# AN APPROACH FOR DEVELOPING MOBILE URBAN MEDIA BASED ON EMERGENCE

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## 1. Introduction

With the advent of ICT (information and communication technology), urban components are becoming increasingly embedded with media devices and networked through the Internet. Urban media such as urban screens, bus shelters, and media facades are in turn affected by this development. Urban space becomes the site where new interactions are generated, going beyond traditional notions of interaction, and urban media are progressively shifting from a mechanical paradigm of "interactivity" toward a biological one, as in the cybernetician's vision (Bier and Knight 2010). Thus, this research aims to propose a new method for designing and developing mobile urban media that support biological phenomena based on an emergent approach.

This research is part of an on-going project for creating new outdoor media as living machines. In order to prove the viability of this proposed method, this study develops an urban simulator as a prototype for creating new mobile urban media.

## 2. New Mobile Urban Media

The mobile urban media platform proposed in this paper is a multi-agent system that broadly consists of hardware and software. The hardware is composed of GPS-based mobile urban media with several modules, including outdoor display screens such as on bus exteriors and taxi tops. The software takes the form of an LBS-based application in order to control diverse types of contents in the urban context.

When mobile urban media enter a media zone which is allowed to construct the hierarchy between the mobile urban media through simple local interaction, various elements of suitable content in specific urban contexts

are produced by the interactions between mobile urban media. For example, a big screen with coherent contents overall can be generated on the road through the collective behaviours of bus exteriors and taxi tops. Moreover, these vehicle media can respond to different urban media. To prove the validity of the emergent approach to new mobile urban media, a prototype of the simulation environment is being developed (Figure 1). This urban simulator will express diverse scenarios with new mobile media based on emergence.
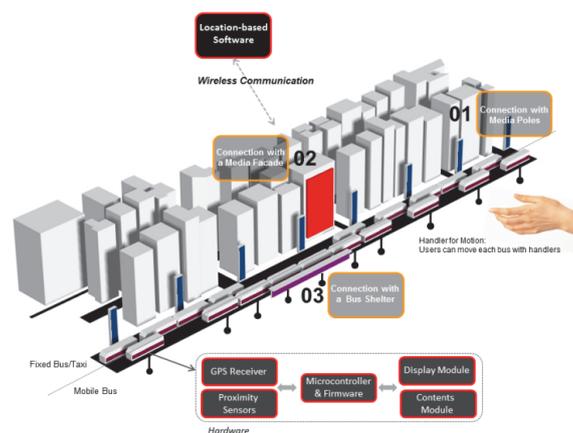


*Figure 1. Simulator for New Mobile Urban Media*

## 3. Conclusions

Technical advances in information, media, and interaction technology inspire us to take new concepts and ideas in urban media and realize them. Now various forms of urban media are progressing in biologically inspired, holistic directions, and it is time for such urban media to be implemented. This study is expected to contribute to a new approach for designing mobile urban media and push these emerging urban media in a new direction. The proposed prototype is currently being developed.

## Acknowledgements

## References

Bier, M. and Knight, T.: 2010, Digitally-Driven Architecture, Footprint Delft School of Design Journal, vol. 6, 1-4.