

## Information for a use case of Smart Home, “JEITA House”

A Japanese industry association, the Japan Electronics and Information Technology Industries Association (JEITA) has ever conducted a project to create and demonstrate a model house of smart home called “JEITA House” in 2002. The project was already over and almost 10 years has past but the concept will be taken into account for the use cases of smart home.

The JEITA House was created to appeal the merits from the following six points of view:

### 1. Security

Security at entrances of home must be firmly kept. IT utilized entrance with personal identification, a monitoring system of trespassing, fire and gas leak, which alarms through a mobile phone when a trouble occurs, will help to keep the security.

### 2. Health monitoring and care

The number of elderly people is increasing in Japan and the JEITA House realized a healthful and healing home by introducing nursing system with information technology.

### 3. Education support

The JEITA House provides an edutainment space which integrates education, playing and communication for kids and family. Kids can learn and study with remote-education through the Internet and workers can do their work in SOHO anytime.

### 4. Entertainment and healing

The JEITA House provides entertainment space with a home theater system anywhere in living room or den by one push of the remote controller. Elderly family in a senior room in a different place can join in the living room of their child’s home with a big screen TV connected to the high speed Internet.

### 5. Convenience and comfortable

A TV set located in a living room can be a center controller of the home. You can control lighting, blind, bath tub water level and temperature, air conditioner and the other white goods on the TV screen with the remote controller. The JEITA House combines various networks such as white goods network, brown goods network and facility network and constructs an integrated network system. You can travel anytime anywhere with ease because you can receive delivered parcels with a locker system, foods will be automatically fed to your pets and water will be given to your plants automatically through your mobile phone.

### 6. Energy efficiency

The JEITA House achieves energy efficiency with HEMS, human sensor and optimum

control of lighting and white goods.

The JEITA House implemented the following systems and equipment:

1. IT front door

The JEITA House equips auto locking system with personal identification using biometrics technology. And the video from surveillance cameras will be shown through mobile phone and recorded in a HDD for security.

2. Corridor to reception room from the front door

An agent robot will guide the guest to the reception room identifying the personality of the guest by the image and biometrics technology. The robot may do a dance to welcome in case that the guest accompanies his/her kids.

3. IT living room

- Crime and disaster prevention system

The system monitors intrusion from windows, back entrance, and balcony. The system also check fire and gas leak. The system keeps security level of the house very high. And it is possible to keep the house comfortable by controlling air conditioners and ventilation fans.

- Living information panel

It is possible to control all the facility and goods, such as lighting, blinds, bath tub and air conditioner in home from a TV remote controller or a touch-panel. The system utilizes ECHONET standard, IEC 62394 using power line communication (PLC).

- IT edutainment

It is possible to learn various languages from your living room remotely through the Internet connection to the outside school.

- Automatic home theater

With one push of a remote controller of a TV set located in the living room, the blinds will shut, the lighting will be dimmed automatically and a video content will be shown on the screen. The living room will change to a home theater with one action.

4. IT kitchen

- Beer and rice ordering system

Sensors located at a beer case and rice stocker recognizes the level of the stock of beer and rice. The system automatically order beer and rice to retail shop when the level of stock decreases under a specified level. The order information will be sent to the user through the mobile phone.

- Family communication system

A communication panel with voice recognition system located in kitchen will bridge family, mother and kids with voice and image messages even they cannot be together in home.

- Internet automatic cooking system

A recipe will be downloaded through the Internet and an electronic cooker will prepare a cuisine automatically. Even if it may be difficult to make the system fully automatic, the system will provide guidance for the cooking.

5. IT lavatory

A wash machine connected to the network will be able to set an optimum condition of water level, quantity of the abluent and washing time duration. It will save the water and energy.

6. IT garden

Feeding of water to plants, feeding foods to pets will be controlled automatically or manually through mobile phones. The system may provide video or photo through the Internet and it is possible to monitor from outside. It makes the family feel easy and makes them travel for leisure at anytime.

7. IT gate

It sometimes happens not to be able to receive a parcel delivered during the daytime for a single dwelling person. A parcel receiving system enables him to receive such parcel using an automatic locker located at the gate of the home with a security code provided by the deliveryman through a mobile phone.

8. Automobile integration

A sophisticated car navigation system was developed which has a capability to transfer a driver's voice message to his family by an email. The system recognizes talking voice and translates into a written message. By this system, the driver will be able to drive a car very safely.

9. IT den

- Personal office system - IT work desk and wagon

The IT desk and wagon provides a very comfortable environment for work in SOHO. A voice recognition system controls lighting and blinds of the working space by the user's verbal request. A secure cabinet sends a caution mail to the user when the cabinet is accessed by the third person. An automatic universal scanner can scan documents with OCR function, transfer to PDF files and store them in a HDD.

- Personal theater system

A personal theater system can be organized by one touch on a remote controller in a den. When you get tired with your work, you can enjoy audiovisual content to

refresh yourself at anytime immediately.

#### 10. IT attaché case

This is a mobile office system which integrates a notebook PC, small scanner and printer, a PDA terminal with GPS function, digital camera and DVD/CD drive in a attaché case to be able to work in anywhere outside the office.

Note: this is somehow an obsolete idea because smart phone or tablet has the equivalent capability and printing is provided in a convenience store.

#### 11. IT kids room

- IT edutainment

The system provides optimum lighting condition for reading text book or writing text on the desk. Also the system provides various pieces of educational content on the screen which enables kids to learn and study with a fun such as an adventure game.

- Robot entertainment

Various types of robots, dog-type (AIBO by Sony), cat-type, toy-type, insect-type, etc. provide kids much fun and emotion.

- Pet camera

Pet camera takes photographs or video of the kids or baby and sends those to his/her parents so that the parents can check the kid's situation.

#### 12. IT senior room

- IT health-care and healing system

An easy-to-use mailing system was developed for elderly people so that they can send mails to their family with minimum operation of the equipment. An intelligent message teller can recognize the voice of elderly person and dial to his family.

- Interactive nursing care system

The system monitors an elderly and bedridden parent and provides communication functionality between the parent and his/her family by voice and/or mail message. The system submits medical data of the patient to his/her family and medical doctor.

- Monitoring water pot

A hot water pot connected to the Internet sends the usage information to the client. The daily use of the pot indicates that the user is fine. If the pot is not used in a day, the pot sends a caution to the client to inform the situation that implies a health problem.

#### 13. Balcony

When it starts raining, the system senses the rain and hides the laundry clothes from the open space to a covered space automatically. When it becomes fine again, the system hangs out the clothes to the open space again.

#### 14. Common control system (Mobile appliances)

An agent system can control all the facility in home by intelligent voice recognition system without any manual or training. A tablet or a panel may provide the same kind of control in home.

The JEITA Home has been introduced in a web site but unfortunately the web is Japanese only.

<http://www.eclipse-jp.com/jeita/index2.html>