

# Large-Screen Display System Monitors Risks in Online E-Commerce Transactions for National Quality Inspection Authority

## Overview of the Client

The Online E-Commerce Risk Monitoring Center is a newly created department of the General Administration of Quality Supervision, Inspection and Quarantine of the People' s Republic of China (AQSIQ). The department' s main functions include carrying out e-commerce behaviors risk monitoring, sample inspections of problem commodities reported, and investigation and punishment of the sellers and manufacturers of problem commodities.

## Services Provided

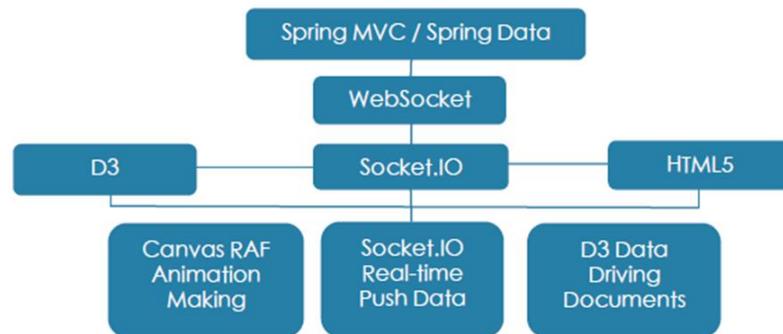
During its formative stage, Hengtian provided the client with expert consulting services on big data which earned the client' s trust.

In March 2014, Hengtian began the design and development of the Online E-Commerce Risk Monitoring Large-Screen Display System, helping the client to carry out sampling decision by conducting big data analysis for the e-commerce data collected by the client and e-commerce behavior analysis based on the big data analysis results. Both the data analysis and the overall behavior processes need to be displayed in the form of visual graphics on 18 large screens (each screen at 69 inches, 2560 x 2048 resolution) to allow close monitoring. With its rich UED (User Experience Design) experience for both Chinese and foreign clients over the years, Hengtian successfully carried out the design and development of this system.

The system displayed on three by six large screens:



Framework



## Highlights of the Hengtian Solution

- The mature Spring framework is used in the back office.
- Considering that each page needs to receive real-time push data sent by the server, WebSocket technology is adopted in the data communication, Netty-WebSocketIO optimized by Hengtian is used in the back office, Socket.IO framework is used in the front office.
- In the front office, D3 technology is used to make SVG graphs. Real-time update of data charts is enabled by Data Join.
- Special effects such as meteors flying across the screen, 3D earth rotation are facilitated by using the HTML 5 Canvas technology. The Request Animation Frame is made full use of in updating animation frames to achieve smooth transition.

### Voice of the Client

“The automation tool USAA is a great DevOps delivery device that helps us to troubleshoot Webex 11 out-of-sync issues. With it we can easily identify key information and root causes. I thank you and your team for your superior development skills and support services regarding this tool!”

—Client Project Manager