

Girls in ICT 2019

Team

Guardians of Agriculture



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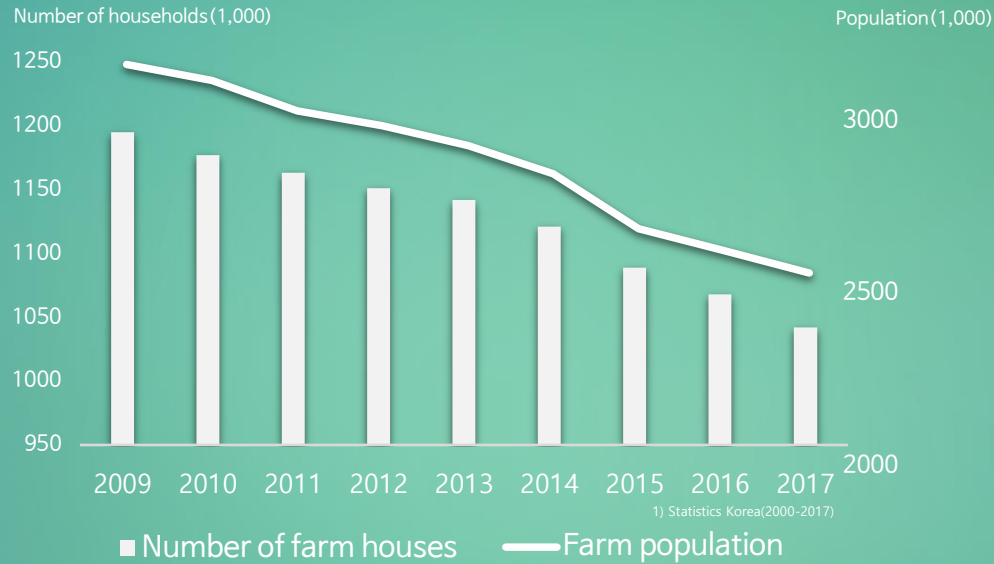


IoT scarecrow

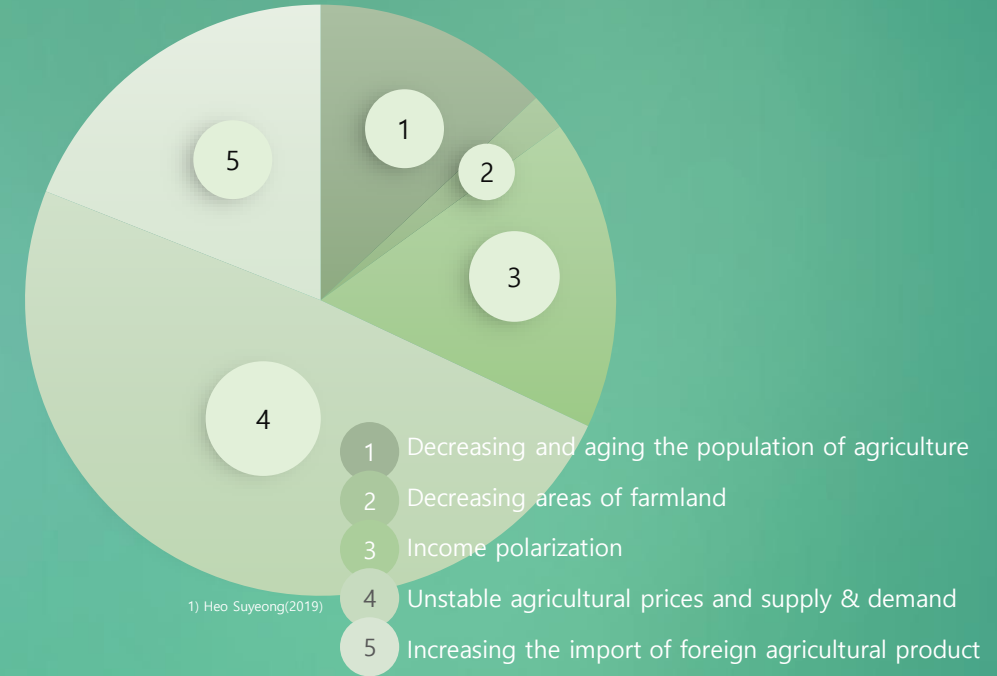
- 01** Motivation
- 02** Introduction
- 03** Detail idea
- 04** Benefits

01 Motivation

Decreasing and Aging the Population of Agriculture



Biggest Problems in Agricultural Society



03

04

- The age of people working in agriculture is getting older
- Young people tend to avoid working in agriculture
- The population in agriculture is getting decreased

IoT Scarecrow

- Supposing alternatives to vitalize agriculture
- Increasing the convenience of current agricultural people
- Encouraging various age groups to engage in agriculture

IoT scarecrow

Sensor or input part



Motion sensor

Sensing the motion especially birds or intruders



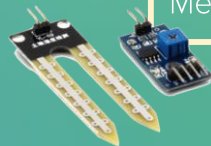
Recorder

Recording arable field for monitoring



Hybrid panel

To get solar energy to run the scarecrow system



Soil sensor

Measuring a condition of soil

Activation part

Alarm buzzer

Making sound to drive birds out

Sprayer

Agricultural sprinkler

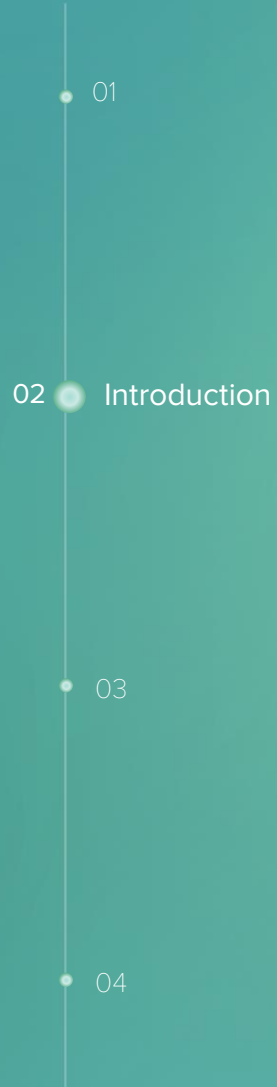
Sensing the moisture content of the soil and spraying water to the field

Pesticide sprayer

Being attached to the both hands and Spraying pesticide

Soil nutrient sprayer

Sensing the nutritional state of the soil and spray nutritional supplements



01

Product Management

Soil sensor and Sprayer

02

Harmful Animal Eradication

Motion sensor and Alarm buzzer

03

Energy Control

PV/T with Hybrid Panel

04

Farm Monitoring

Recorder and Application

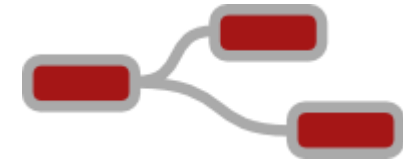
Product Management

Soil sensor and Sprayer

IoT A

- Data accumulation

Node-RED



Agricultural sprinkler

Pesticide sprayer

Soil nutrient sprayer



Temperature
Humidity
pH

Soil Sensor



Sprayer



- 01
- 02
- 03 Detail idea
- 04

sprayer



Soil sensor

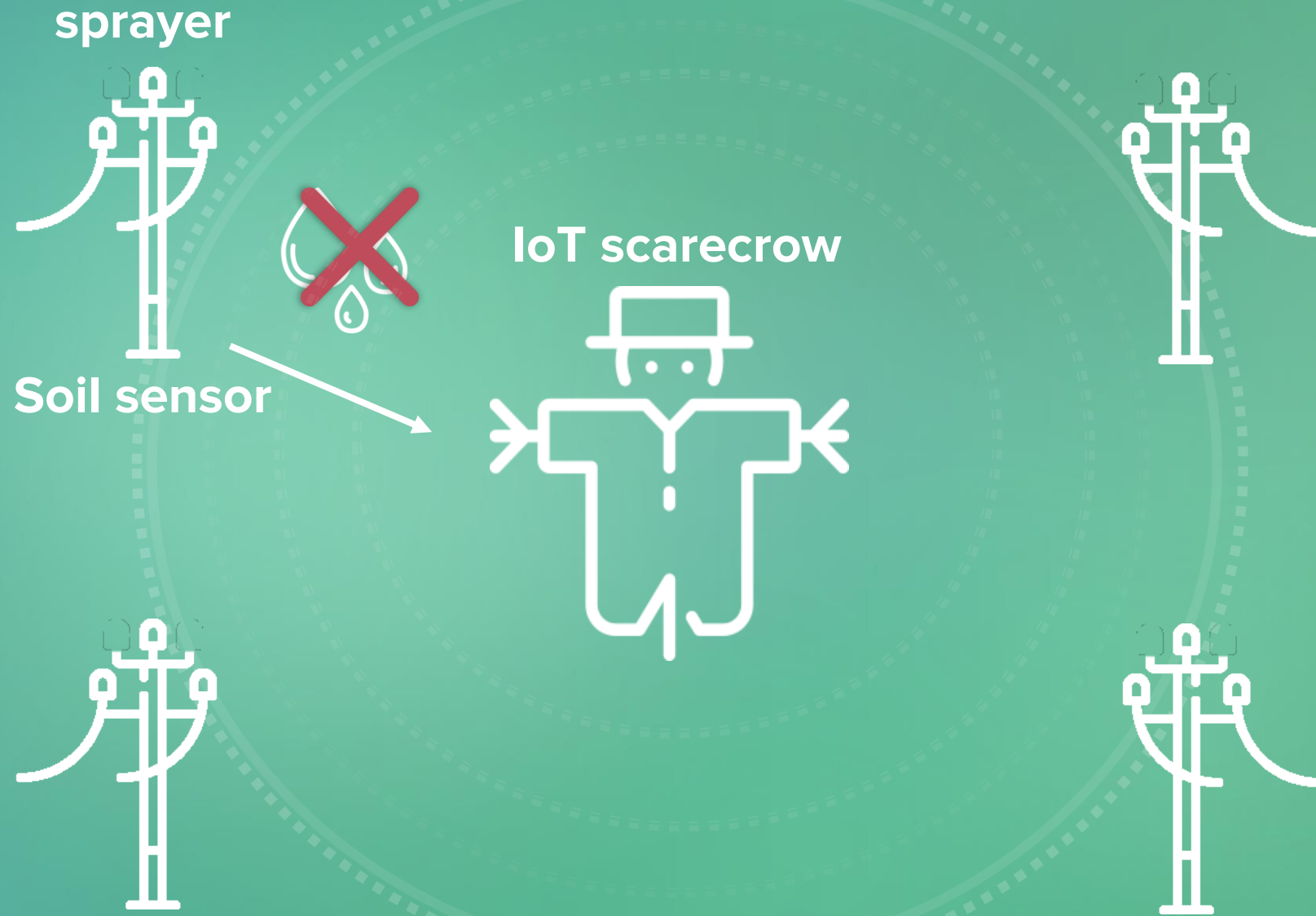


IoT scarecrow

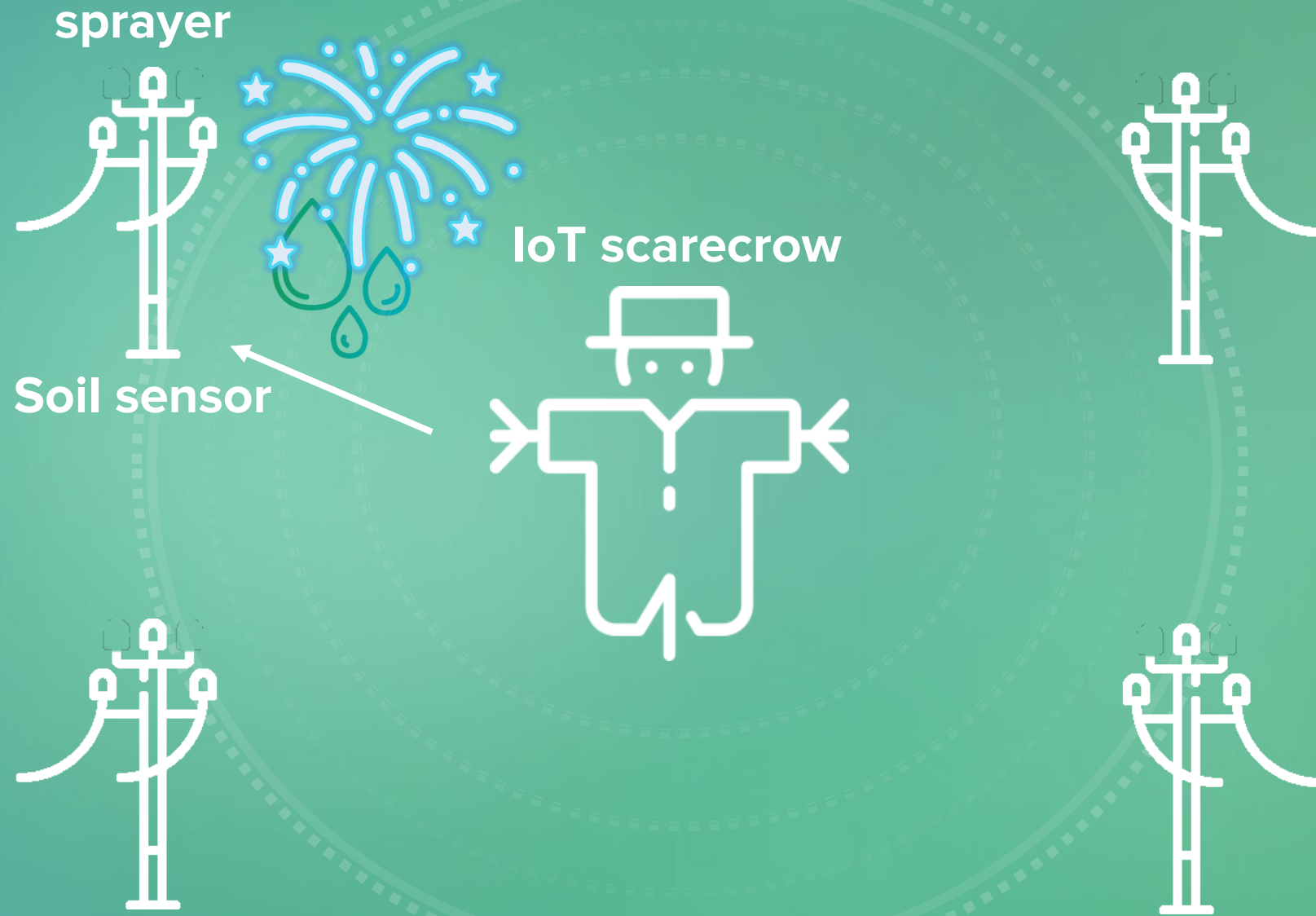


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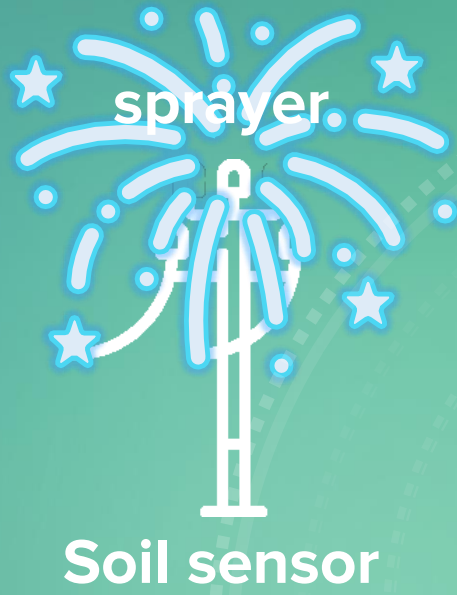
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- 04



Harmful Animal Eradication

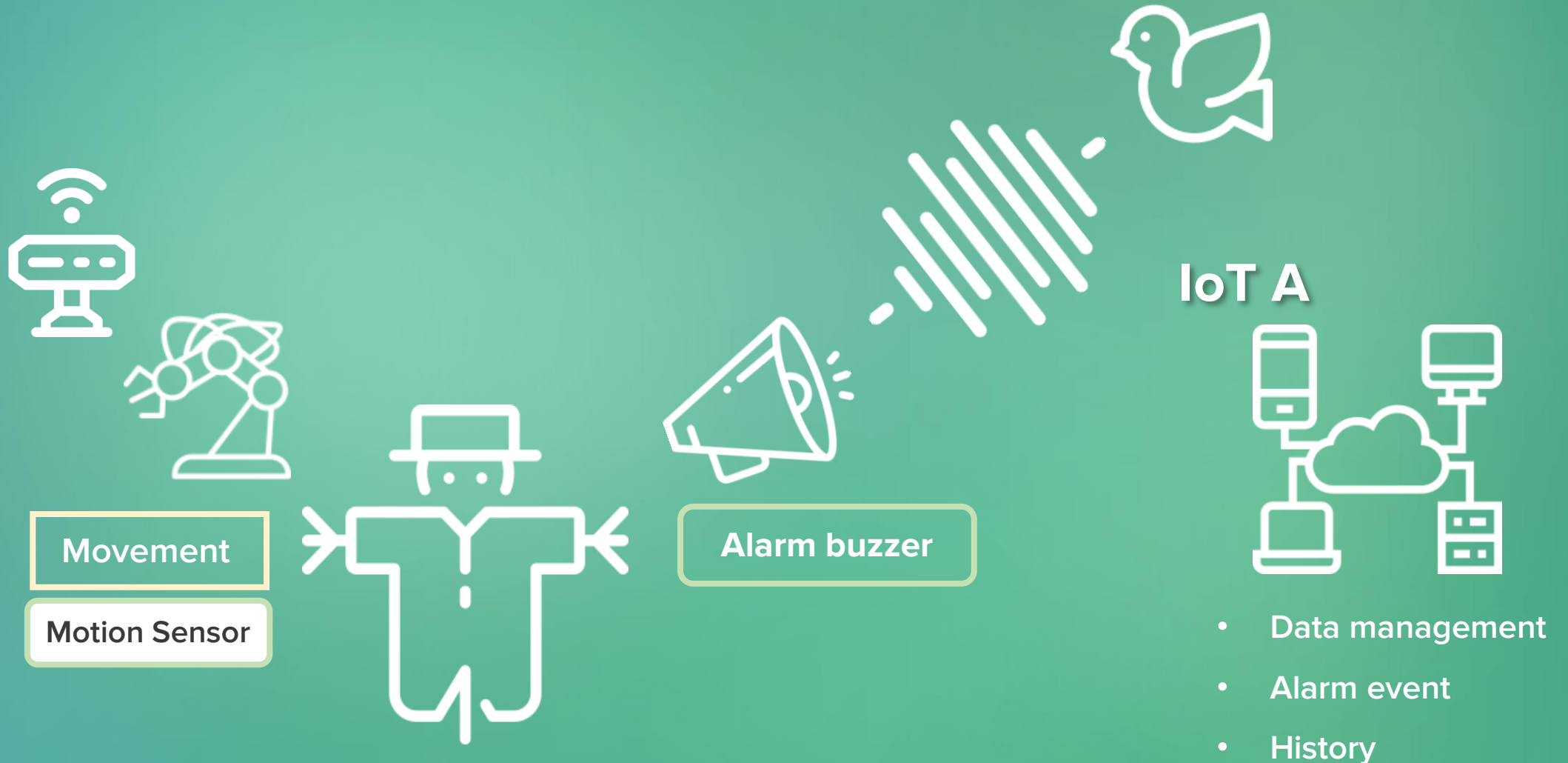
Motion sensor and Alarm buzzer

01

02

03 Detail idea

04



Energy Control

PV/T with Hybrid Panel

01

02

03 Detail idea

04

PV/T energy

Hybrid panel

X 4



IoT A



- Data management
- Automatic device control

Farm Monitoring

Recorder and Application

IoT A



- Data management
- Notification
- History

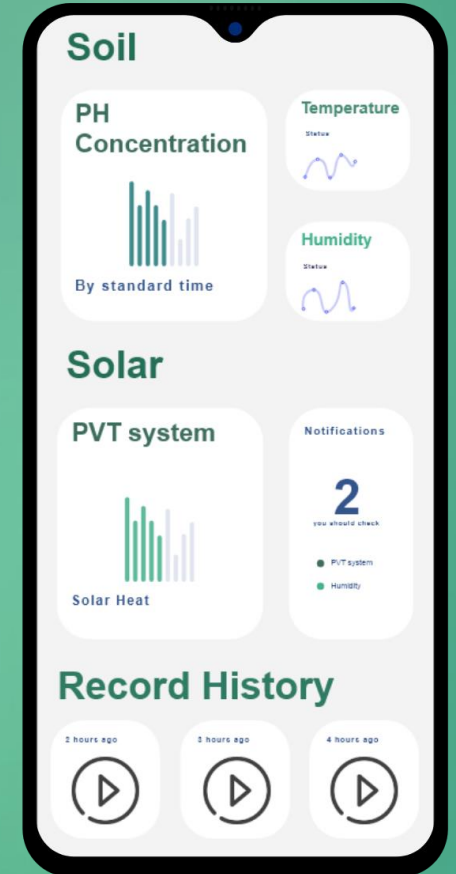
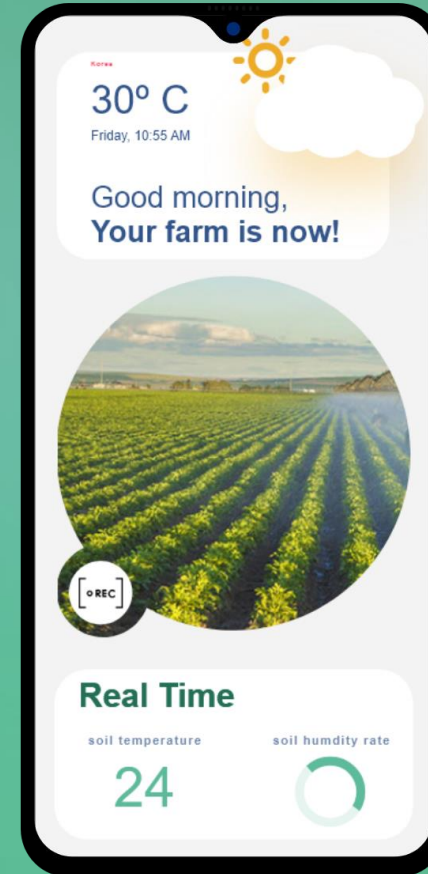


Video

Recorder



Application



01 Quality Certificate

- Measuring and Managing data
- Producer: Handling stored data to improve the quality of product
- Consumer: Checking the quality of product based on the data
- Satisfying Consumers' needs
- Activating dealing of product

02 Automation

- Lowering labor intensity and Saving time
- Increasing convenience
- Making an influx of young people
- Helping the mitigation of aging

03 Sustainable Energy

- Maximizing the efficiency of energy use
- Hardly costing except hybrid panels

Thank You