

Customer success stories: facial recognition technology

How one is fintech solution is changing the face of retail

When Shinhan Bank built Face Pay with Alchera's 3D facial feature mapping technology, the company brought next-generation payment authentication to the retail floor.

Challenge

How do large financial institutions navigate change when faced with regulatory and technological headwinds? That's the question Shinhan Bank, South Korea's second-largest financial group, faced in the mid-2000s.

By some accounts, South Korea's rather stodgy financial sector was due for a shakeup. Conservative by nature and safeguarded by regulation, stability was a cherished virtue until someone noticed what the Asian neighbors were up to. Across the region, fintech investments were maturing into a tantalizing array of services that promised to drive rapid change,¹ generate wealth, and create jobs. Think about Alipay in China, Paytm in India, and Xero in New Zealand, just to name a few examples.

By 2015, regulation in South Korea was beginning to catch up with technology. New categories of fintech were permitted. The government prioritized fintech as a job-creation tool and funded small and medium-sized enterprises (SME). The result was innovation, disruption, and opportunity.

Which course makes sense for established financial institutions in these choppy digital seas? Surely, every bank in South Korea pondered that question as the country's first fintech unicorn - TOSS - pioneered mobile P2P money transfers.²

For the Shinhan Bank, the answer was to enhance the customer experience by embracing technical innovation. Personal finance and retail transactions are part of the bank's core business. Aiming to deliver next-generation customer services, Shinhan decided to pilot Face Pay, a facial recognition payment system.

The problem was finding the right technology partner. The answer was Alchera.

Solution

To build Face Pay, Alchera deployed AIIR, its deep learning facial recognition technology. In basic terms, AIIR locates and digitally reconstructs faces in a photo using a patented algorithm. The software runs the digital face through a database and returns a result (verified match or no match).

¹ <https://www.mckinsey.com/industries/financial-services/our-insights/bracing-for-seven-critical-changes-as-fintech-matures>

² <https://qz.com/1487760/valued-at-over-1-2-billion-toss-is-koreas-first-fintech-unicorn/>

AIIR uses a lightweight software development kit (SDK) which can be deployed in an app or kiosk. It works with all operating systems and is compatible with any modern phone camera or webcam.

Speed is vital, but accuracy is the best measure of facial recognition efficacy. Precise image matching streamlines payments and protects consumers, as well as retailers. False positives can cause failed transactions or customer account lock-out. Mismatches can turn into fraudulent charges.

AIIR delivers market-leading accuracy by analyzing faces in three dimensions while taking into account head pose and scale. Regardless of head position in the photo, the AIIR algorithm reconstructs a front-facing image. This process, called frontalisation, helps AIIR generate accurate matches.

Results

Powered by Alchera, Shinhan launched its Face Pay pilot in 2019. Based on favorable results and strong positive feedback, the bank decided to roll out stage two.

Working with a Korean university, a scaled-up version of Face Pay will be used to authenticate student and staff on-campus purchases and replace plastic student ID cards to control access to school activities and facilities. In addition, a national convenience store chain will roll out Face Pay in its new-concept unstaffed shops.

The fourth industrial revolution, like a locomotive steaming through untamed territory, is disrupting the old social order and driving fintech change. That's why forward-thinking firms like Shinhan seek out partners with next-generation ideas and technology, like Alchera.

Quote

"... the plan for the upcoming future is to make traditional methods obsolete, and turn to plastic-free and deviceless payments." ³

- Ryoo Tae-hyun, Director of Shinhan Card's Digital First Division

Face Facts

2015: Mastercard launches first facial biometric authentication app

2017: Alibaba's Smile to Pay launches in China

2019: Shinhan pilots Face Pay program

2019: WeChat in China launches facial authentication program called Frog Pro (with POS screens equipped with a 3D camera)

2020: Facial recognition used to control access at Tokyo Summer Olympics

³ <https://www.biometricupdate.com/201910/korean-bank-to-integrate-blockchain-biometrics-iot-payments>

About Alchera

We're a technology startup from South Korea. Our domain is artificial intelligence (AI) and augmented reality (AR). Supported by a team of experts in computer vision, deep learning, graphics, data science, and software engineering, we solve problems.

Since 2016, Alchera has empowered businesses to launch products, improve efficiencies, and bring the power of visual AI to their organization.

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