YANG SU

PERSONAL INFORMATION

Gender: Male
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EDUCATION

Shanghai Jiao Tong University *September 2017 - June 2020*
Major: Control Engineering Master of Engineering

Nanjing University of Information Science and Technology *September 2013 - June 2017*
Major: Electrical Engineering and Automation Bachelor of Engineering

RESEARCH EXPERIENCE

A decentralized IoT identity management system based on blockchain *July 2019 - February 2020*

- Designed smart contracts on Ethereum platform and combine IPFS to achieve the process of creating, restoring, deleting of the DID (Decentralized Identifiers) of IoT devices.
- Designed a IoT device prototype based on LPC55S69 (MCU, produced by NXP company), ESP32 module (WiFi), HC05 module (BlueTooth). LPC55S69 has the Peripherals such as PUF (Physical Unclonable Functions), TRNG (True Random Number Generator) and TrustZone which could be used to protect the security of DID.
- Developed an app based on Android which could be used to generate the DID of user and communicate with IoT device through Bluetooth to trigger it to generate DID.

Charging payment system based on blockchain *July 2018 - February 2019*
This is a POC project cooperating with BMW company, which aims at using the blockchain technology to explore the new payment method in charging scenario of electrical vehicles.

- Set up a private chain through ethereum, and wrote the code of smart contracts on it to complete the deduction of charging payment.
- Transformed an commercial charging pile and added a raspberry pi 3B+ in it as the controller to control the start and stop of charging. The program was written in python. There was also a raspberry pi in the electrical vehicle.
- Designed and coded the interactive process between the charging pile and electrical vehicle, In short, When the car drived close to the charging pile, they would communicate through the bluetooth. The car would pay enough deposit to the address of contract, the charging pile would verify it and start charging. After the finish of charging, the charging pile would pay back the redundant deposit.
- Designed a charging pile background management system based on Django and Bootstrap which can get the GPS information and the charging state of charging pile.

Medically assisted evaluation devices *September 2017 - January 2018*
The interns need to practice on the simulation baby about cardiopulmonary resuscitation (CPR) and the operation of the oxygen bottle. Current evaluation method is by experienced doctor, the project aims at using extra devices to evaluate the intern's operation. Unfortunately, the project just completed partly because my tutor failed to cooperate with the hospital.

- Designed the PCB of the device, and choosed relevant chips mainly including CC2640R2F(BLE chip produced by TI),BMP280(air pressure detection),Thin film pressure sensor.
- Wrote programs on the CC2640R2F to drive the BMP280 to get the raw data of air pressure and wrote the data into the corresponding BLE air pressure service.
- Developed an app based on android which could discover and connect our BLE device, search the air pressure service to get the raw data and then handle it to get the actual pressure data.

SKILLS

* Skilled in using C , JAVA, Python, JavaScript programming language and code reading.
* Familiar with Embedded program development. Until now, I have developed in many chips including 8051 (STC), MSP430F149 (TI), CC2640R2F (TI), STM32F149 (ST, cortex M3), STM32F407 (ST, cortex M4), LPC55S69 (NXP, cortex M33), S3C6410 (ARM 11), Exynos4412 (Cortex-A9),Rspberry pi.
* Familiar with the embedded operating system including embedded linux, FreeRTOS and TI-RTOS.
* Familiar with the use of various sensors, can quickly build electronic design prototypes and write corresponding codes.
* Familiar with the blockchain theory, the development of smart contracts on ethereum based on solidity language.

AWARDS & HONORS

* The Second Prize in the 7th Blue Bridge Cup provincial competition of embedded Design and Development Group *20 March 2016*
* The Second Prize in the 6th Robot Competition for College Students in Jiangsu Province *8 November 2015*
* The National Second Prize in 2015 National Undergraduate Electronic Design Contest *December 2015*
* The First Prize of TI Cup of Jiangsu Province in 2015 National Undergraduate Electronic Design Contest *August 2015*
* The First Prize in the 5th Electronic Design Contest of Nanjing University of Information Science and Technology *June 2015*
* The First Prize in the 12th Advanced Mathematics Competition of Nanjing University of Information Science and Technology *February 2014*

PUBLICATION & PATENT

* **Yang Su**, Jing Wu, Chengnian Long*, Lijun Wei. **Secure Decentralized Machine Identifiers for Internet of Things**. The 2nd International Conference on Blockchain Technology, Hawaii, USA, March 12-14, 2020.
* Xuehui Zhang, **Yang Su**, Jia Xu, Haoran Li. **Infrared remote control two-wheel self-balancing car design**[J]. Information Technology, 2015(09):91-94. DOI=10.13274/j.cnki.hdzj.2015.09.025 [PS: **Student First**]
* **Yang Su**. utility model patent: **A remote fire control device**. CN 201620170033.
* Peng Mao, **Yang Su**, Kai Hu, Chao Shen. utility model patent: **Real-time monitoring and alarm device for baby temperature**. CN 201420847908. [PS: **Student First**]

STANDARD TESTS

IELTS:6.5 (Listening 6.5 / Reading 6.5 / Writing 6.5/ Speaking 6) *14 September 2020*