



CONTEXT DATA QUALITY IN AMBIENT ASSISTED LIVING SYSTEMS

The number of old people in the population is increasing worldwide. There are many age related health problems causing many of the elderly people to lead an assisted daily life. This is a major challenge for the developed and developing countries due to the lack of healthcare workers and the increased cost of health care. The solution to this problem may be to create an intelligent environment around the elderly using Ambient Assisted Living (AAL) systems. The AAL systems integrate different Ambient Intelligent technologies to provide healthier and safer living environment for elderly. The AAL systems are viewed as pervasive systems. In the pervasive computing environment the technologies disappear into the environment surrounding the activities.

The AAL technologies acquire context data that characterizes the entities in the AAL space such as home. It is important to ensure the quality of context data as the AAL system re-

acts and responds to the events that occur in the AAL space. It makes use of the context information derived from the context data. A lapse in the quality could be life threatening as it leads to a failure in anticipating and reacting to the user's needs. Hence it may fail to adapt to the changes in the environment.

The focus of this PhD project is to investigate the quality of context data in the AAL systems. AAL monitoring services will be developed to get a better understanding of the challenges in the problem domain. Evidence for the quality issues are collected through case studies. During this project the context data quality in the AAL systems will be analyzed from different data quality dimensions. Novel methods will be developed for data quality control and data quality assurance in the AAL systems. A framework for data quality assessment will be developed during this PhD project.



There is no existing framework for the data quality assessment of the AAL technologies. Health Technology Assessment (HTA) framework is used to assess healthcare technologies. Model for assessment of Telemedicine (MAST) is a framework used for assessing the effectiveness and contribution to quality of care of telemedicine applications. But these frameworks do not assess the quality of the context data.

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