Semantic Smart Room

Ambient Intelligence (AmI) has been an ever growing and evolving field. It is truly responsible for interconnecting numerous fields in to a whole unit[1]. The foundations of this field were set by the great visionary Mark Weiser in his tantalizing paper "The computer for the 21st Century"[2]. He termed the vision he put forward in his paper as ubiquitous computing and Mr. M.Satyanarayanan puts it in his words as;

"*Its essence was the creation of environments saturated with computing and communication yet gracefully integrated with human users.*"[3]

In order to saturate an environment with computing devices we require miniature sensors that the user is unconscious of. Such an environment will then become an immense source of data and accordingly we can work on this data to create an ambient intelligent environment. However, it is necessary to represent this data in a logical and concise manner so that we don't end up with a system that generates loads of data without any classification and, hence, creates difficulties when the times come to search through this repository. A logical representation and a better classification will lead to an efficient system that can make inferences quickly and intelligently.

We will undertake the task of designing a semantic framework for a smart room. This will include the task of designing a knowledge representation, taxonomy and logic rules for the domain of ambient intelligence. We also hope that our work will be scalable for larger problem domains such as smart buildings.

References

[1] P. Remagnino and G.L. Forest, "Ambient Intelligence: A New Multidisciplinary Paradigm," *IEEE Transactions on Systems, Man & Cybernetics: Part A,* vol. 35, pp. 1-6, 01//. 2005.

[2] M. Weiser, "The computer for the 21st century. " *Scientific American, 1995. Special Issue: The Computer in the 21st Century.*, 1995.

[3] M. Satyanarayanan, "A catalyst for mobile and ubiquitous computing," *Pervasive Computing, IEEE,* vol. 1, pp. 2-5, 2002.