

A Management System of Security Devices in a 3D Virtual Space

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Kwan-Hee Yoo

Chungbuk National University, Korea

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I Introduction

II Standardization Items

III Specification

I. Introduction (1/2)

Motivation: Format for managing X3D Security Devices

● Applications of X3D

- - CAD
- - GIS, Earth
- - Medicine
- - E-Learning
- - Management of Security Devices

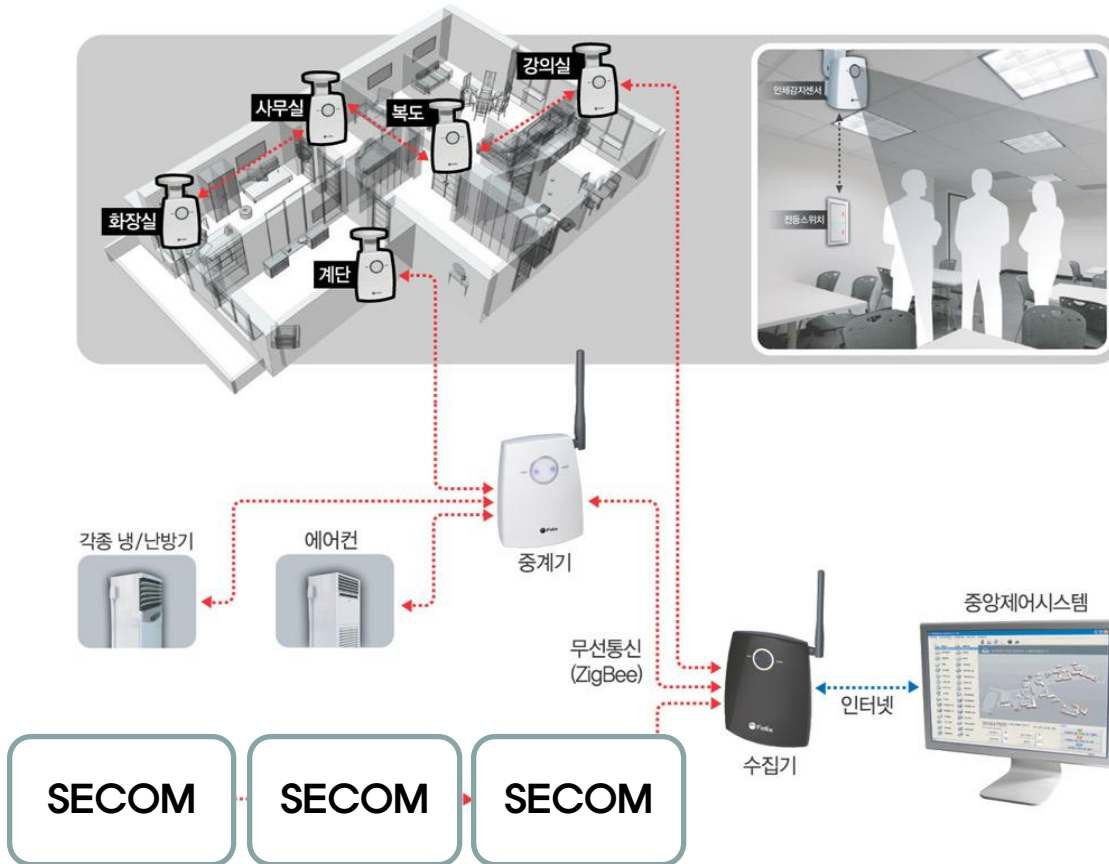
● Requirement of visualization of security devices such as SECOM, CAPS, ADT, etc in a 3D space by using X3D

● Requirement of monitoring of security device' state information: sensor value, status, location, GPS

● Simulation of working state of security devices by using X3D

I. Introduction (2/2)

3D Security Devices Management System



Monitoring

- Security Devices Working Status Monitoring in Office or House represented as 3D

Remote Control

- Control Security devices

Scheduling

- Working scheduling of the security devices

II. Standardization Items for 3D SDMS

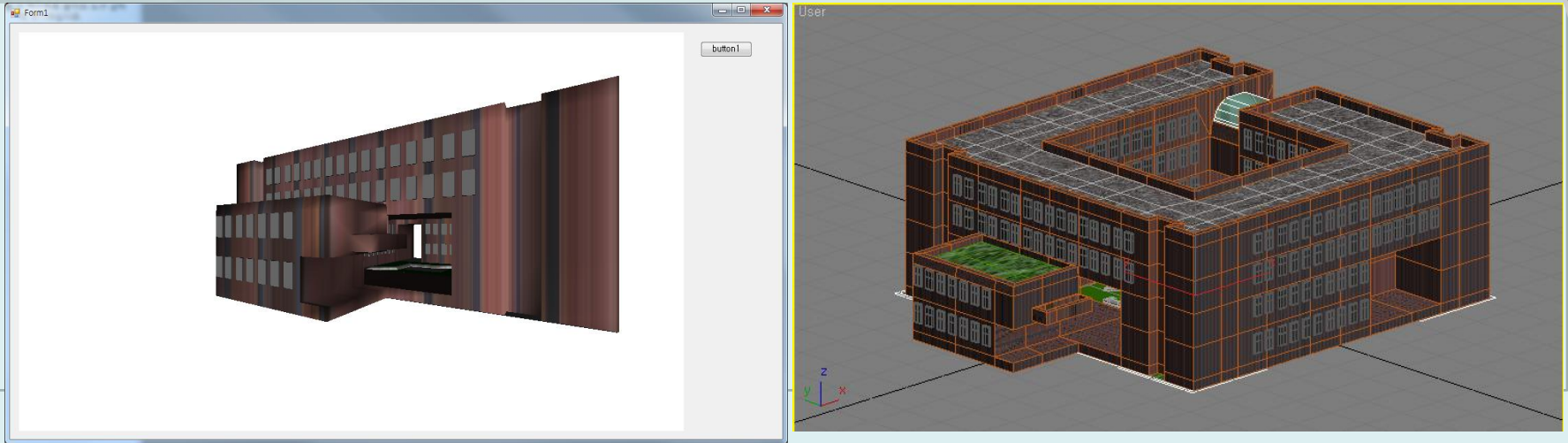
3D Modeling for Security Devices

- X3D based Whole Building Model
- X3D based Security Devices Model
- Detection of Location Automatically by management of security devices over Wireless Network
- Display status information of security devices in 3D model

Monitoring Security devices in 3D based SDMS

- Can manage security devices entirely in 3D building model
- Setting, changing, deleting security devices in 3D model.
- Use GPS, Wi-Fi, RFID, UFID to identify security devices

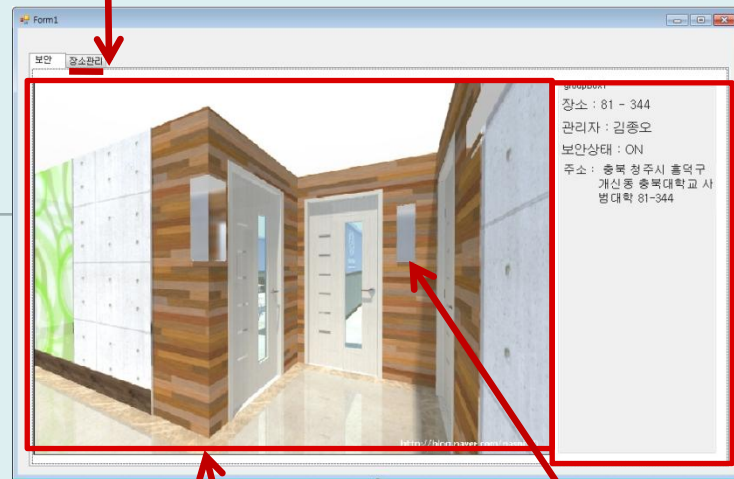
3D Building Model



College of Education, Chungbuk National University, Korea

Operating Environment of 3D SDMS

Adm. Location management:
Retrieve devices and add location of devices



Location Information :
Display/Update

3D Display

Security Device
: Status on/off, Color

Demo

III. Specification of security devices

SecurityDevicesNode

- **Identification Field: should contain location information in real world**
 - **GPS node**
 - **RFID, UFID**
 - **Physical position (3d position)**
 - **Logical location (building #, room #)**
- **Status Field: On/Off**
- **Field for Physical Properties for security Devices**
 - **Description**
 - **Attributes**
 - **Types**

III. Specification of security devices into X3D

Operations for SecurityDeviceNode

- **Status information**
- **Retrieve**
- **Add**
- **Delete**
- **Update information**