11.11 GLOBAL SHOPPING FESTIVAL 2017
TECHNOLOGY FACT SHEET

This year's Global Shopping Festival showcases how Alibaba leverages artificial intelligence (AI) and augmented reality (AR) to empower merchants to operate more efficiently and enable more engaging consumer experience. Alibaba has also developed its own infrastructure technologies which ensure the smooth running of the Festival scaling at an unprecedented pace year on year.

EMPOWER MERCHANTS

INTELLIGENT CUSTOMER SERVICE

o   For merchants, Alibaba has developed a virtual customer service robot to respond to enquiries 24/7. The robot, named "Store Xiaomi", was developed based on large-scale product data points and is equipped with self-enhancing capabilities to handle a wide range of online inquiries from prospective customers. The service has been provided to Taobao and Tmall merchants of more than 50 product categories.

o   Since the start of the pre-sale period from October 20th, Store Xiaomi has been handling on average 3.5 million customers each day across the platforms, compared to an average of 230 customers per human customer service representative.

AI DESIGNER

o   "Lu Ban", named after the patron saint of craftsman and builders in ancient China, is an AI-based marketing design platform that helps merchants to create customized online banner ads for their stores automatically, using technologies such as deep learning, reinforcement learning, Monte Carlo tree search and image search.

o   Through self-learning, "Lu Ban" has integrated this year's 11.11 marketing elements and created millions of banner designs. With its ability to generate 8,000 banner ads per second, billions of online banner ads are expected to be generated during the Festival period.

TMALL SMART CHOICE

o   "Tmall Smart Choice" is a system that helps merchants identify products which have the potential to become best-selling items. It uses a model that factors in variables including customers' needs and purchasing power, merchants' credibility and service reputation, product review and ratings, price range and seasonality, so as to forecast which merchandise would be popular among the stores' target customers. The analysis and forecast provided by "Tmall Smart Choice" can help merchants better manage their inventory and bring in more traffic for popular products.

ENGAGE CONSUMERS

THE FASHION AI

o "The Fashion AI" is a platform that provides AI-powered fashion mix-and-match suggestions for consumers. The fashion solutions it suggests are based on over 500,000 source data of fashion and dressing tips from stylists on the Taobao and Tmall platforms, as well as the store product images and mix-and-match recommendations by merchants. In selected offline stores, consumers can take the RFID-embedded clothing to the smart fitting room, where the screen inside the room will automatically recognize the selection of garments and propose items in different styles, which consumers can select and try on. Consumers can then choose whether to directly purchase the suggested matching items in the store or place the order online instead.

MOBILE VIRTUAL FITTING ROOM

o The mobile "Virtual Fitting Room" function on Taobao/Tmall app can virtual dress the customers with their selected fashion items and show them how they would look on the phone screen. Customers need only to upload a photo of themselves, input their height and weight data. Participating brands with products available for virtual fittings include Polo Ralph Lauren, Victoria's Secret, Gap/Old Navy, Guess, Adidas, Gstar, Fila, Kappa, Levis and Erdos.

AUGMENTED REALITY MOBILE GAMIFICATION – CATCH THE CAT

o The Tmall "Catch the Cat" game allows consumers to earn special promotion coupons and prizes every time they catch the Tmall cat mascot via Alibaba's Taobao and Tmall apps, encouraging more online shoppers to visit brick and mortar stores. Sixty-five brands including Mac, L'Occitane, P&G, Disneyworld, Pizza Hut and KFC have already joined the game through smart stores across China.

INFRASTRUCTURE TECHNOLOGIES

The massive scale of online traffic during 11.11 requires robust and reliable IT infrastructure that can facilitate diversified computing tasks from browsing, order, and payment to logistic arrangement. Alibaba has leveraged cloud computing and AI to ensure the festival run smoothly:

o *Autonomous end-to-end load testing*: These tests are performed multiple times using auto-scaling to ensure the predicted traffic load at peak times can be handled.
o *AI-empowered operation management*: An intelligent engine called "Da-ling" was developed to automatically allocate computation resources in a timely manner.
o *Robots in the data center*: A patrol robot was developed to undertake round-the-clock monitoring of the condition of Alibaba's North China data center. The robot is expected to remove up to 30% of the repetitive operation tasks in data center monitoring.
o *Colocation Technology*: Multiple data centers are managed as warehouse-scale computers, where jobs are scheduled automatically for optimization. Using container technology, where computation jobs are packaged in a standard way and can be easily colocated within the infrastructure, the system can save IT cost significantly and use resources across multiple platforms.