



Licensing opportunity

e-Doorman - an intelligent door security system

Field of use

An intelligent door security / surveillance system

Current state of technology

Stage of development The solution prototype has been demonstrated and tested. The technology is ready for joint development of the commercial applications.

Patent status

TBA

Publication

TBA

Developed by

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Reference

TBA

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Background

Slovenian researchers have developed an electronic intelligent door security system able to recognize the users, detect unusual entry/exit, break-in and break-in attempts, predict user presence and offers personalized services and remote control using intuitive GUI or virtual assistant that understands natural language. Researchers are looking for companies interested in licencing in the invention and technical cooperation.

Description of the Invention

e-Dorman is an innovative and cost effective autonomous security and surveillance solution for private homes, apartments and holiday apartments. In addition it can be effectively used for offices and hotels. Even though the system is stand alone solution, primarily aimed at integration into existing doors, it can be adjusted and integrated into existing security and surveillance systems, such as access control, anti burglar systems, smart home applications and other automated home subsystems which need additional level of functionality.

Main Advantages

Advantages / Invention:

- automated user recognition
- detection of unusual user behaviour (entry/exit)
- detection of break-in attempts
- prediction of user presence
- personalized services such as customizable notifications and alarms, relevant information, voice messages, greetings and tips
- remote control using intuitive GUI or virtual assistant that understands natural language

The e-doorman is an intelligent system able to recognize the users, detect unusual entry/exit, break-in and break-in attempts, predict user presence and offers personalized services (customizable notifications and alarms, relevant information, voice messages, greetings and tips) and remote control using intuitive GUI or virtual assistant that understands natural language. e-Dorman is based on a door with electro-mechanic lock, tablet PC, micro-controller and an array of sensors that offers services similar to a human doorman, improves security and increases user comfort. The sensors gather data about events related to the door which are used for context based reasoning and awareness achieved by artificial intelligence methods running on the tablet.

We developed a minimum mobile e-Doorman version of the system that transforms a tablet PC into a video surveillance device. It uses state-of-the-art machine vision algorithm to detect motion in real-time.

When motion is detected, it stores pictures of the moving object to SD card and sends alarms via SMS to desired phone numbers and/or e-mail with attached pictures to desired e-mail addresses. The app can also be controlled remotely via SMS using a free complementary app. When surveillance is turned on the app works in stealth mode, monitors power supply and sends warning when power is lost or low, and automatically accepts incoming calls from selected phone numbers to allow remote listen in function.

Features of the minimum mobile e-Doorman version are:

- State-of-the-art machine vision algorithm for motion detection
- Send SMS alarm
- Send e-mail alarm with pictures
- Store pictures to SD card
- Remote administration via SMS (free dedicated app)
- Power supply lost warning - Remote listen in function
- Password protected
- Multiple users
- Events log
- Stealth mode - Runs in background
- Automatic restart after system reboot
- Event list filters - Working on android 4.1
- Gallery of the captured images
- Password can be reset (e.g., if forgotten)
- Quick set-up wizard
- Landscape GUI mode
- Receives SMS in background (runs as service)
- Notification bar added