

Smart Housekeeper Robot with Android

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Purpose of the project

Smart Objects



Soft Controller



Mobile Robot



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

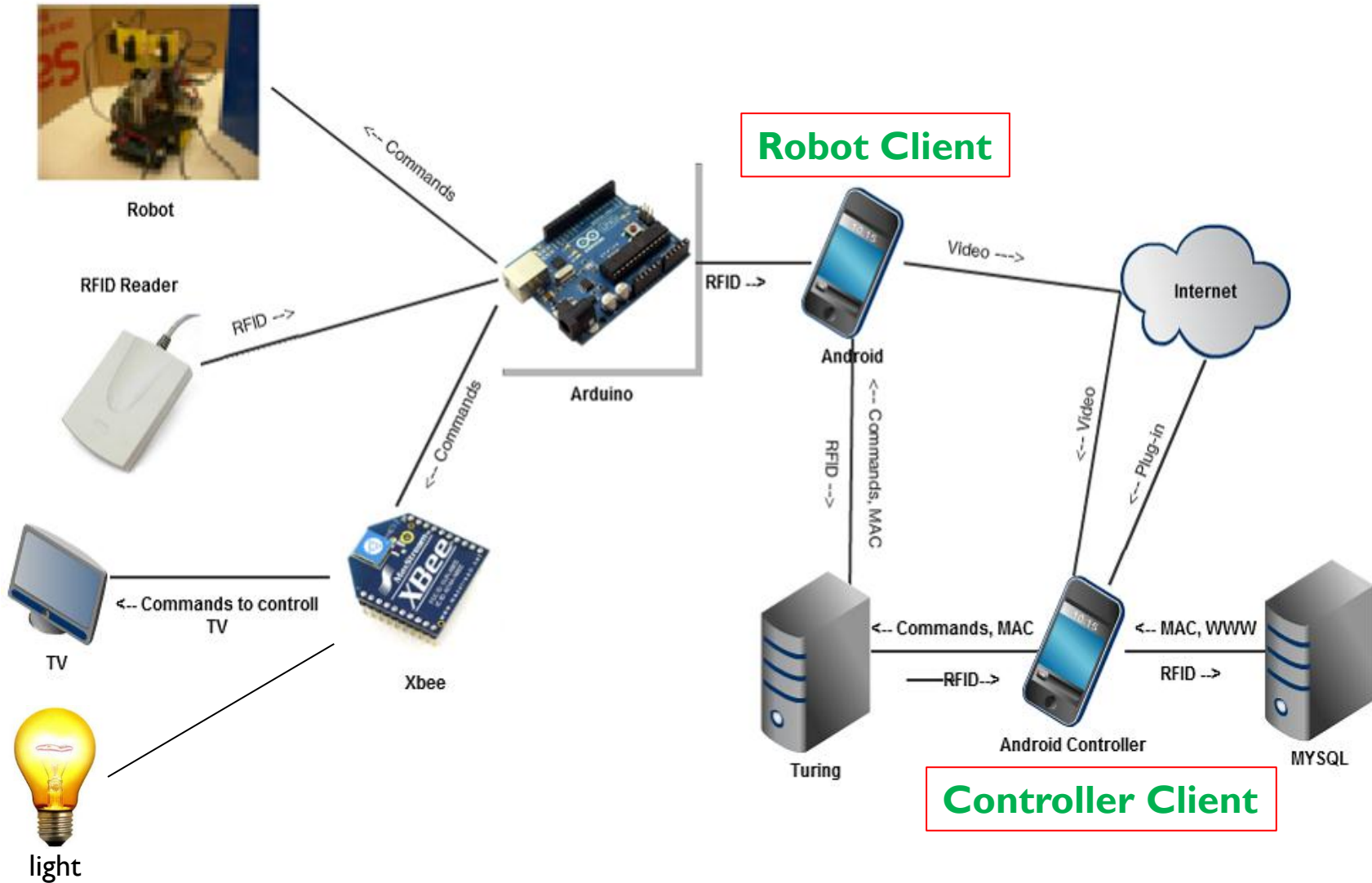


- **Java:**

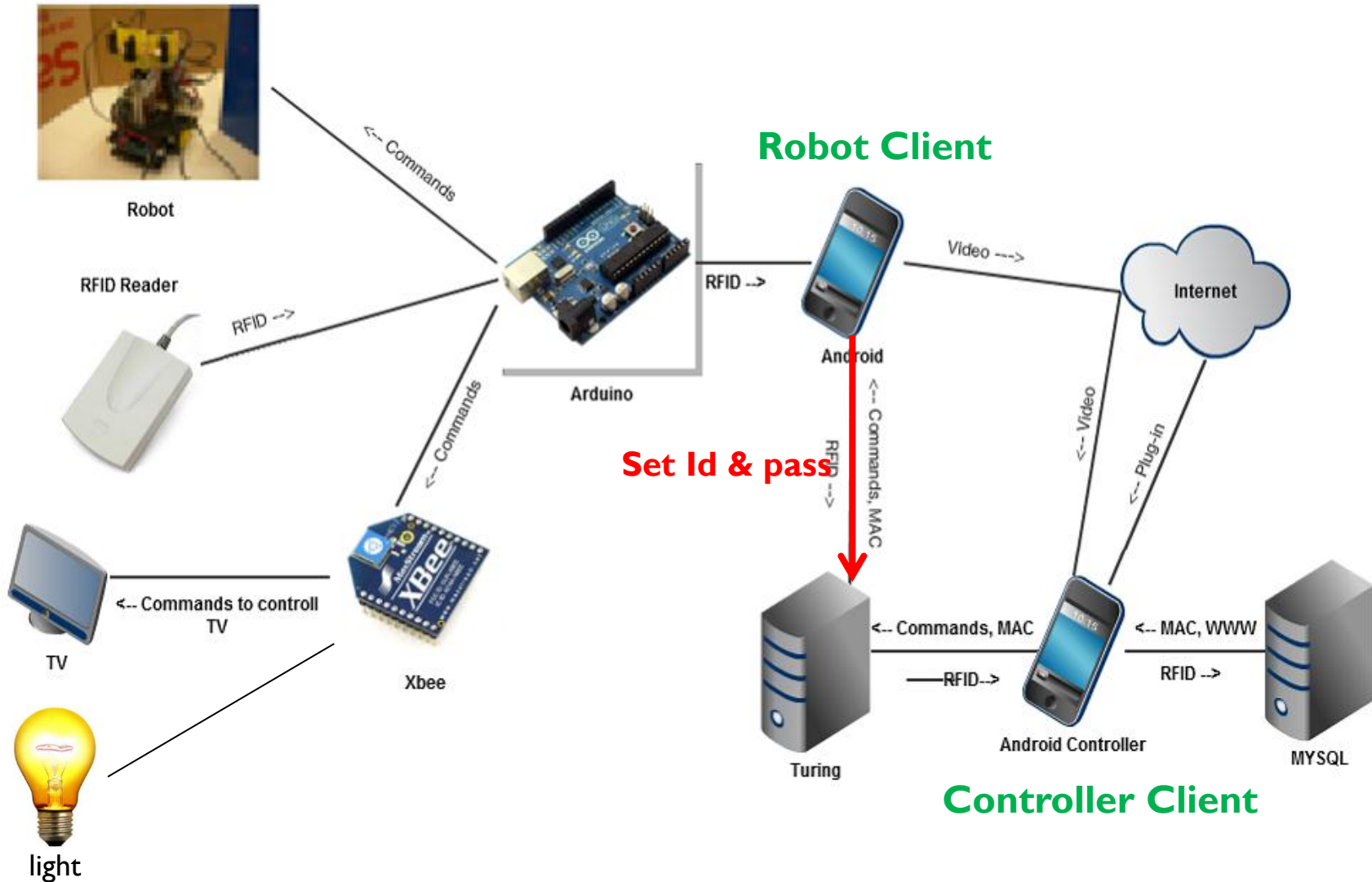
- Controller-Robot matching
- Server / Client
- Socket programming
- Password authentication



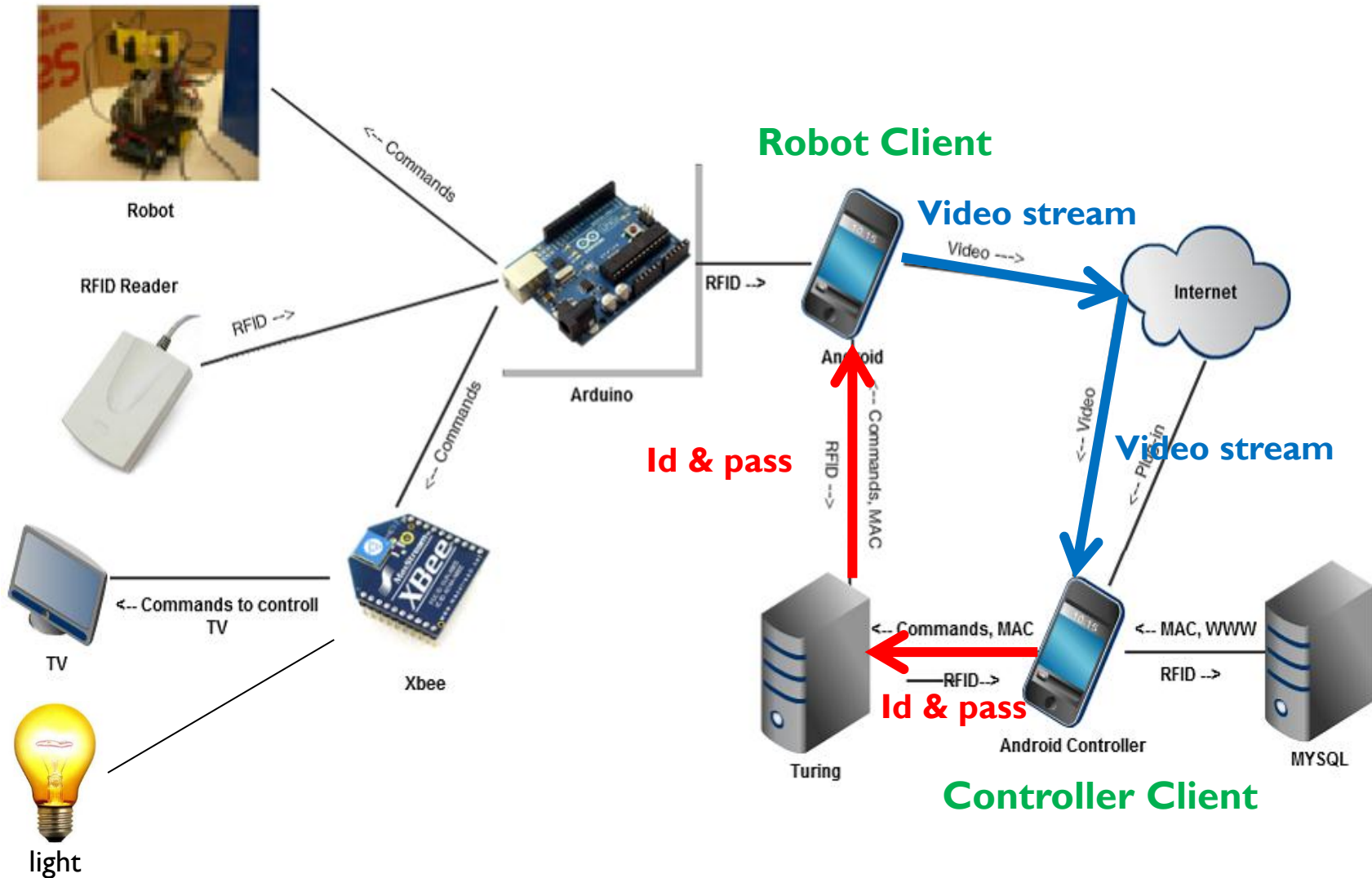
Architecture



Robot Client Connects to Server



Log in / video stream



Scan RFID



Robot

RFID Reader

RFID

Arduino

Robot Client

RFID

RFID

Android

RFID

Internet

Find TV



TV

←-- Commands to control TV



Xbee

←-- Commands

←-- Commands

Find light



light



Turing

←-- Commands, MAC

RFID

Android Controller

←-- MAC, WWW

RFID



MYSQL

Controller Client

Video -->

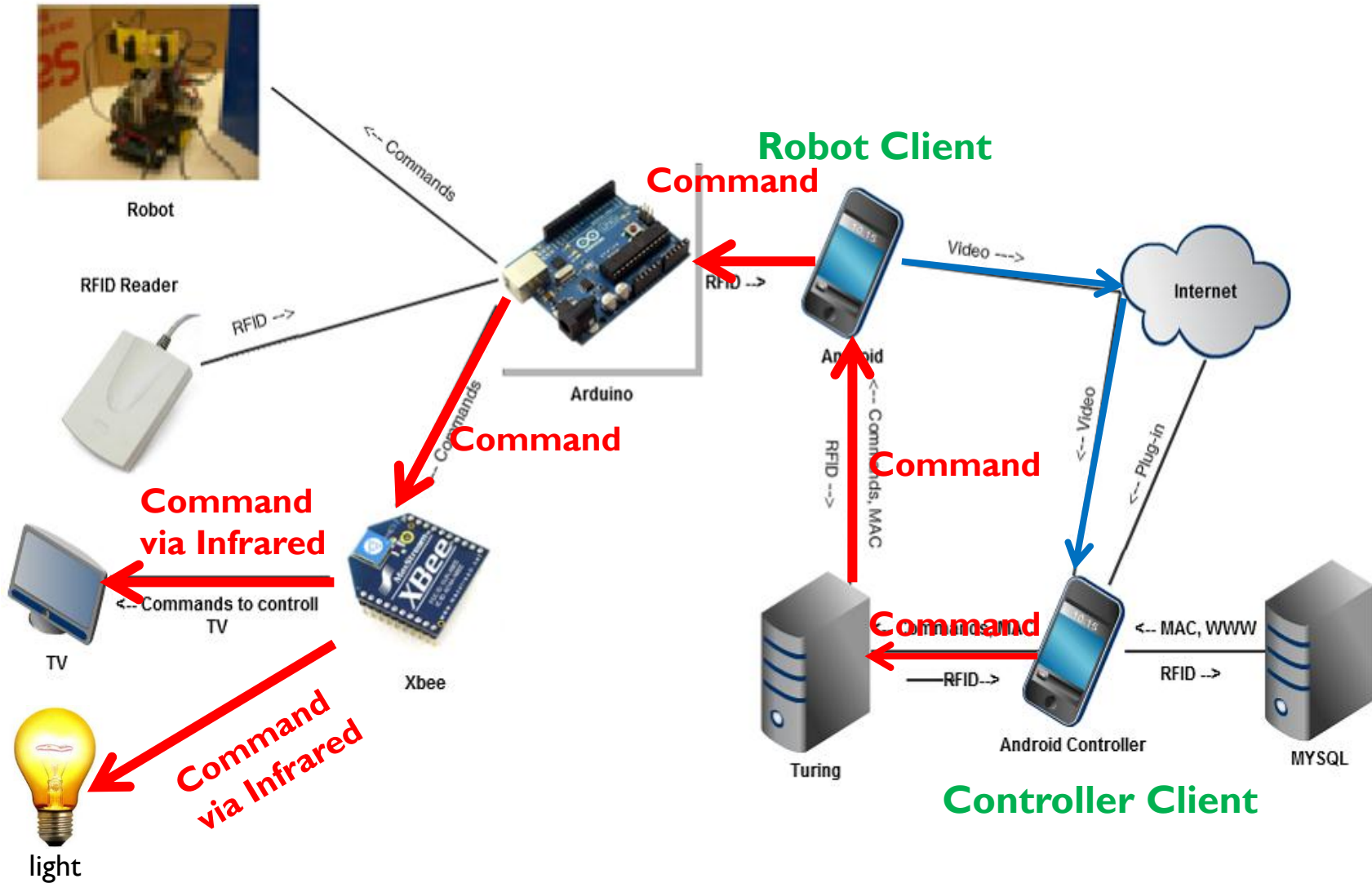
←-- Video

←-- Plug-in

API



Control TV



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!