Seeed Studio Raspberry Pi®
Success Stories

Seeed Studio Has Been Serving the Pi® Community Since 2013 and Took The Lead
to Join the Approved Reseller and Design Partner

Smart Building   Energy Management   Healthcare   Industrial Space   Security   Manufacturing

Table of Contents

Raspberry Pi® - Powered Edge Devices

Our range of Raspberry Pi® powered edge devices, including HMI, edge controllers, and routers, has been successfully deployed in various industries such as energy management, automation, Industrial 4.0, smart buildings, and manufacturing. We are proud of the widespread adoption and positive feedback we have received, which has instilled us with great confidence in our products.

Revolutionize Classroom Management with Edgebox-RPI-200

Seeed Hardware

EdgeBox-RPI-200

Industry

Energy Management, Smart Classroom

Solution Introduction

Our EdgeBox-RPI-200, powered by the Raspberry Pi® CM4 core, has been deployed in smart classrooms in China to address the challenge of managing lighting and temperature in an energy-efficient manner. The traditional approach to classroom management is often inefficient and fails to provide effective control over lighting and temperature, leading to energy waste and unhealthy conditions for students. The EdgeBox-RPI-200's rich IO/interface and open-source architecture make it an ideal controller center for managing multiple devices simultaneously. The solution has resulted in significant energy savings and improved health conditions for students in around 10 classrooms, with more deployments planned.

Location

China

Learn More

https://www.seeedstudio.com/blog/2023/06/30/revolutionizing-classroom-management-with-iot-and-raspberry-pi/
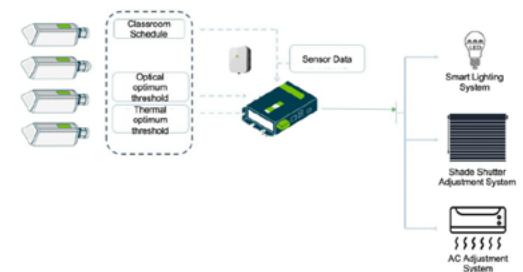
Attendance Tracking System Powered by reTerminal DM

Seeed Hardware

reTerminal DM

Industry

Smart Building, Smart Office

Solution Introduction

A partner specializing in biometric technology provides a complete set of biometric software support and collaborates with Seeed's Raspberry Pi®-powered HMI to offer a whole set of biometric solutions to end customers. This solution uses facial recognition to record time and attendance data and access control, which is essentially an electronic punch card machine that helps support the development of smart offices for global customers.

Location

USA

Learn More

https://www.seeedstudio.com/blog/2023/06/30/biometric-technology-together-with-seeeds-raspberry-pi-powered-hmi-solution-improving-time-and-attendance-tracking-for-smart-offices/

reTermianl DM Powered Intelligent Control System in Smart Building

Seeed Hardware

[EdgeBox-RPI-200](#), [reTerminal DM](#)

Industry

Smart Building, Energy Management

Solution Introduction

A Chinese smart building solution provider is a well-established player in the industry with over 15 years of experience and strong software development capabilities. Collaborating with Seeed, they have developed an intelligent control system for multi-story office buildings using adaptive control methods that provide a constant and comfortable environment. The system employs Raspberry Pi®-powered hardware, EdgeBox-RPi-200, and reTerminal DM.

Location

China

Learn More

https://www.seeedstudio.com/blog/2023/06/30/revolutionizing-smart-buildings-with-raspberry-pi-powered-intelligent-control-systems/
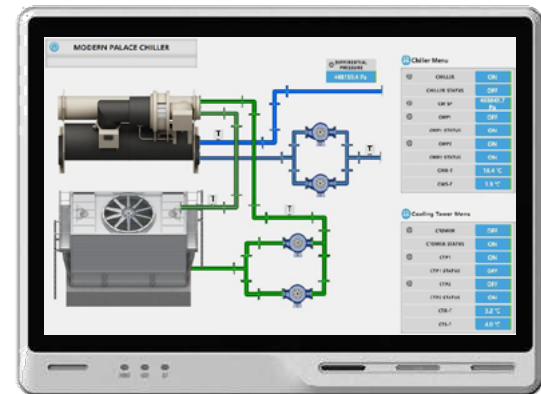
Centralized, Privacy-conscious, and AI-driven Home Automation Solution

Seeed Hardware

reTerminal

Industry

Smart Home

Solution Introduction

Integrating Home Assistant OS on the Seeed Studio reTerminal and then installing Frigate as an add-on, along with a Coral USB TPU (Tensor Processing Unit), offers several benefits for your smart home setup and home automation projects. This transformative trio offers a unique opportunity to establish a centralized, privacy-conscious, and AI-driven home automation setup that not only enhances your lifestyle but also ensures the safety of your loved ones and property.

Learn More

https://www.seeedstudio.com/blog/2023/08/21/creating-a-smart-and-safe-haven-at-your-home/
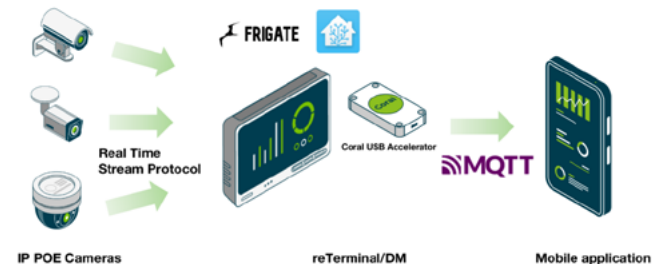
reTerminal and reTerminal DM in Energy Management

Seeed Hardware

reTerminal, reTerminal DM

Industry

Energy Management

Solution Introduction

An innovation solution provider specialized in energy management using reTerminal and reTermianl DM as additional safety controllers. They work as an additional redundant system to ensure the company's product is meeting safety and regulatory requirements. In these systems, reTerminals are also in charge of reporting relevant information to the cloud and using the LTE capabilities to report in events of power outages.

Location

Germany

Safety Controller, HMI

Indoor Energy Management

Seeed Hardware

EdgeBox-RPI-200

Industry

Energy Management

Solution Introduction

A solution provider from an European country integrates their in-house developed indoor energy management software with a range of hardware solutions provided by Seeed Studio, including various sensors and Raspberry Pi® gateways. This integrated solution is extensively utilized in end customers' indoor energy management projects. When indoor air quality reaches a certain level, it can activate ventilation or air purification devices.

Learn More

https://www.seeedstudio.com/blog/2023/12/12/raspberry-pi-empower-indoor-energy-management-efficiency/

Digitalize and Streamline Medical Checkups with reTerminal DM

Seeed Hardware

[reTerminal DM](#)

Industry

Healthcare

Solution Introduction

A system integrator in healthcare is using reTerminal DM as the tablet for healthcare staff to handle various operations such as registration, login verification, testing, and view health testing results, as well as manage health data by scanning the QR code.

Location

China

Learn More

https://www.seeedstudio.com/blog/2023/06/29/streamlining-medical-checkups-enhancing-medical-practices-with-seeeds-raspberry-pi-powered-customizable-reterminal-dm/

Panel PC

reTerminal Powered Fire Detection and Prevention System

Seeed Hardware

Raspberry Pi-powered HM: reTerminal DM

Software Solution

HEATSYNC, an IOT Thermal System developed by Jordan Broome

Solution Introduction
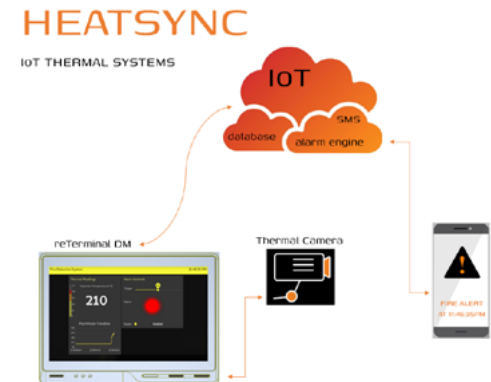
In Texas, an innovative engineer, Jordan Broome, has developed a unique approach to fire monitoring and prevention for extensive industrial applications. He has integrated Seeed Studio's Raspberry Pi®-powered device reTerminal DM into a fire detection system. This system employs an ethernet-based thermal camera to identify the highest temperature spot in the video frame every 500 milliseconds. The system not only displays the current temperature but also plots a running chart of the temperature over the past minute. Upon detecting temperatures surpassing a user-defined threshold, the application activates the reTerminal DM's internal buzzer (with an option for silent alerts), sends a notification to a server ultimately resulting in an SMS alert, and triggers output(s). This setup empowers the end-user to implement customized automated responses tailored to specific safety requirements.

Location	Learn More
Texas, US	https://www.seeedstudio.com/blog/2023/12/08/raspberry-pi-powered-unique-approach-to-fire-monitoring-and-prevention-for-extensive-industrial-applications/

reTerminal DM in Manufacturing

Seeed Hardware

[reTerminal DM](#)

Industry

Manufacturing

Solution Introduction

A Canadian company specialized in manufacturing has deployed reTerminal DM in their telemetry system to assist the customers . In this system, reTerminal aggregates various sensor readings over BLE and works as an HMI. It records the sensor data and subsequently transmits the recorded data to the cloud through a cellular connection.

HMI

Location

Canada

AI-based Defect Detection Powered by reTerminal DM

Seeed Hardware

reTerminal DM

Industry

Manufacturing / AI Detection

Solution Introduction

The system is based on reTerminal DM, equipped with their AI detection camera and deployed with their deep learning algorithms. This solution is for manufacturing and inspection during the mass production process, with a particular focus on improving the efficiency of defect detection and assembly verification. It reduces the time and error rate associated with manual inspection. The system will be extended to a wider range of production scenarios in the future.

Learn More

https://www.seeedstudio.com/blog/2023/12/12/raspberry-pi-empowers-deep-learning-based-inspection-systems-for-manufacturing/

reTerminal DM in Crane Production Industry

Seeed Hardware

reTerminal DM

Industry

Crane Production Industry

Solution Introduction

A German company in crane production industry deployed reTerminal DM to update work stations in their plant. The reTerminal DM runs a Python application that connects to an MSSQL database and displays production information, even in industrial harsh conditions.

Location

Germany

HMI, Panel PC

reTerminal DM in Mining Industry

Seeed Hardware

[reTerminal DM](#)

Industry

Mining Industry

Solution Introduction

A mining company is using reTerminal DM for safety distance detection and warning for mining trucks. When people or vehicles approach the mining trucks, the system alerts the drivers. The reTerminal DM serves as a LoRaWAN gateway, receiving UWB signals and mining truck GPS positioning to determine the distance between individuals and the trucks.

Location

Danmark

Learn More

https://www.seeedstudio.com/blog/2023/12/26/raspberry-pi-hmi-reterminal-dm-ensures-mining-truck-safety-with-distance-detection-and-alerts/
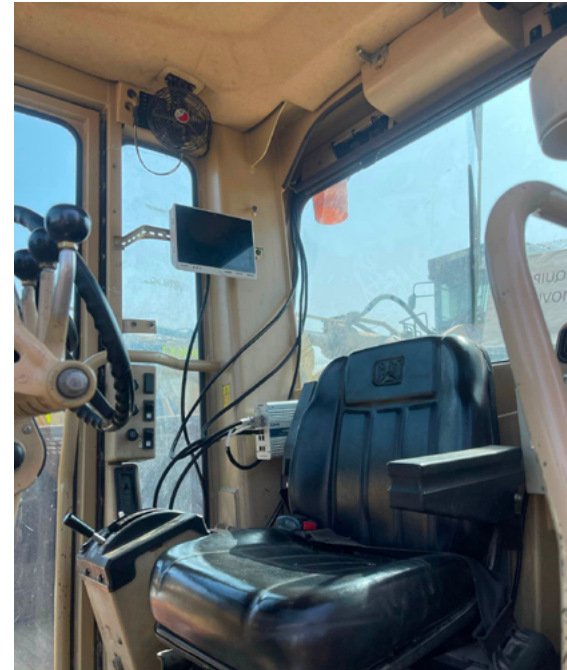
Gateway, HMI

Workplace Safety Using reTerminal DM

Seeed Hardware

reTerminal DM

Industry

Civil Engineering Construction Fields

Solution Introduction

The PPE detection system is a vital component in enhancing workplace safety. This solution involves a real-time detection system to ascertain whether essential Personal Protective Equipment (PPE) is being worn. The highly effective Raspberry Pi®-powered reTerminal DM with a built-in camera, by leveraging the power of YOLOv5 deep neural netwrok architeture in TFLite version. reTerminal DM, achieves an impressive performance of 10 frames per second (FPS). Furthermore, by incorporating a Coral TPU, the system can achieve an enhanced speed of 20 FPS.

Learn More

https://www.seeedstudio.com/blog/2023/12/28/enhancing-the-safety-of-the-workplace-using-raspberry-pi-powered-reterminal-dm/

reTerminal and reTerminal DM in Event Photograph

Seeed Hardware

reTerminal, reTerminal DM

Industry

Event Photograph

Solution Introduction

PhotoNodes from the USA, uses the reTerminal and reTerminal DM as mobile and stationary kiosk/print servers seperately at live events. Photos that have been taken by the photographers are available for viewing and printing on kiosks connected to the reTerminal servers on site. The reTerminals act as both a local access point for the camera to connect to and also connects to the web application where the photos are ultimately stored.

Print Server, HMI

Location

United States

Learn More

https://www.seeedstudio.com/blog/2023/02/27/streamlining-event-photography-with-seeed-studios-reterminal-kiosk-server/

Road Marketing System Integrated with Raspberry Pi®

Seeed Hardware

reTerminal

Industry

Infrastructure

Solution Introduction

A road marking solution provider utilized Seeed's reTerminal, a Raspberry Pi®-powered HMI, as the central control unit for their trucks. With an Ethernet connection, reTerminal effectively managed custom control devices, ensuring seamless coordination for paint dispensing and line marking. The compact 5-inch size of reTerminal simplified installation, optimizing the control system's efficiency. This integrated solution improved road marking operations, contributing to safer and more convenient road infrastructure.

Road Marking, HMI

Learn More

https://www.seeedstudio.com/blog/2023/12/28/enhancing-the-safety-of-the-workplace-using-raspberry-pi-powered-reterminal-dm/

Raspberry Pi

Raspberry Pi
Approved Reseller

Raspberry Pi
Design Partner

Customize Your Own Raspberry Pi®
Hardware Solution

We Could be Your Reliable Raspberry Pi® ODM Partner

With over 14+ years of experience as an open-source hardware manufacturer and an official Raspberry Pi® design partner, we offer two efficient ways to bring your concept to life swiftly. Choose from customizing our existing Raspberry Pi®-powered devices or utilize our comprehensive one-stop-shop customization service to design from scratch.

Seeed's Raspberry Pi® Reference Design　　**Custom Design Inquiry**

Customize Logo　Flash Firmware　Branding and Labeling　Certifications　Add/Remove Functional Modules　Modify I/O Ports　Design Enclosure

Customization Case

reTerminal in Smart Packing

Seeed Hardware

reTerminal

Industry

Smart Packing

Solution Introduction

Our client has been operating end-to-end packing systems at several large fruit packhouses in South Africa, customizing packaging and labeling semi-robots.They have been using customized reTerminals as the smart labling HMI at large fruit packhouses.

Location

South Africa

Learn More

https://www.seeedstudio.com/blog/2022/10/08/odm-services- for-smart-packing-the-reterminal-for-semi-automated-packhouse/

Print Server, HMI

reTerminal in Water Management

Seeed Hardware

reTerminal

Industry

Water Management

Solution Introduction

A system integrator in SCADA and automation solutions is using reTerminals as the HMI and embedded serve in Remote Terminal Unit (RTU) system for flood mitigation and pump control systems.

Location

Malaysia

Learn More

https://www.seeedstudio.com/blog/2023/03/31/integrating- reterminal-in-building-an-efficient-water-management-scada-system/

SCADA HMI, Panel PC

reRouter in Security

Seeed Hardware

reRouter

Industry

Security

Solution Introduction

A US-based company Patrolio deployed a reRouter-powered security solution together with its active deterrence IP Camera and security monitoring service, ensuring a more intelligent and responsive neighborhood.

Location

USA

Learn More

https://www.seeedstudio.com/blog/2023/06/08/a-safer- tomorrow-rerouter-is-enhancing-security-monitoring-solution/

Processor Hub

reTerminal in Forest Monitoring

Seeed Hardware

reTerminal

**Industry**

Forest Monitoring

Solution Introduction

A data security-focused software system integrator utilized reTerminal and our Raspberry Pi®-based ODM service to enhance their forest management software for end customers. With the help of reTerminal, rangers are able to remotely control cameras, capture photos, and receive image transmissions. These images are then stored on the reTerminal's SD card or eMMC for later analysis at the data center.

Location

Indonesia

Seeed Customized Forest Monitoring Solution

Field Cameras — Handheld reTerminal & Expansion Board — Forest Rangers — Forest Management Center
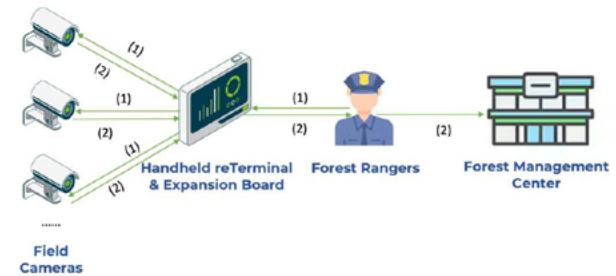
(1) Forest Rangers carry the handheld reTerminal in the forest, and interact the device to communicate with on-field cameras to take batch photos, set timed photo taking, and adjust photo interval via LoRa

(2) When Forest Rangers issue image transmission command, the cameras send images captured back to the device, where the images stored in SD card or eMMC. Then the forest rangers take the images back to center to analyze.

Control Center

Make Profit From Your Ideas with Co-create

Co-Create Program is tailored to elevate your well-established prototypes into profitable products. By streamlining marketing, packaging, and shipping processes, this program grants you more time to focus on the core of your work—product development. Once your prototype is approved by Seeed, it will be featured on Seeed Studio's marketplace. For every product sold, you earn a share of the revenu.

Know More Details   **Apply Now**

Co-create Success Stories

Creator

Flavio Ansovini - an enthusiast of electronics

Solution

Low Consumption Öchìn CM4 Carrier Custom Board Applied In Robotics, Drones, Home Automation and IoT, Manufactured by Seeed Fusion.

Learn More

https://www.seeedstudio.com/blog/2022/03/16/low-consumption-ochin-cm4-carrier-custom-board-applied-in-robotics-drones-home-automation-and-iot-manufactured-by-seeed-fusion-pcba/

Creator

Villmer - the founder of POP

Solution

POP CAMERA Virtual Reality Kit | A Revolutionary DIY Device for Creating Immersive 360° Video Experiences Powered by Seeed Fusion PCBA and Raspberry Pi® CM4

Learn More

https://www.seeedstudio.com/blog/2023/06/14/pop-camera-virtual-reality-kit-a-revolutionary-diy-device-for-creating-immersive-360-video-experiences-powered-by-seeed-fusion-pcba-and-raspberry-pi-cm4/

Seeed Studio & Raspberry Pi®

Series Catalog V2.1
February.2024

CONTACT US

Let us be your trusted Raspberry Pi® partner, send us an email at edge@seeed.cc

Check out our Raspberry Pi® Landing Page: https://www.seeedstudio.com/raspberry-pi

HEADQUARTERS: 9F, Building G3, TCL International E City, Zhongshanyuan Road, Nanshan, 518055, Shenzhen, PRC

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