IoT Interoperability Workshop

Blue Bite Position Paper

With the continual evolution of IoT, engineers in the field have built various data formats, often with several application layer protocols. What is more is that these engineers have sought to execute similar use cases and ideas, but have used slightly different encoding iterations, thereby creating a disharmony between systems and a hurdle for interoperability. This lack of cohesion has ignited a conversation about the global standardization of IoT formats to achieve interoperability. It has also called into question the possibility to harmonize what is already in existence.

Within our own engineering feats and accomplishments, Blue Bite has been able to achieve a level of harmonization between protocols and encodings, and we have also been able to normalize user and audience data sets across thousands of campaigns and technology onramps. However, while we have been able to build harmonized data sets, the synchronization between our platform and the various systems of our clients or partners is often a one-off success. We have yet to build a way in which we can easily harmonize between clients and projects, and recognize the need to create a format that can function across the systems of different groups. It is our position, therefore, that a global standard is necessary.

To give some background:

Blue Bite was founded nine years ago with a technology agnostic outlook. Instead of supporting only one particular technology type, we have built a robust platform that currently spans a spectrum of six mobile technologies. Over the years our business has had to repeatedly “mix and match” combinations of these technologies for campaigns and projects. This posed the question of how we could harmonize across the technologies and their accompanying encodings, as well as normalize the data sets that were collected through each technology. Even more so, we found a need to normalize data sets across unrelated campaigns for audience measurement and content personalization purposes. To solve this challenge we developed open APIs that allow for interoperability between the diversified layers of a project and various providers. Moreover, we have built a platform that can distill the data of an individual user across multiple technologies at various touchpoints over time, creating normalized data sets for unique users, independent of onramp or campaign.

Our most recent case study demonstrating this harmonization is a project we did with world-renowned athletic apparel brand adidas. adidas approached Blue Bite and our partners with the intent of creating an experience that would allow it to continue its relationship with the consumer after the point of sale. To create the system required the input of various partners, each contributing to different aspects of the deployment. To illustrate: adidas was the designer and manufacturer of the shoe; adidas handled production, content and CRM integration. Dealing directly with the production side of adidas was Smartrac, the world’s leading RFID manufacturer, and adding the digital consumer layer to that NFC sensor was Blue Bite - the IoT team of the project. (Note: while we were dealing with NFC for this particular deployment, our systems can integrate with Bluetooth, WiFi, and any other type of sensor technology or provider). In this case, our systems had to ingest data during production from Smartrac in order to render the appropriate consumer experience for each shoe based on the shoe’s metadata. At the same time, our system had to take the correct inputs and rules from adidas’ content platform and also report into a CRM with each consumer interaction.

While each team—adidas, Smartrac, and ourselves—worked across different encodings and technologies, we were able to harmonize the entire project using tools that we have created, such as open format APIs. We have the means to repeat this harmonization with any new adidas project, since the project will stay within the ecosystem of components we have already built. However, it would not be as easy to integrate with a new brand using a different sensor manufacturer with completely different systems and protocols.

In sum, we advocate for standardization amongst IoT encodings and applications so as to allow for interoperability. As a company whose main philosophy is providing audiences with valuable user experiences, having the ability to harmonize across brands and projects will allow consumers to benefit from the power of IoT and empower developers to take the Internet of Things to new places and explore new use cases. With interoperability, IoT will be able to take an even stronger foothold in daily life as we continue to move into the future.