PenScreen.TV SmartFilm

Film-based, Sensor & Electric-free, Easy to go SmartBoard

HiClass3D SmartSheet
### Paper-based, Electric-free, Rollable SmartBoard

- Paper based, Electric-Free, No Sensor and Rollable SmartBoard.
- Smartfilm attached to general TV, monitor, rear projection screen.
- PDF based Smart teaching system by proprietary technology.
- Supports PDF U3D/PRC rendering, and printing full body or a tree of 3D object.
- Various Features for Flip Learning, Groupstudy, Class2Class Collaboration and Virtual Class.
- Future Smart Teaching Technology that combines AI based Speaker, SW and SmartPattern.

2018.10

EasySystems Inc.

SmartPen … with Smart Patterns

- Captures smartpatterns 85 to 90 times per second and analyzes them as X and Y coordinates.
- These coordinates are sent to the computer through Bluetooth communication.
- Supports Windows HID driver, allowing users to use the SmartPen as if it is a Tablet Stylus.

- Optical absolute coordinate recognition.
- Optical relative coordinate recognition.
- Pen trajectory tracing technology based on the complex coordinate method (digital ink)
- Pattern printed paper creation technology

.... Trajectory of electronic pen

🔴 Absolute coordinates

🔵 Pen down relative coordinates

⭕ Pen up relative coordinates

Complex coordinate
recognition technology
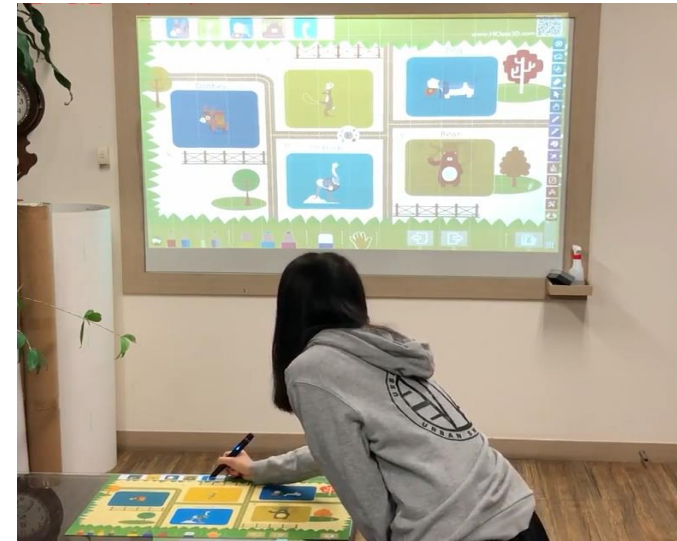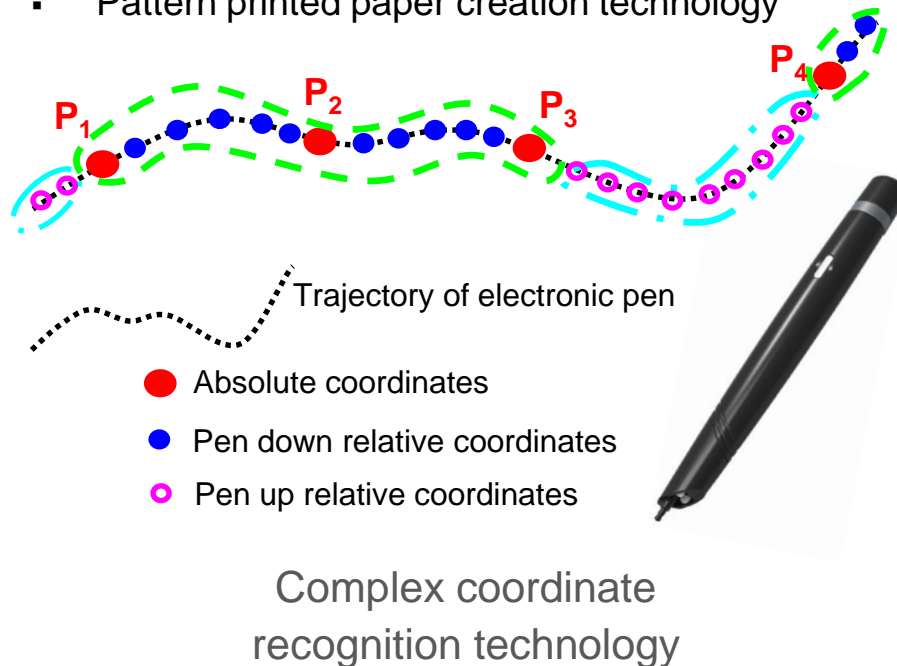
Only two companies around the world,
including us, possess the pattern
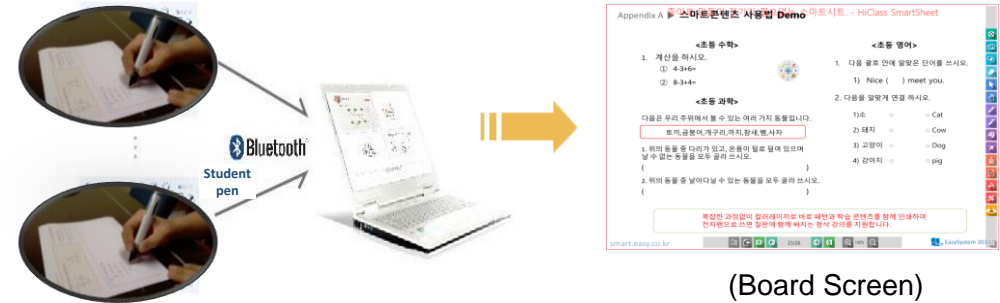technology.

Pattern printed paper creation
technology

Smartpen ... with Smartpaper

As an electronic board

Up to 5 pens can be connected.
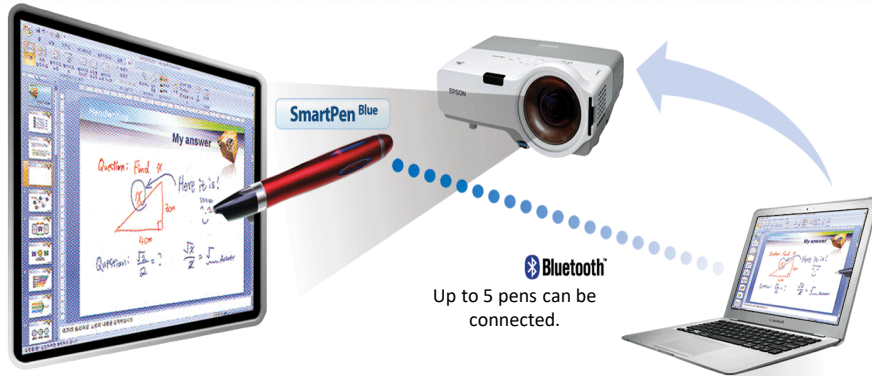
- My SmartSheet board that does not use a sensor and electricity
- Fast writing speed and precision writing
- Can use ordinary dry and erase board marker

## Interactive bidirectional groupstudy

(Board Screen)

- Bidirectional study between students and teacher
- Student solves a question on his seat and the process is displayed on the board.
- Teacher review the solution, adding his opinions at the same time.

Groupstudy using the smartpen and pad

(Smart Pad)

Publishing on the smart board
(Shared Screen)

- a smartpen and pad can be used at the same time.
- Bidirectional communication between each group and HiClass.
- Can assigns a Pen and Pad for each group

Multimedia class using the teaching material

(Board Screen)
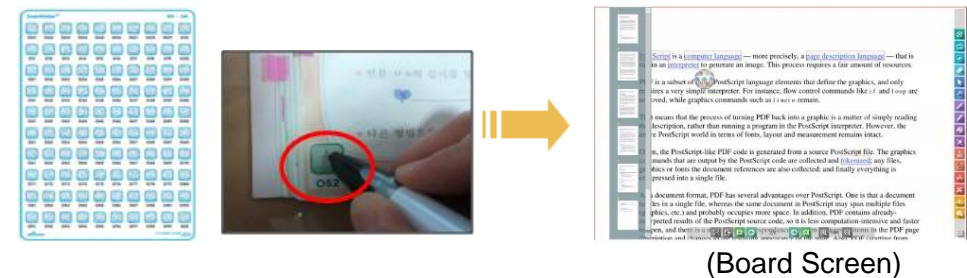
- Play multimedia on a ordinary text book using SmartSticker.
- A green SmartSticker to display the page you want on HiClass.
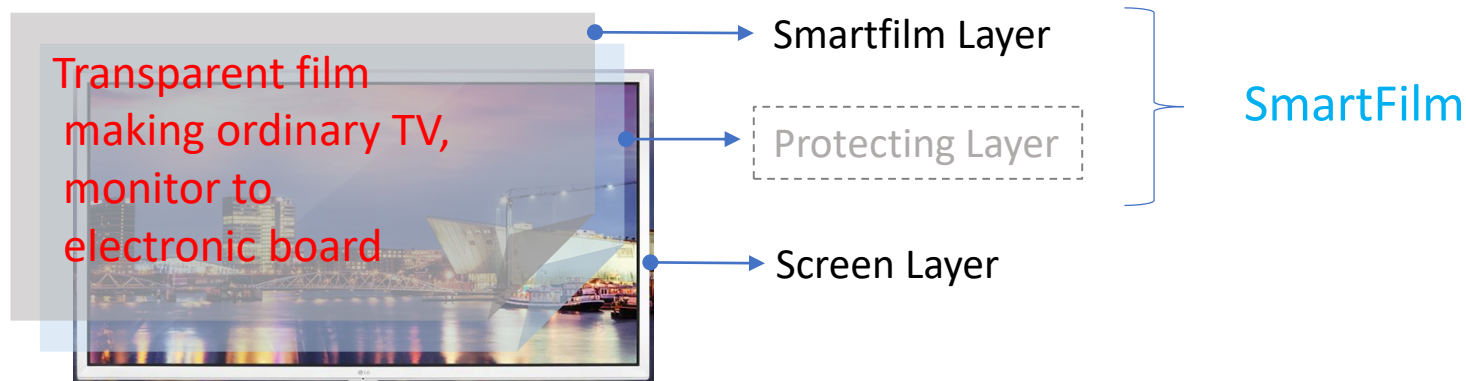- Click the Yellow SmartSticker to execute various multimedia content in the PC.

EasySystems 2018

SmartSheet … Paper based, electric free and rollable board

- Provides the anti-reflective screen and general whiteboard function.
- Can use an dry erase marker on the SmartSheet.
- Up to 7 pens are connected by default at the same time.
- 3No … No Power, No EMI, No Heat

- Air-free attachment without bubbles.
- The SmartSheet can be attached to the wallpaper, glass, wood, and general boards.
- When there is a scratch on the SmartSheet or if you used it for a long time, you can easily replace it with a new sheet.

- The SmartSheet is provided in a roll, allowing easy export.
- One roll box contains 3 smart sheets.
- It solves the problems of transportation and shipping cost.
- You can use smart sheets as consumerbles.
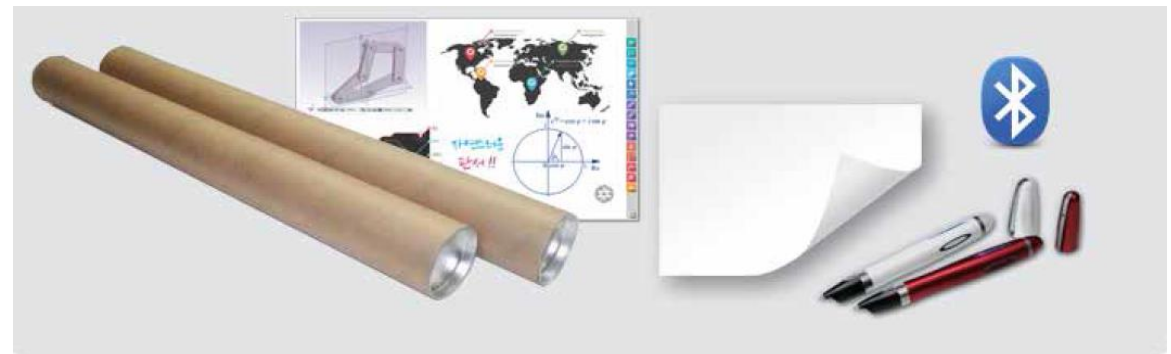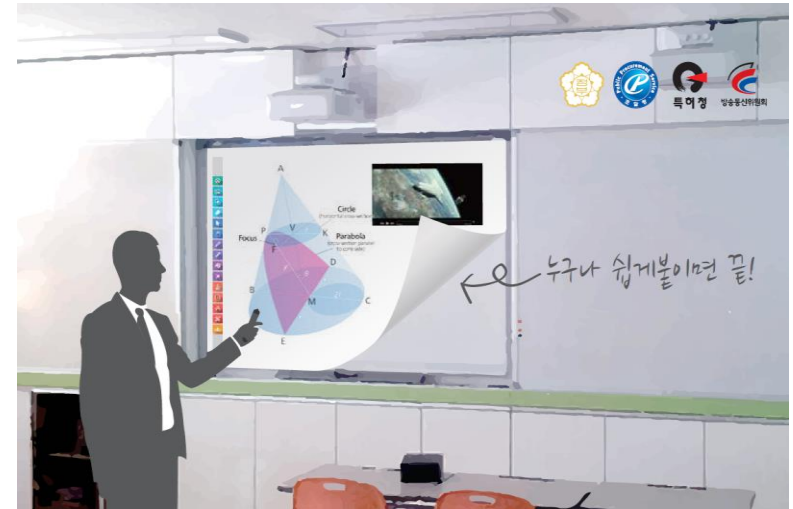
Eco-friendly Case + Smart Sheet + 1 Smart Pen+ HiClass SmartTeaching SW + 1 Bluetooth Dongle

SmartFilm ... A film printed with SmartPatterns that makes it possible to use a TV or monitor as an electronic board.

Transparent film making ordinary TV, monitor to electronic board

Smartfilm Layer

Protecting Layer

Screen Layer

SmartFilm

- Easily turn your TV or monitor into an Smartboard with Smartpen.

- No Sensor, No electricity, No device to connect to computer.

- coated with 3H strength for anti-reflection and surface protection.

- Normal Dry-Erase Marker can also be used.

- Combines with TV/Monitor Screen protection filter (Optional).

- Old films can be replaced at any time(Consumables).

Smartsheet vs. Smartfilm

SmartSheet ... Existing blackboard or attached to a flat surface to a large Smartboard
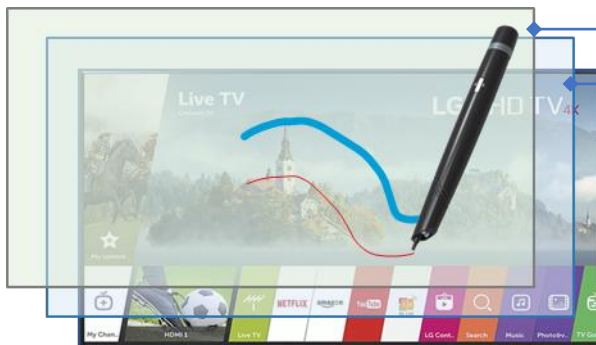
Pattern layer on thin PET film printer with smart pattern.

Sheet for whiteboard and Smartboard

Normal blackboard or flat surface

SmartSheet

PenScreen.TV ... Attached to the screen of all normal TV or Monitor to a Smartboard

Pattern layer on thin PET film printer with smart pattern.

Screen Protection Filter(option)

TV/Monitor/Rear Projector Screen
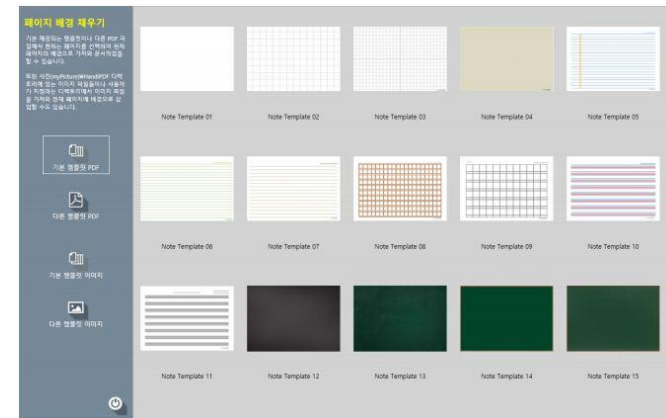
SmartFilm

EasySystems 20182018

HiClass ... Features

- ✓ Audio/Video Player, Screen Recording to mp4, Note Library, Inkpaper, configurations
- ✓ Annotations, Inking, Templates, PDF pages, Utilities, Tools
- ✓ Moving and Magnifying a page
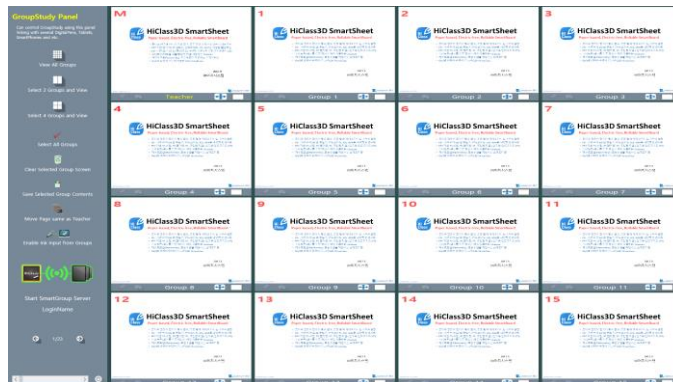- ✓ Hotkey to Windows and Groupstudy

Various content creation functions

Various auxiliary boards

GroupStudy for Pens and Pads
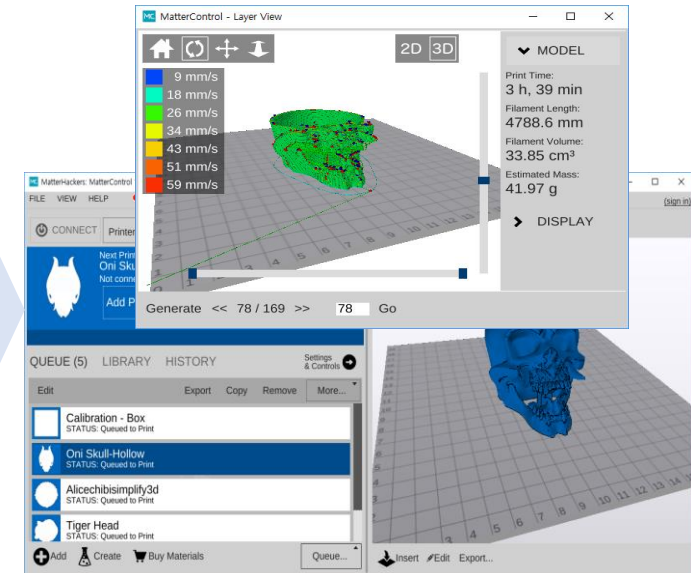

Thumbnail of pages

HiClass3D ▶ 3D printing service in the classroom

- Prints 3D Object On the PDF Document
- Supports Windows 10 3mf
- Supports G-Code 3D Printer
- CURA Slicing, Repair
- Printing Time, Fillament requirement…
- Wireless 3D Printing Gateway

STL Exporter

3MF Exporter

M3DP Project
Easy3D 3mf Printing App

ETRI M3DP Project

**Wireless
3D Print Gateway**

HiClass3D vClass

- WIFI/Bluetooth Connection

- **Embeded ClassTalk Server**

- **Embeded Webrtc SFU Gateway**

- **Embeded SmartPen Gateway**

- More than 35 students

- Bi-Directional Messenger : ClassTalk

- One way Video/Audio Broadcasting : **H.264/WebRTC**

- **O2O Class** (Local and Remote Connection)

- Mixed Device : Pen, Tablet, Notebook, Desktop and SmartPhone

- Without add on SW : HTML5/JavaScript such as Chrome

- With addon SW : HiNote for Windows, Android and IOS

교실 A

프로젝터 — HDMI

손터치 센서 키넥트

HiClass 티칭 시스템

BlueTooth / Wi-Fi 유선랜

3D Printer 모둠A 전자펜+전자종이 스마트패드+서책 모둠B

Cloud Class Connector
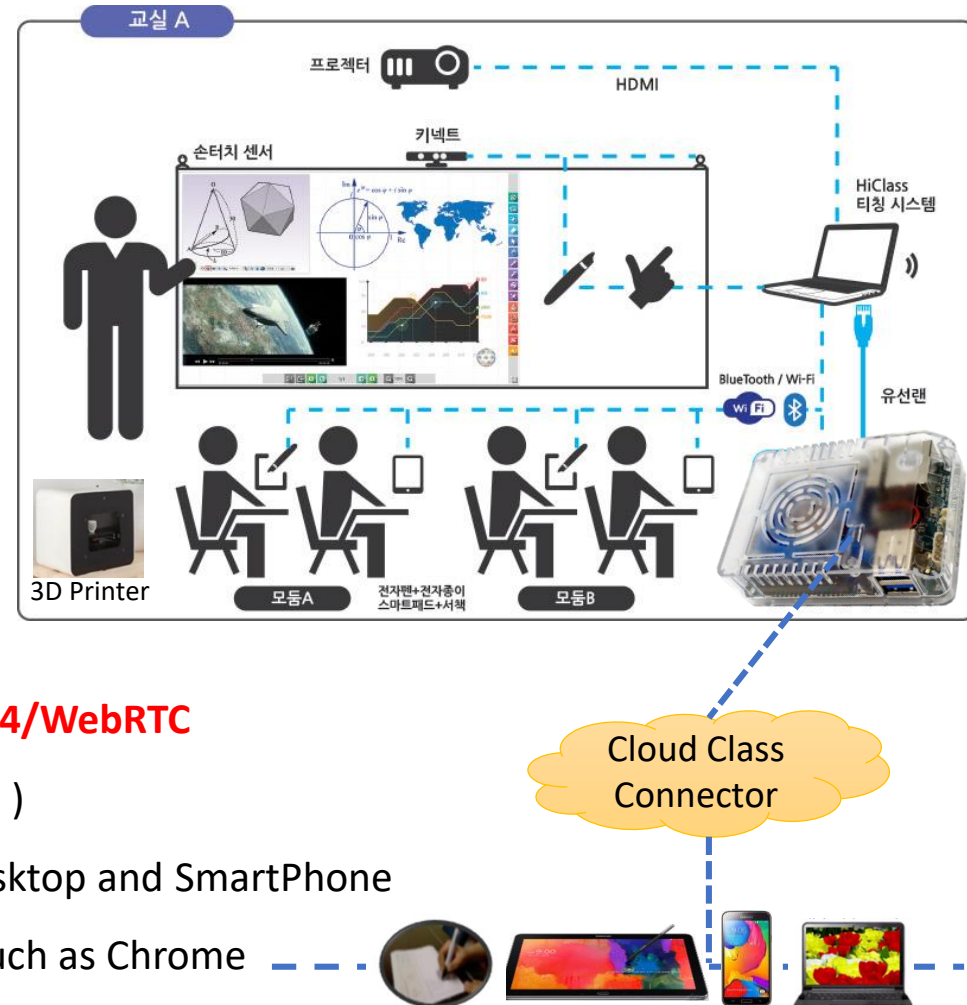
Collaboration ... Joint Lessons between Classrooms.

HiClass3D Collabo

- Internet Connection
- Max 3 Classes
- Classtalk
- Bi-Directional Communication
- H.264/WebRTC
- Share HiClass Screen/Webcam
- Share Document/MIC/Inkchat

HiClass3D Broadcast

- Internet Connection
- Live Broadcast using rtmp
- Youtube Live Broadcast
- Facebook Live Broadcast

Cloud services:
- WebRTC Session Manager
- HiClass Messaging Service
- HiClass Collabo Service
- HiClass Live Broadcast Service

www.HiClass3D.com

EasySystems 2018

Installing examples ... Usage of SmartSheet

Currently installed and used in more than 3,000 classrooms of approx. 600 schools in Korea as of AJune 2018

Petra Christian Univ., Indonesia HiClass Collabo C2C, 2017

Paju Hanmin High School

Incheon Sinsong High School
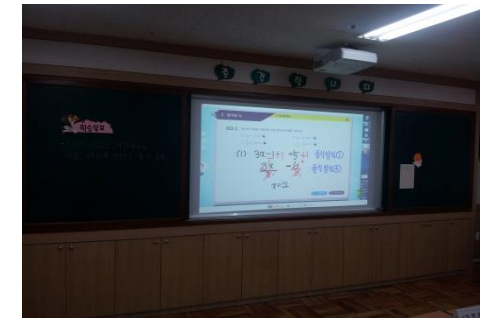

Seosan Myongji Middle School

Paju Woonjeong High School

Jeonbuk Soyang Middle School

Incheon Gyeongin Girls' High School

Daegu Yeongshin Middle School

Seoul Bosung Girls' High School

Wonju Bongee High School

Gyeonggi Giheung High School

Seoul Doksan High School

EasySystems 2018

\<Arithmetic\>

1. Please calculate the following:

    ①   4-3+6=

    ②   8-3+4=

\<Elementary Science\>

The following are the animals that you can see in your neighborhood.

> Rabbit, Goldfish, Frog, Magpie, Sparrow, Snake, Lion

1. Among the above animals, list those that have legs, are covered with hair, and cannot fly.

(   )

2. Among the above animals, list those that can fly.

(   )

\<Elementary English\>

1. Please fill the blank with an appropriate word.

    1)   Nice (   ) meet you.

1. 2. Please connect the Korean animal names to appropriate English names.

    1)소   ○   ○ Cat

    2) 돼지   ○   ○ Cow

    3) 고양이   ○   ○ Dog

    4) 강아지   ○   ○ pig

You can print the pattern and learning content with a color laser printer and write on the printout paper with an SmartPen. The content you write will be also written on the SmartBoard, allowing you to add or remove content during the class.

Windows 10 only

ハイクラスSmartSheetは、紙で作られた電子黒板です。 SmartSheetは紙で作ったので、 電気が必要ありません。 電磁波もありません。 熱がありません。 丸く巻いて手軽に持ち運ぶことができます。
ハイクラスは、PDFエンジンベースのSmartTeachingソフトウェアです。
ハイクラス3Dは、PDF標準3DオブジェクトであるU3DとPRCレンダリングをサポートします。
HiClassとHiClass3Dは、Windows、Java JNI、Android、IOSをサポートします。
このすべての技術は、EasySystem自体の技術で開発されています。

HiClass SmartSheet is an electronic blackboard made of paper. The SmartSheet is made of paper and does not require electricity. No electromagnetic waves. There is no heat. You can carry it easily by rolling it in a circle. HiClass is a PDF engine based SmartTeaching Software.
HiClass3D supports PDF standard 3D objects, U3D and PRC rendering. HiClass and HiClass3D support Windows, Java JNI, Android, IOS. All of these technologies are developed and delivered with EasySystem's own technology.

HiClass SmartSheet是由纸制成的电子黑板。 因为它与纸创建SmartSheet不需要用电。 无辐射。 无发热。
它可以轻松地滚动循环进位。
HiClass是SmartTeaching软件基于的PDF引擎。 HiClass3D支持PDF标准的3D对象U3D和PRC渲染。
HiClass和HiClass3D 并支持Windows，Java的JNI，安卓，IOS. 所有这些技术正在开发提供EasySystem自己的技术。

HiClass SmartSheet는 종이로 만든 전자칠판 입니다. SmartSheet는 종이로 만들었기 때문에 전기가 필요 없습니다. 전자파도 없습니다. 열도 없습니다. 동그랗게 말아서 간편하게 휴대할 수 있습니다. HiClass는 PDF엔진 기반의 SmartTeaching 소프트웨어 입니다.
HiClass3D는 PDF 표준 3D 객체인 U3D와 PRC 렌더링을 지원합니다. HiClass와 HiClass3D는 Windows, Java JNI, Android, IOS를 지원합니다. 이 모든 기술은 EasySystem 자체의 기술로 개발되고 제공됩니다.
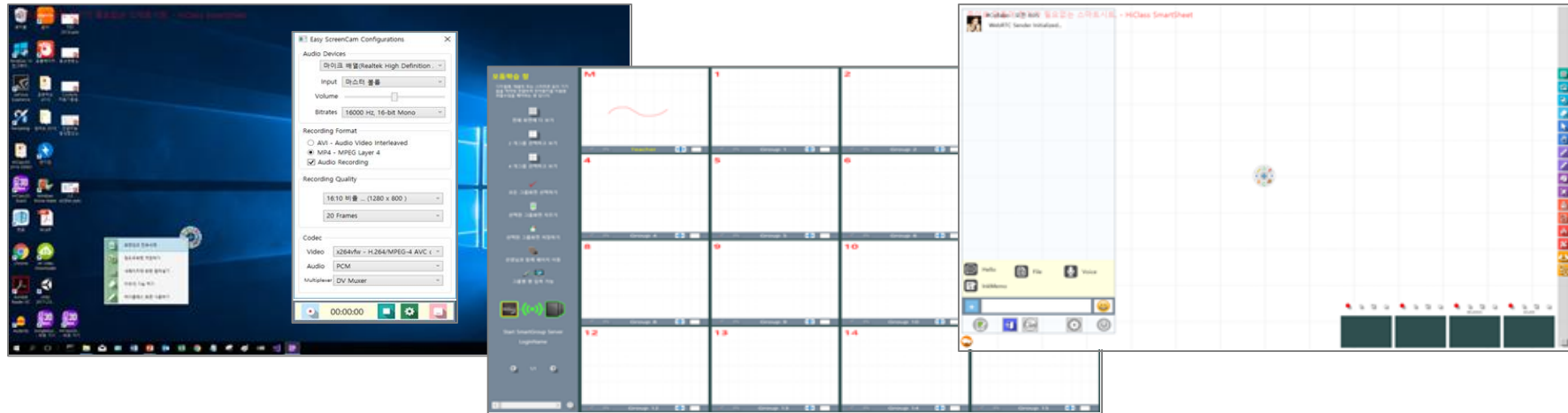
- Hotkey
  Hotkey, Handwriting on Windows Screen, Capture and Save
- Video Lesson
  Webrtc screen/webcam streaming, Webrtc SFU
- Groupstudy
  With Smartpen, With Tablet pad
- Classtalk
  Inkchat, Voicechat, Memochat, File Transfer

Q & A

We believe that
Smart Education can change the future of the children on Earth.