Smart Housekeeper Robot with Android

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Purpose of the project

Smart Objects

Mobile Robot

Soft Controller

Smart Phone
Purpose of the project

Smart Objects

Soft Controller

House keeper
Robot

Mobile Robot

Smart Phone
Who will benefit?

- Evacuee due to natural disaster
  - Worry about house security?
  - Want to keep eyes on damages?
  - Forgot to close a gas valve?

- Business traveler
  - Miss your house?
  - Want more time with your family?

- Lazy people
  - Want to turn on AC before you come back
  - etc…
Key Technologies

- **RFID:**
  - Smart object detection

- **SQL:**
  - API storage
  - Objects management

- **Arduino:**
  - Robot control
  - Xbee communication

- **Android:**
  - Video stream
  - Plug-in based API management

- **Java:**
  - Controller-Robot matching
  - Server / Client
  - Socket programming
  - Password authentication
Architecture

Robot

RFID Reader

Arduino

Android

Internet

TV

light

Xbee

Turing

MySQL

Robot Client

Controller Client

light
Robot Client Connects to Server

- Robot Client
- Controller Client

Set Id & pass...
Log in / video stream

Robot Client

Video stream

Controller Client

Id & pass

Id & pass

light
Control the Robot

Robot Client

Controller Client

Robot

RFID Reader

Arduino

Xbee

TV

light

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Scan RFID

Find TV

Find light

Robot Client

Controller Client

API
Security?

- Off course, all are taken care of:
  - Ciphered communication
  - Password authentication
  - Owner authentication to control each object
  - Object management based on unique RFID
  - etc
Live Demonstration

Let’s control a robot in my house!