Introduction

• Goal
  • Research & Develop a distributed application for the monitoring and control of smart building systems

• State of the Art
  • Service Oriented Architecture and web technologies have facilitated the development of distributed computing.
  • Open Internet standards have assisted the reuse and interoperability of distributed software.
  • Buildings consume 40% of all energy and can yield immense savings on energy conservation.
  • Existing research focused on interoperation of smart building systems.

Smart Building Management

• Building Systems are automated but require monitoring and control
  • Device and sensor activity is monitored remotely by facility managers
  • Device changes are required by facility managers
  • Applications allow remote monitoring and control

Research Challenges

• Interface to Building Smart System
  • Implementing the interface to an existing smart building system was tedious to implement and test
  • Dynamic model building and real-time data retrieval
  • The dynamic nature of the data model and information retrieval was technically.

• Servlets and Web application technologies
  • Web technologies are prolific and readily available and their implementation for smart buildings was a logical solution to the challenge.
  • Ontological applications proved unwieldy and verbose for this research application.

Conclusion & Further Work

• DEMAC provides an interoperable & distributed application for SBS
  • DEMAC provides Horizontal and Vertical scalability for many large distributed buildings
  • To further provide interoperability with the use of open building standards, additional web services are needed.
  • Security Authentication of the application is also necessary.

Further Information

• Contact Information
  • Web: http://www.cs.tcd.ie/~kevittm/
  • Email: kevittm@tcd.ie

M.Sc. in Computer Science
(Networks and Distributed Systems)