

White Paper

IoT Development Enters the Open Innovation Craze



Accelerating the implementation of different vertical IoT applications requires an open collaborative approach whereby people together could innovate through the power of open innovation, promoting self-development and seeding the growth of IoT development.

The Internet of Things (IoT) is a major trend, and one of the most popular industry models for IoT implementation today is to combine cloud computing and big data analytics technology to develop application-specific solutions. But the big question is how to accelerate the development of such vertical IoT applications?

Businesses across different fields hope IoT can accelerate the expansion of different vertical applications. Many businesses, although eager about IoT development, still operate on a traditional, closed architectural approach, and are bounded by the limits of their products, technology, and industry knowledge. As such, most businesses struggle to respond effectively to the rapid market change, stagnating the overall market transition.

Alex Perng, General Manager of NEXCOM's IoT Business Unit, with years of experience engaging in the IoT field, has recognized on how large the scale is for IoT. Perng states, "IoT involves the integration of various technologies and domain knowledge across industries. Without cross-industry collaboration, the development of IoT applications will be limited in its scope and reach. Therefore, breaking through the limitations and stalled situation requires an open collaborative approach whereby people together could innovate through the power of open innovation, promoting self-development and seeding the growth of IoT implementation."

Innovate Through the Power of Open Community

Perng believes that the major prerequisite for applying open innovation in practice is to build a cloud-based open community environment in which participants with different expertise and vertical industry

knowledge can share resources and leverage the different development tools from each other. Innovators could come together in the community and exchange innovative ideas and creative knowledge to effectively find appropriate products or solutions that fill the gaps of each others' shortcomings.

For example, when new startups develop a solution suite for a rather specific, niche application, the open community can serve as a platform to seek out cross-industry partners to help accelerate product designs from the proof of concept (PoC) phase into commercialization. Think of it like Lego pieces that stack up on each other to complete a final product, a piece of valuable tool that solution seekers can use to develop mid- to large-scale applications and expand business opportunities.

In the era of makers, there is no lack of aspiring creators. But few are reliable and high-quality supply chains that provide the right product or component. Also creators have encountered technical barriers that further delay development progress. A service-based open platform can offer a solution to these development challenges in two ways. First, it can function as a marketplace that provides a complete supply chain of cross-industry applications, products, components and solutions, assisting creators to quickly obtain the required resources to focus on application development. Second, it can serve as the LinkedIn platform of the IoT world, allowing creators from different fields to interact and exchange ideas and resources to solve design uncertainties and trigger new inspirations.

Free Tools and Source Codes to Shorten Development

To support an open IoT community, NEXCOM IoT Studio configuration tool, NexROBO robot control simulation software, and ToGazer video conferencing software are offered free of charge to promote member participation and overcome development obstacles.

In addition, through contributions from members in the open IoT community, various kinds of free tools and source codes are readily available to promote member participation and overcome development obstacles. Perng explains, "IoT applications rely on various connected end devices. To this end, NEXCOM has developed the NEXCOM IoT Studio software, which is an open source configuration tool which provides an easy-to-use graphical user interface (GUI). Based on a drag-and-drop design, NEXCOM IoT Studio offers a simple way to map frontend and backend connections of IoT devices, allowing developers to focus efforts on applications."

NEXCOM looks forward to an open IoT community and offers NEXCOM IoT Studio free of charge. Additional NexROBO robot control simulation software, EtherCAT master software and ToGazer video conferencing software are also available on an open platform for users to download.

NexROBO can assist the application development of smart robots, freeing up the time required for developing motor

drives and controllers for laboratory testing and the time to code motor control programs. It helps familiarize developers with robot operating conditions and allows them to focus on algorithm design. ToGazer, on the other hand, is a WebRTC-based video conferencing tool that allows users to conduct long-distance, multi-session conferences through web browsers. It includes network video recorder (NVR) functionality for archiving conference sessions. ToGazer can also be used in other applications such as video surveillance and image analytics.

Overall, NEXCOM believes that the application of IoT is in a flourishing phase and is rapidly shaping into a mature industry. And by adopting the principles of the sharing economy; making relevant software tools freely available to download through an open platform backed by a complete supply chain management and online marketplace, developers and makers alike can tap into a pool of collective wisdom and expertise to further accelerate IoT growth. To download free software or exchange knowledge and ideas, please visit www.alliotcloud.com.



The Intelligent Systems

Founded in 1992, NEXCOM integrates its capabilities and operates six global businesses, which are IoT Automation Solutions, Intelligent Digital Security, Internet of Things, Interactive Signage Platform, Mobile Computing Solutions, and Network and Communication Solutions. NEXCOM serves its customers worldwide through its subsidiaries in five major industrial countries. Under the IoT megatrend, NEXCOM expands its offerings with solutions in emerging applications including IoT, robot, connected cars, Industry 4.0, and industrial security.

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