HANBACK ELECTRONICS Since 1984

Block chain

It provides a wide range of experience from basic concept of blockchain to P2P network system, network security, block data analysis, and cryptocurrency development using Java. It explains high-level technology in easy way. You can use Java to train on various operating systems.

www.hanback.com

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V2.1.0

Product specifications and appearance of this catalog are subject to change without notice for quality improvement.

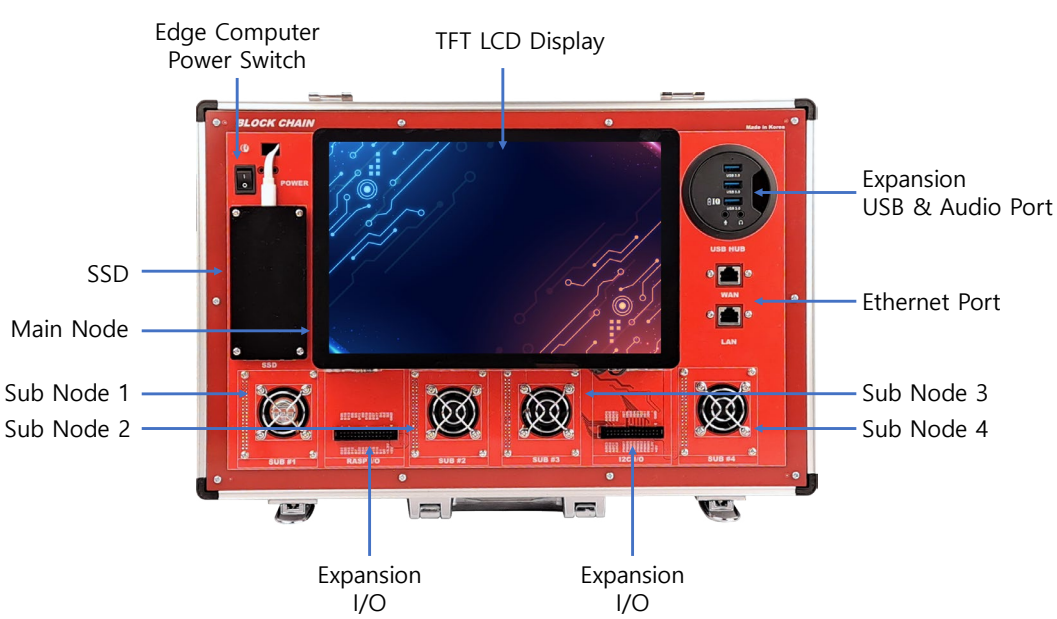
Blockchain

This product has been developed to provide wide and deep knowledge and experience from the basic theory of Blockchain to the development practice. Blockchain is the new technology that will change the root of existing database system as well as the future financial market. This product is based on Java to enable learning in various operating system environments. You can develop your own cryptocurrency through P2P network, network security, SHA-256 hash, RSA encryption algorithm, and block data analysis.

Product Features

- Learn basic concept and theory about blockchain
- Able to train on various OS such as Linux, Windows, and Mac, etc.
- Provides experiences of Socket programming and TCP/IP communication
- Provides training about SHA-256 hash, RSA cryptographic Algorithm, and other cryptographic
- Provides theory and practice about P2P Network System
- Provides theory and practice about network security
- Provides theory and practice about data analysis
- Provides development process of cryptocurrency using Blockchain
- Able to train about various networks and security theories.
- Able to train specific structures and theories of commercial cryptocurrency
- Five embedded systems are available for distributed processing

Layout



Hardware Specification

Module	Specification
Main Node	Quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
	2GB LPDDR4-3200 SDRAM
	Gigabit Ethernet
	H.265 (4kp60 decode), H264 (1080p60 decode, 1080p30 encode)
	Micro-SD card slot & 32GB SD Card
	M.2 SSD 128GB
Sub Node 1~4	Quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
	2GB LPDDR4-3200 SDRAM
	Gigabit Ethernet
	H.265 (4kp60 decode), H264 (1080p60 decode, 1080p30 encode)
	Micro-SD card slot & 32GB SD Card

Module	Specification
LCD	10.1" Display
	1280 x 800, HDMI, 10 point IPS TouchScreen
Wired IP Router	1x10/100/1000Mbps WAN
	10/100/1000Mbps PC Port
	128MByte DRAM, 128MByte NAND Flash Memory
Expansion Port	USB3.0 3port
	Audio Headphone OUT Port, Mic IN Port
	GPIO Port (+5V, +3.3V, GND, GPIO 27)
	Expansion Port (+5V, +3.3V, GND, SPI ADC 8 Port, I2C PWM 16Port)

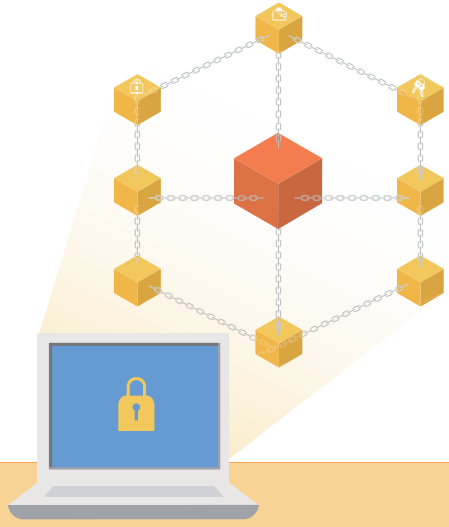
Software Specification

Module	Category	Specification
Main Node	OS	Debian 8
	Kernel	4.19
	Java	JDK 1.8.0_172 Java 10.0.1
Sub Node	OS	Debian 8
	Kernel	4.19
	Java	JDK 1.8.0_172 Java 10.0.1
Development Software	Java	JDK 1.8.0_172 Java 10.0.1
	IDE	Eclipse Photon 4.8.0
	Library	HBE-Crypto Chain 1.0.7 HBE-Base58lib 1.0.1 HBE-P2PNET 1.1.2 HBE-Protectors 1.0.2 HBE-Dataset 1.0.0 HBE-Miner 1.1.0

Textbook Chapter

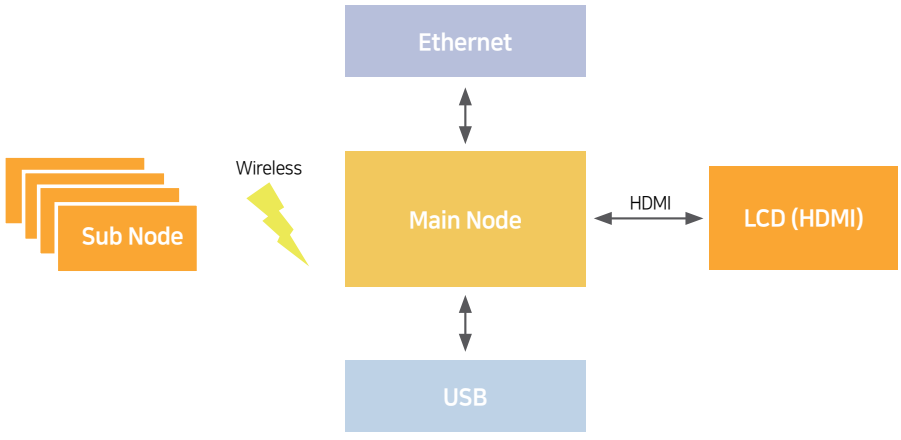
- Blockchain Overview
- P2P Network
- Secured Communication
- Block Data & Mining
- The Mechanism and Structure of Cryptocurrency
- Cryptocurrency Development

Appendix I. Recover Exercise Equipment

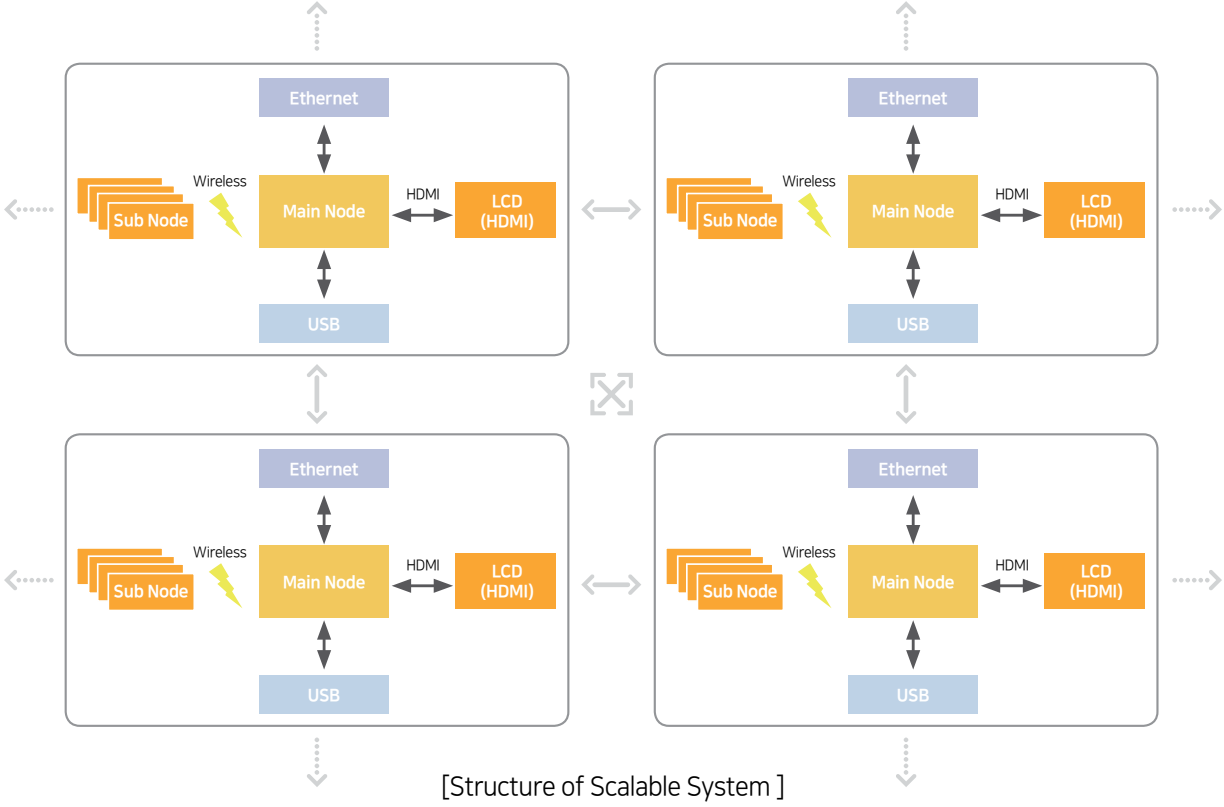


Block Diagram

[Hardware]

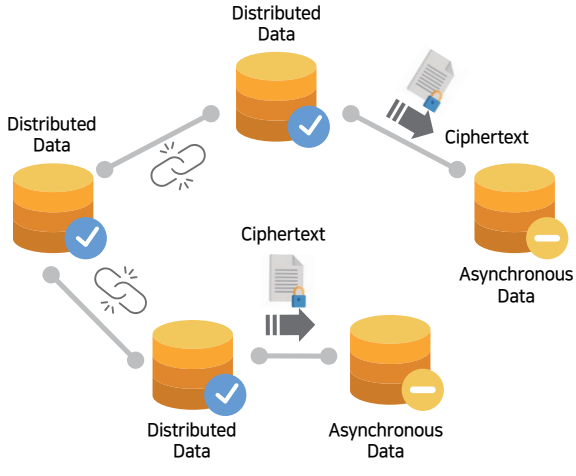


[Structure of Main System]

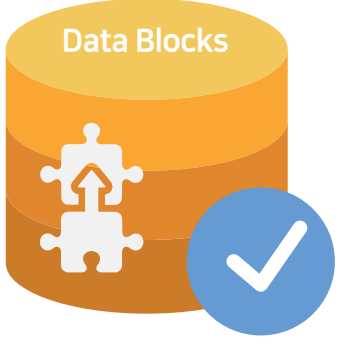


[Structure of Scalable System]

[Software]



[Secure Connection P2P Network]



[Permanently Linked Data Blocks]