

Annex A

Purpose, justification, use cases, and installation examples of “Visible Light Beacon System for Multimedia Applications”

A.1 Purpose

There is a market need to use location-specific multimedia data for consumers. Such data includes location-specific multimedia contents, advertisement, security messages, and navigation information. The purpose of this proposal is to use solid state lights such as LED lights for sending such data by modulating light intensity.

A.2 Justification

There has been no proposal in IEC to make a standard using visible light of solid state lights. Therefore, it is necessary to develop a method of visible light communication and its system for sending data using lighting equipment. This proposal will enhance multimedia device market.

A.3 Possible use cases

There are several use cases of visible light beacon system as shown below.

A.3.1 Visible Light Beacon System for multimedia devices receiving location-dependent advertisement multimedia information from digital signage

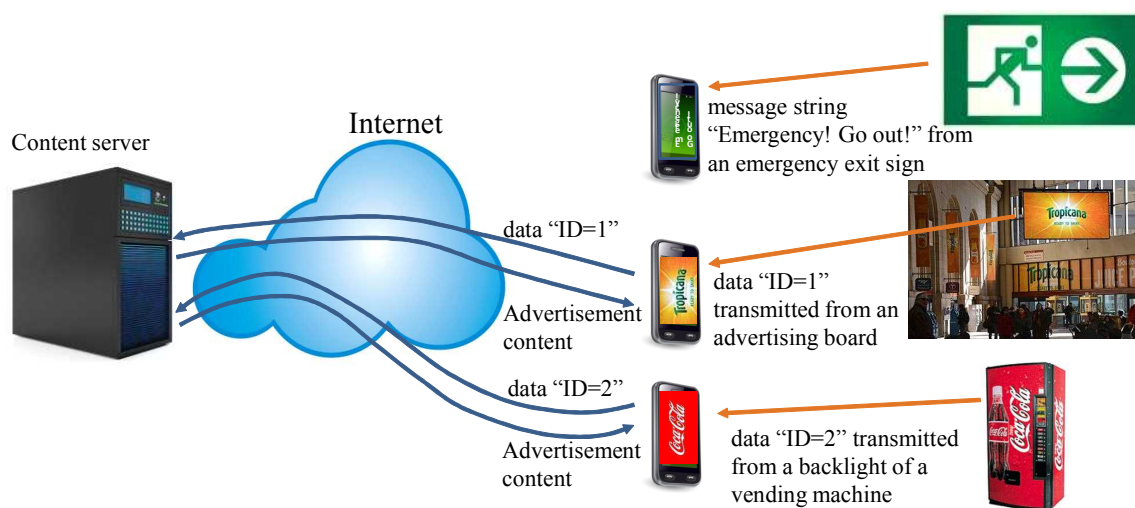


Fig. 1 Visible Light Beacon System for multimedia devices receiving location-dependent advertisement multimedia information from digital signage

Fig.1 shows Visible Light Beacon System for multimedia devices receiving location-dependent advertisement information from digital signage. Content ID is sent from an LED light, and a terminal retrieves various location-dependent contents directly from the light or from a server.

A.3.2 Visible Light Beacon System for guiding and navigation system

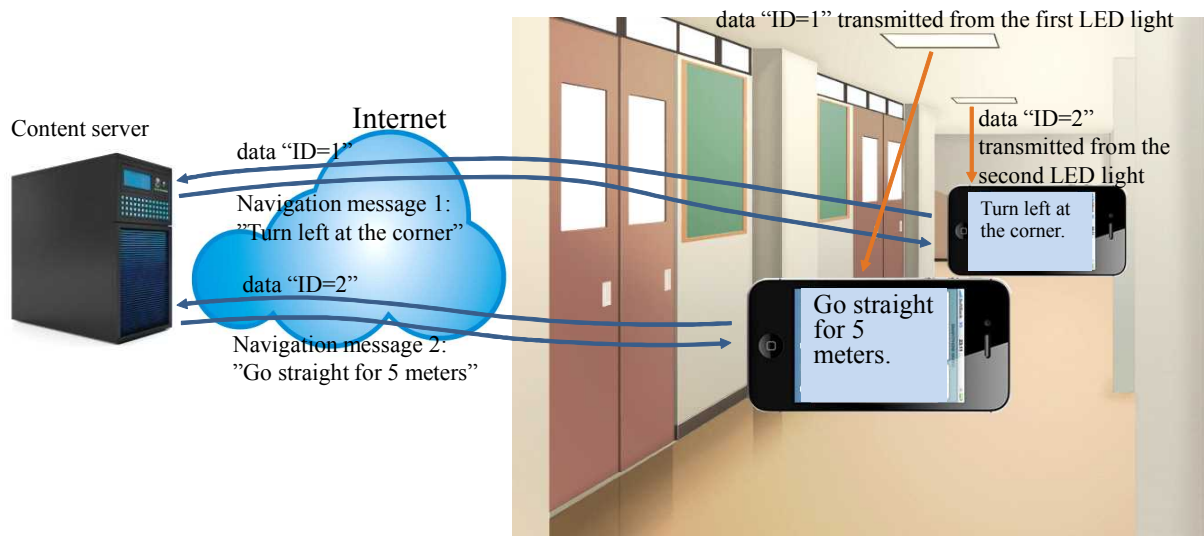


Fig. 2 Visible Light Beacon System for guiding and navigation system

Fig.2 shows Visible Light Beacon System for guiding and navigation system. Location ID is sent from an LED light, and a terminal retrieves a navigation message with that ID from a server.

A.3.3 Visible Light Beacon System for multimedia devices receiving multimedia information from a TV backlight

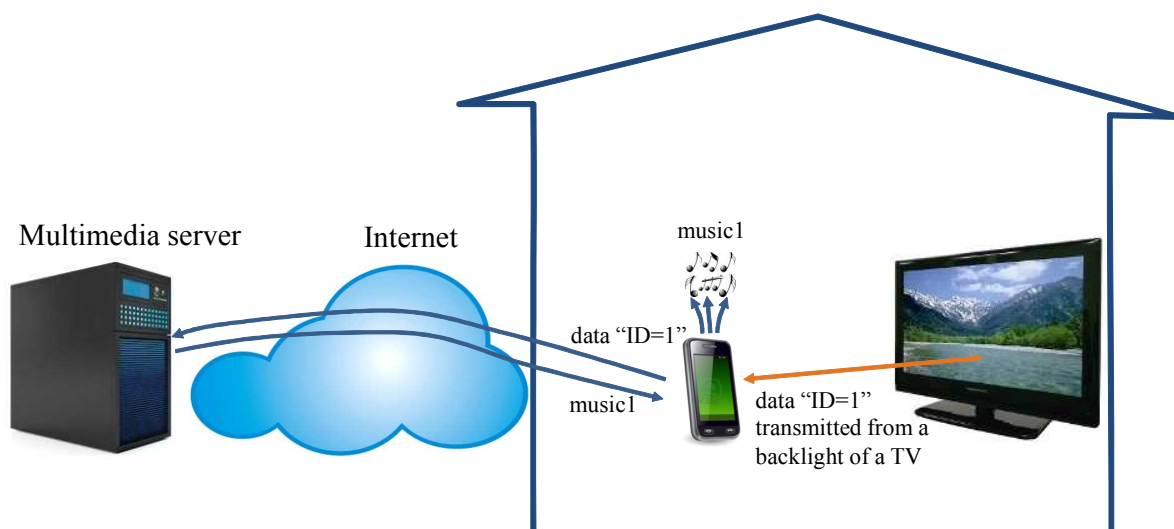


Fig. 3 Visible Light Beacon System for multimedia devices receiving multimedia information from a TV backlight

Fig.3 shows Visible Light Beacon System for multimedia devices receiving multimedia information from LED light. Music ID is sent from an LED backlight of a TV, and a terminal retrieves, for example, the music associated with the TV contents.

A.4 Installation examples

There are following installation examples that had been tested in a real environment.

A.4.1 Visible Light Beacon System for a game to receive fun contents from an LED light from inside a fish tank: February 2010



Fig. 4 Visible Light Beacon System for a game to receive fun contents from an LED light from inside a fish tank

Fig.4 shows Visible Light Beacon System for a game to receive fun contents from an LED light from inside a fish tank. Visible Light Beacon System where fun contents from a waterproof LED light are sent through water to a customer.

A.4.2 Visible Light Beacon System for indoor navigation for the visually impaired: February 2012

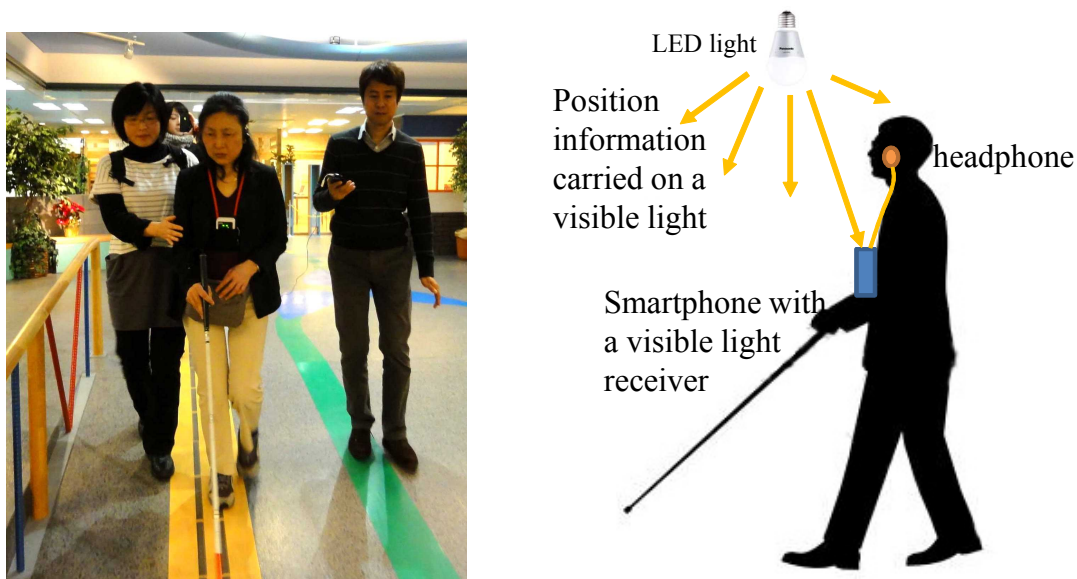


Fig. 5 Visible Light Beacon System for indoor navigation for the visually impaired

Fig.5 shows Visible Light Beacon System for indoor navigation for the visually impaired. Visible Light Beacon System detects the position of the visually impaired and sends audio sound of navigation information to him/her.

A.4.3 Visible Light Beacon System for smartphone users indoor: April 20

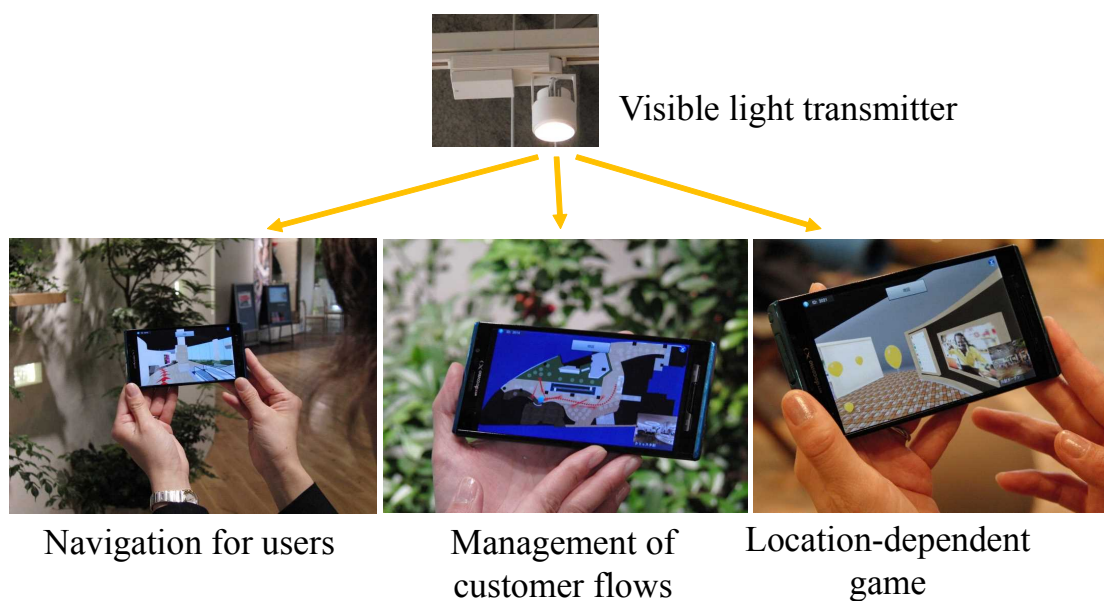


Fig. 6 Visible Light Beacon System for smartphone users indoor

Fig.6 shows Visible Light Beacon System for smartphone users indoor. Visible Light Beacon System sends ID and a smartphone provides multimedia information to a user.