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Project Plan

Aim:

The overall aim of the project is to create a web based simulator and visualizer of a smart environment that can be configured and simulated by a user. The configuration will include location placement of any items (furniture and utilities) and sensors (pressure, temperature, motion detection sensors) within the area presented and then having the ability to define rules between these items and sensors. The simulation will include the ability to let a user controlled avatar to roam the environment and interact with the items and sensors, changing values and properties of items by sensor detections and interactions. Once an interaction run is complete, the information from the simulation instance will be available to the user and some of its information will be visually graphed. There will also be an option available to the user to keep or send to a repository any sets of data for further study of potential human – computer interactions and other analysis.

Motivation:

The main motivation for this type of application is that smart environments are difficult and expensive in term of money and time, to setup, implement, test, maintain and make usable, configurable. These difficulties can be over-come by making a virtual environment for engineers and researchers interested in smart environments. Difficulties that have been presented similar attempts at this work before include the largely undefined formats and heterogeneous nature of the data both required and extracted from the simulations of a smart environment.

Smart environments are becoming increasingly desired especially in the application of creating smart homes to aid the automated care of elderly or disabled people. With the elderly population increasing

Required resources for the project:

The only hardware necessary includes a suitably equipped PC with administration privileges to research and experiment possibly useful software tools related to the areas of study.

The software required varies greatly. It includes;

* Access to research papers related to studies in smart environments.
* High quality internet usage and access.
* The use of Java and any other programming languages involved in creation of web applications.
* A group of programming frameworks and libraries available for use.
* A capable and preferably highly commercially used IDE and plugins to aid the development of the project.
* A repository to help version control on completed work and to help show progress task by task.

List of tasks and subtasks:

* Research in smart environments.