

The Open Wearable Computing Group (OWCG) – a Concept for Standardization

Michael Lawo¹, Michael Boronowsky¹, Otthein Herzog¹, Peter Knackfuß²

¹University Bremen – Center of Computing Technologies {mlawo,mb,Herzog@tzi.de}

²InfoConsult GmbH, Bremen {Peter.Knackfuss@infoconsult.nu}

Abstract. Currently there is no single standardization organization related to wearable computing. In this paper the ideas to establish such an organisation are presented.

1 The Idea

Currently there is no single standardization organization related to wearable computing. Although organizations like ISO and IEEE/ACM deal with aspects of wearable computing and are major players in a particular technology sector, the ongoing standardization activities are spread over a wide range of different standardization organizations, addressing only isolated aspects of wearable computing as a part of a more general technological vision. These organizations are mainly focused on particular technological aspects, rather to follow a broader more systemic approach. However, successful organizations like the Open Geospatial Consortium (OGC) demonstrate that there is a need to put a strong application vision in the centre, and to group a wide range of different workgroups or special interest groups around it, helping to realize the overall vision.

A vision for the Open Wearable Computing Group (OWCG) could be: “*A world in which everyone benefits from wearable computing systems using any network, application, or platform*”. OWCG should be motivated by the fact that cooperation among technology developers, users, and integrators is necessary to solve the difficult interoperability issues in wearable computing bringing the technology from the lab and niche to an industrial standard. It is expected that during the next couple of years technologies used in wearable computing become more and more important. In the computing world it is crucial how a firm’s technology stands with respect to the prevailing standards in determining whether a technology is adopted or not.

With the integrated European project wearIT@work a mayor step to establish an Open Wearable Computing Group (OWCG) by preparing the ground for a paradigm-centered standardization body that will cope with the different aspects related to wearable computing in an interdisciplinary fashion, bringing together developers, integrators, users, policy makers, associations etc. This approach requires identifying different work groups or special interest groups concentrating, e.g., on:

- Wearable Computing Hardware like computer systems, head-mounted devices, textile engineering, body sensors, communication,

- Wearable Computing software like distributed wearable software platforms, services, HCI, context awareness, infrastructures for wearable computing,
- Wearable Computing applications like general and sector-specific (e.g., health, emergency, automotive, aircraft, ship building, logistics, consumer) or task oriented (e.g., assembly, inspection, service, repair, picking, monitoring, collaboration),
- Users and organisational aspects of Wearable Computing like acceptance, sociological and societal issues, safety, security and privacy, training, dissemination, education,
- Educational aspects, like preparation of high quality lecture material or the development and recommendation of appropriate curricula in the field of wearable computing.

These different groups are already reflected in the overall wearIT@work project structure and the project developed a concrete structure for the OWCG. However, the operation of the OWCG on a larger scale cannot be realized within the project and needs support from outside.

The OWCG will have to deal with existing work in particular areas to avoid the re-invention of the wheel. However, the OWCG will provide an easier access to existing standards, will adopt or extend them where possible, or will attempt new ones if no suitable standards exist.

2 The OWCG organization

The organization of the OWCG consists of three mayor blocks

- **Specification Program**
- **Interoperability Program**
- **Outreach and Community Adoption**

The aim of the *Specification Program* is to structure, prepare, and perform the core standardization work to be done. The Specification Program is managed by a *Planning Committee*, responsible for the initiation and guidance of the Standard Liaisons. The Planning Committee cooperates with a *Technical Committee* managing the *Working Groups* and the *Interoperability Program Management Team*. In the Working Groups the core standardization work is done where no relevant existing standards can be identified, and a need for an own standard is in accordance with the interest of the Interoperability Program.

The aim of the *Interoperability Program* is to initiate and monitor the work done in the Specification Program and is application- and branch-oriented. It is part of the user-centered approach motivating all activities of the OWCG. The Interoperability Program plays a key role in the OWCG. Here those interested in the results of the standardization are involved. Beside those interested in the application of wearable computing devices also those interested in providing wearable computing components, systems, and solutions to customers are represented. It is the “political” body of the OWCG and thus also the venue for sponsors.

The aim of the *Outreach and Community Adoption* is to provide the members, sponsors, and the public with an optimal service.