

Implementation of Smart Farm Devices using Open Source Software

Sunghyun Yoon, Mun-Hwan Choi, Juyoung Park

Protocol Engineering Center, Electronics and Telecommunications Research Institute

218 Gajeong-ro, Yuseong-gu, Daejeon, 34129, KOREA

shy72@etri.re.kr, mhchoi@etri.re.kr, jypark@etri.re.kr

(Pt9)Abstract—With the recent development of IoT technology, a variety of products and services that were previously not implemented due to technical limitations are gradually becoming feasible. Accordingly, in the agricultural field, smart farm implementation is gradually spreading through the use of IoT technology. In this paper, we analyse standard technologies for smart farms through implementation of smart farm devices using IoTivity, an open source software provided by OCF which is a middleware standard technology for logical interoperability between IoT devices.

(Pt9)Keyword— Smart Farm, Smart Agriculture, IoT, OCF, IoTivity



Sunghyun Yoon is a principal researcher of Protocol Engineering Center in Electronics and Telecommunications Research Institute (ETRI), Korea. He received a Ph.D. degree from the Chungnam National University, Korea in 2012. Since 2000, he joined ETRI and has performed many research projects in the area of network system engineering, network simulation, network evolution, network mobility, service management, unified AAA architecture, trusted reality, smart IoT platform and so on. Currently, he is involved mainly in the development of standards for interoperable smart farm ICT devices. His research interests include edge cloud based smart farm management and control platform, web based smart farm data model and smart farm service API.



Mun-Hwan Choi a senior researcher of Protocol Engineering Center in Electronics in Electronics and Telecommunications Research Institute (ETRI), Korea. He received a Ph.D. degree from the Kunsan National University, Korea in 2008. Since 2007, he joined ETRI and has performed many research projects in the area of local communication network, terminal device conformity assessment and smart farm so on. His research interests include telecommunication technical criteria, terminal device technology standards and smart farm device interoperability.



Juyoung Park is a principal researcher of Protocol Engineering Center in Electronics in Electronics and Telecommunications Research Institute (ETRI), Korea. He received a Ph.D. degree from the Chungnam National University, Korea in 2001. Since 2001, he joined ETRI and has performed many research projects in the area of Multicast, QoS protocol and architecture, IoT, Smart Agriculture, Wireless power transmission. He is also an international standards expert of ITU-T SG11, SG13, SG20 and IEC TC100.