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Responsive Urban Lighting

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RESPONSIVE URBAN LIGHTING

WORKSHOP



Picture serie from a two week experiment conducted at Kennedy Square in Aalborg 2012. The light follow people as a white aura when they move over the square.

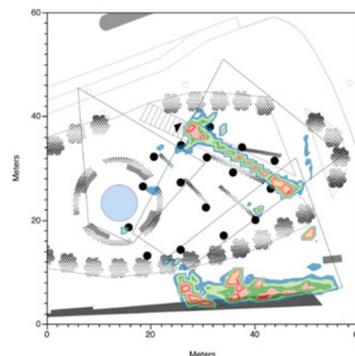
Description

This workshop will celebrate an experimental practice and, through 1:1 scale experiments in the wild, develop new knowledge in crafting interactive lighting scenarios, that are both beautiful and time efficient to realize. The workshop addresses questions such as: How can we systematically design lighting behaviours in public spaces? To what extent does responsive urban lighting affect our experience of architecture as well as the social protocol? What are the implications on safety, efficiency, social interactions, design, commercial, and aesthetic response patterns in interactive lighting design?

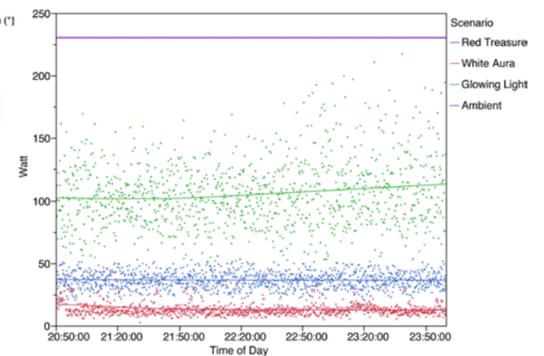
In the morning session of the workshop, participants will be introduced to a thermo camera tracking system, a design tool for mobile phones and design methodologies in public responsive lighting. During the afternoon session participants will be using a system that has been developed to distinguish various occupancy patterns in public spaces. For example, events such as encounters, long term occupancy and “passing through” which result in digital signals that can be used to affect lighting patterns.

During the workshop participants will develop multi-user interaction scenarios for urban lighting and, through simulations on architectural models, test different designs. The final outcome will be displayed in the city of Aarhus on a 1:1 scale model and thereby turn the public space into an ‘urban laboratory’ while allowing the participants to observe and evaluate social, aesthetic and energy related qualities of different responsive lighting designs.

“How can we design lighting behaviors in public spaces that adapt to the situation? and to what extent does responsive light strategies affect our experience of architecture as well as social protocols?”

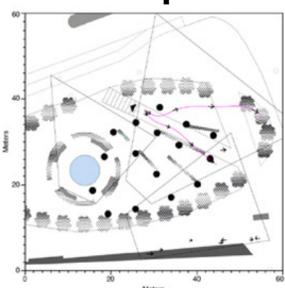


Occupancy map of Kennedy Square in Aalborg during a two weeks experiment in November. The map shows counting number of observed persons in 1x1 meter cells sampled per 10 second.

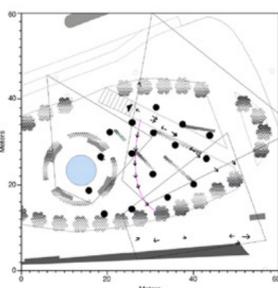


Energy consumption: The graph show energy consumption for 4 illumination scenarios, tested in February. The fluctuations around mean are due to the light effect being set according to the level of activity at the square. **There is more than 90 % difference between the conventional light strategy and the best performing responsive strategy.**

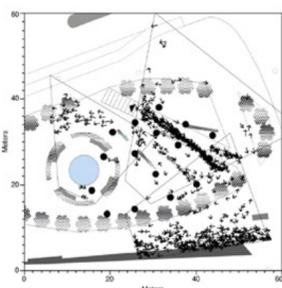
Flow maps



One minute trajectories for two persons splitting up.



Two minutes trajectories, with one person showing a distinct path towards the bank located on the square.



One hour flow map, that clearly demonstrates the use of the square.

Research Team

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