Axiomatic Technology Ltd

Space Management

UTS And Axiomatic
University of Technology, Sydney

Company profile
- Formed in 1994
- People counting specialists
- In-house development teams

Summary

The aim of the project was to explore the use of people counting systems to automated reports of space utilisation and room usage in the University. Using thermal people counters together with our specialised people counting software enables the University to produce on-going, accurate reports that are integrated with the timetable resulting in reductions in energy use, informed planning and reduced building and development.

Project partners

University of Technology, Sydney, Axiomatic Technology Ltd, TPS, Irisys

The problem

Space is both an asset and a significant cost to Universities so most will carry out usage studies to ensure it is being used as efficiently as possible and to determine future requirements. Like many institutions, UTS previously carried out their room usage monitoring studies manually (contracting people with clipboards for a week) which was labour intensive, expensive and produced inaccurate snapshot data which didn't integrate with the timetable. The University needed a solution which was much less disruptive to staff and students and would produce more realistic information that remained up to date.

The approach

The concept involved using ceiling mounted thermal imaging people counters to count students in and out of rooms (from small meeting rooms to 300 seat lecture theatres). The software monitored the people present during a 30 minute period and then compared that with the timetable data. The data produced enabled UTS to monitor the frequency of use of a space, the occupancy and the utilisation. It also identified where rooms were underutilised regularly and by which department, allowing changes to be made to which rooms were booked by whom. Control of the HVAC based on the people counting solution was also trialled.

Our goals

- Provide information about the usage of various rooms across campus
- Provide data on student attendance for various departments
- Improve space utilisation
- Reduced energy usage by tailoring heating and ventilation based on occupancy
- Inform future development needs

Obstacles and solutions

(two columns of bullet points - up to 5)

Obstacles	Solutions
Initially, reports were presented as Excel	Axiomatic developed dynamic web based reporting which

spreadsheets but as the project grew, these became unwieldy and a more elegant solution was required.	enabled users to create ad hoc queries with filtering to allow UTS to drill down to much more detailed reporting.

Performance and results

The partnership worked well and UTS are able to gather real time data giving meaningful space utilisation reports. The system enables UTS to plan future developments based on actual need and have already been able to avoid costly developments after finding that they already had adequate space which just needed to be used better.

They are also able to track attendance, highlight no-shows and lecturers are more conscious of only booking the space that they need. The next stage is linking the HVAC to the people counting system in order to control the heating and air conditioning based on whether spaces are occupied or not.

Lessons learned

Collaboration with partners is key and this project has worked well as Axiomatic carried out the development with UTS and TPS providing continual user feedback. Weekly discussions were held on how the system was being used and what features were desirable. The result is that the system designed has been continually tested and refined, using real test data. UTS benefitted from their strong input and the system reflects the needs of a University.

Further information

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