

24. Intelligent lampposts warn crowds in emergency situations

It is difficult to inform crowds in emergency situations because communication is hard and slow, and because people are panicking. Still, the public should be informed. The intelligent lamppost (iLP) informs authorities and general public in an intuitive way in case of emergencies. The lamppost can change its light by color, intensity, pattern and direction. Thus it can show the place of an emergency to first responders or direct people to exits.



The intelligent lamppost is part of a larger ecosystem of autonomous emergency detection and communication. Our demo only shows part of this ecosystem, namely its lighting capabilities. Part of the demo is a model of a festival terrain with ten fully functional miniature lampposts demonstrating how they coordinate their actions.

ICT science question

The scientific question is in the area of intelligent interfacing: how to apply intelligent lampposts in an intuitive way, such that people immediately understand what the lamppost is trying to 'tell' them. Some attempts have already been made to apply intelligent lighting (e.g. in Rotterdam and Groningen), but not as extended or smart as we propose.

Application

At present there are only lamps available that can change intensity, but they are limited in function. Our intelligent lamppost goes a few steps further. We develop the intelligent lamppost for the emergency festival scenario, to inform the public during big events. This scenario shows the crucial features of sensor networks for public safety: not only lighting, but also communication and smart detection.

Our research partners are the Dutch police, Tendris, Strukton and the University of Twente. The



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technical design and the interface of the lamps is ready but needs testing. Applications are in the conceptual phase.

Alternative Application

The functions of our intelligent lampposts can be generalized to any kind of situation in which there is a wish to make people aware of their environment. The lamp can for example show the level of pollution or noise in a city. And a moving window of streetlights might turn blue to show that an ambulance is approaching.

Nice to know

Intelligent lampposts not only enhance safety, but also save energy and produce less light pollution.

Quote

"This looks very promising and we should test the lights on our campus."



The dynamic lighting conditions provided by intelligent lamp posts, give opportunities to improve safety and traffic control and are a first step towards the intelligent environment.



Sensing applications provide a flexible and ubiquitous means to influence the behaviour of people in outdoor environments.



Dynamic lighting offers a new means to implement strategies for public safety and traffic control.



Dynamic lighting conditions provide a new means to communicate with people.