

ICEbox: Human-Centered Home Network Configuration

Jeonghwa Yang

2/22/2006

Contents

- ✓ Motivation
- ✓ ICEbox at Home
- ✓ User Interface
- ✓ Prototype
- ✓ Issues
- ✓ Plans

Motivation (1/2)

✓ Motivation

- Network configuration is a painful work
- IP settings, wireless settings
- Home is a more serious environment
- Future home will have a more complex network environment



✓ Goal

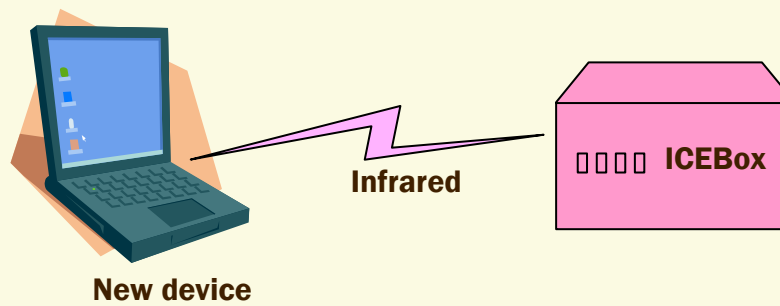
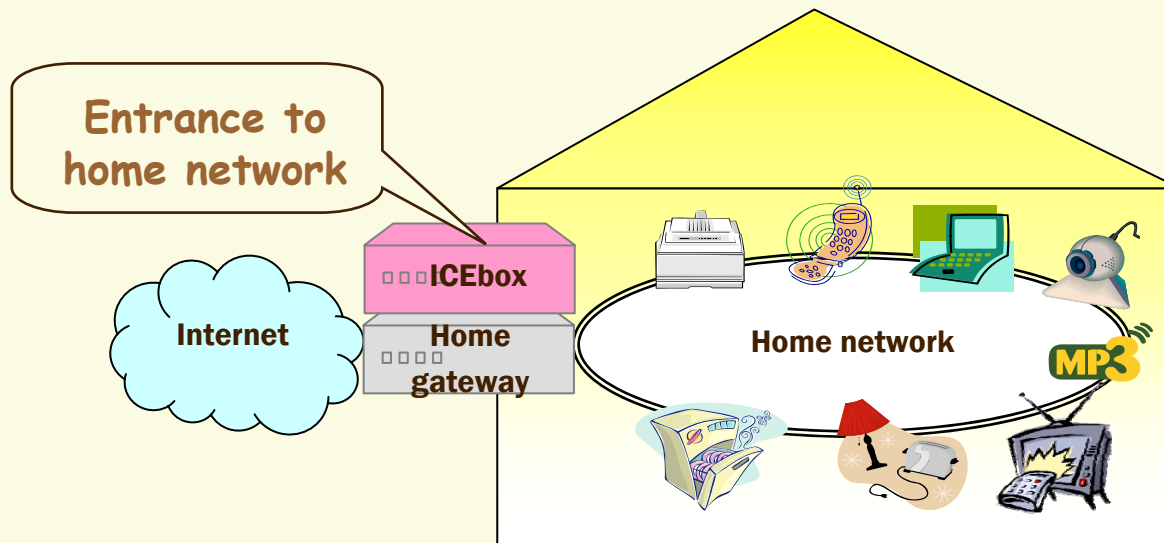
- Easy home network configuration
- Enjoyable home network for all family members

Motivation (2/2)

- ✓ Approach
 - Minimal manual configuration work
 - Necessary interactions
 - Simple user interface

- ✓ ICEbox: Bring! Point! Get Configured!
 - Installation, Configuration, and Evolution box
 - Simple pointing gestural interface
 - Automatic network configuration
 - Automatic network updates

ICEbox at Home (1/2)



ICEbox at Home (2/2)

- ✓ **Configuration**
 - Data-link level (e.g. WLAN)
 - Network level (e.g. IP)
 - Application level (e.g. printing service)

- ✓ **Additional features**
 - Authentication
 - Network management
 - Device/service discovery

ICEbox: Prototype (1/5)



Infrared

Infrared

ICEbox

ICEbox: Prototype (2/5)



ICEbox Configuration

ICEbox: Prototype (3/5)



ICEbox Authentication

ICEbox: Prototype (4/5)



ICEbox Visual Network Monitoring

ICEbox: Prototype (5/5)

- ✓ ICEbox server
- ✓ ICEbox client

Issues

- ✓ The best form factor for ICEbox
 - PC? Inside access point? Separate mini device?
- ✓ Authentication
 - Do users really care about authentication?
- ✓ Visitor policy
 - What's the best interface for handling visitors?
- ✓ Monitoring
 - What information should ICEbox show to users?

Plan

- ✓ Write a paper
- ✓ Complete the prototype
- ✓ Tackle issues in HCI perspective