ITAB 2008), Shenzhen, China Chaired the session on Pervasive Health Technology (Imperial).
- Papers presented:
    - R. Ali, M. Elhelw, L. Atallah, B. Lo and G.Z. Yang, "Pattern Mining for Routine Behaviour Discovery in Pervasive Healthcare Environments"
    - S. Thiemjarus, J. Pansiot, D. Mcllwraith, B. Lo, and G.Z. Yang, "An Integrated Inferencing Framework for Context Sensing"
- 1st – 3rd Jun 08: The 5th International Workshop on Wearable and Implantable Body Sensor Networks (BSN 2008), Hong Kong, China
  Keynote: G.Z.Yang, "Sports Body Sensor Networks" Chaired the session on Body Sensor Networks – II
- Papers presented:
    - L. Atallah, A. ElSaify, B. Lo, N. Hopkinson and G.Z. Yang, "Gaussian Process Prediction for Cross Channel Consensus in Body Sensor Networks"
    - J. Andersen and B. Lo and G.Z. Yang, "Experimental Platform for Usability Testing of Secure Medical Sensor Network Protocols"
    - L. Wang, S. Thiemjarus, B. Lo, and G.Z. Yang, "Toward a Mixed-Signal Reconfigurable ASIC for Real-Time Activity Recognition"
- 4th June 08: Hong Kong Science and Technology Park, Hong Kong, China Visiting the facilities and meetings with companies.
- 20th June 08: Lab Anniversary, RWTH Aachen, Germany, Keynote on pervasive sensing technologies.
- 23rd – 25th June 08: ICE 14th International Conference on concurrent enterprising, Lisboa, Portugal, Invited talk on pervasive sensing for elderly care.

Please provide a concise overview of the progress of the work in line with the structure of Annex I of the Grant Agreement. For each work package -- except project management, which will be reported in section 3.5-- please provide the following information. A summary of progress towards objectives and details for each task;

Highlight clearly significant results

- Initial structure of the WBSN roadmap identified and agreed.
- Literature review.

If applicable, explain the reasons for deviations from Annex I and their impact on other tasks as well as on available resources and planning;

- No deviations taken

If applicable, explain the reasons for failing to achieve critical objectives and/or not being on schedule and explain the impact on other tasks as well as on available resources and planning (the explanations should be coherent with the declaration by the project coordinator) ;

A statement on the use of resources, in particular highlighting and explaining deviations between actual and planned person-months per work package and per beneficiary in Annex 1 (Description of Work)

If applicable, propose corrective actions.

- N/A

Deliverables

A table is provided for this section on the next page.

Please list all the deliverables associated with your work package due in this reporting period, as indicated in Annex I of the Grant Agreement.

Deliverables

D2.1: Body Sensor Network Roadmap (R, M21)

Milestones

M2.1: Workshop #1 – Outline of Roadmap and structure of Wiki entries (M3)
M2.2: Workshop #2 – Initial BSN Roadmap document presented and prototype BSN WiKi entries (M9)
M2.3: Workshop #3 – First draft of BSN roadmap document and initial BSN WiKi entries (M15)
M2.4: Workshop #4 - Final draft of BSN roadmap document and BSN WiKi entries (M21)