

CIEMAS: The Anatomy of a Living Building

Web Page Proposal

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Introduction

The focus of this web page will be on exposing the "insides" of the newly constructed CIEMAS building. While everyone can see the exterior of the building and take note of the architectural features, very few people realize that CIEMAS is also very much a living building. Because it was built with many different monitoring and automation systems, CIEMAS has the potential to be used as much more than just a physical space for research and teaching.

Since the inhabitants of CIEMAS are engineers and are by nature interested in sensing, monitoring, and analyzing physical behavior and physical environments, it is a perfectly natural next step for them to do that in the context of their own building. Our web presentation will outline not only which systems are currently in place, but it will also look at the possibilities for how the systems could be used in the future for expanding and improving the relationship between the occupants of CIEMAS and the building itself.

The Monitoring Systems of CIEMAS

Climate Monitoring and Controls

The SIEMENS system controls the temperature throughout the entire CIEMAS building. It would be interesting to highlight the other climate factors that the system can centrally regulate.

There is a rain gage installed on the roof of Hudson Hall (the building directly across from CIEMAS), and although it is currently not in operation, it could easily be resurrected to do so. Also, a wind speed and thermometer could be easily added, giving CIEMAS a complete microclimate weather station.

Lighting and Visual Systems

Most of the rooms in CIEMAS have automatic controls. The webpage would discuss the motion sensors and how they are used to control the lights and visual equipment. The webpage will also include information on the streaming webcam and could discuss what other features of the rooms could be controlled in the future.

Physical Systems

Strain Gages in pedestrian bridge could be linked to webcam to show students walking across and the bridge responding to the loading.

The website could also include information on how CIEMAS water consumption is monitored and the use of the Dukecard network to keep records of who is accessing the building.

Other Systems

Other topics include the "Sound Room", the intranet computer network (for gathering network traffic information).

Sources

- All media will be collected by group members.
- The Chronicle Archives and engineering publications could serve as reference.
- A group meeting with Mike Baptiste and/or Myron Taschuk.
- Information currently on the Pratt webpage about the skywalks and visualization lab.
- Architectural/Engineering Drawings?