

**vitanet****VitaNet Japan, Inc.**

Cloud service to extend mobile app use to frictionless shopping: check-in, order, and payment in store.

**Purpose of the Project**

- Retail stores are increasingly looking to reduce staffing through automation. We believe our digital personal authentication services can make this automation possible via mobile apps.
- We hold seven basic patents in the United States, China, and Japan, necessary for the realization of a digital personal authentication service that provides advanced authentication simply by a user entering a store with a mobile app.
- The purpose of this project is twofold: to commercialize our basic patents as a cloud service and to verify the practicality of an app for automatic and instant check-in, ordering, and payment. Our authentication service works just by launching the app. It is the first of its kind in the world and is intended for global market expansion.



**Instant check-in**  
(US Pat.)



Scan: **Micro targeted ad & coupons**



**Self checkout**

**Enabling mobile app as a full-service shopping platform**

**Details of demonstration**

- The digital personal authentication service distributes a one-time key from the cloud with each use. Our patented BLE Auto Pairing technology securely extends the app's net ID advanced authentication using this one-time key. This eliminates need for additional high-level authentication methods or user registration.
- We've setup the service in the cloud to enable its use via the app. As the crucial requirement in this project, we implemented our user authentication as the starting point of in-store shopping process that ends with online payment.
- We selected business partners planning to sell unique solutions using our authentication service. We asked our partners to evaluate our authenticator, VitaNet Station, and to collect overall assessments and feedback on our service from their customers. Based on this feedback, we were able to complete the design that seamlessly integrates our authentication service into the app's screen transition flow.
- The design and development began in August 2023, and the project was successfully completed as planned by the end of January 2024.

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## Project outcome

- In this project, we designed the system across three main technological fields: the cloud server that oversees the control of the entire system, the software integrated into the mobile app, and the authenticators installed at locations like storefronts.
- The system combined beacon transmitters that follow the Bluetooth beacon specifications with authenticators that adhere to the Bluetooth LE (BLE) standard. While linking these two standards is very challenging, our basic patents made it possible to realize this world-first configuration.
- Achievements of this project include absolute authentication accuracy, speeds as fast as 0.8 seconds, easy and logical API design, high system availability, and the integration of common app purchasing processes into the verification app's operational flow.
- We also succeeded in adding a distance setting function to the verification app. Furthermore, we completed the implementation of server-side queuing for Bluetooth authentication - a world first - and verified its correct operation. This is a significant accomplishment.

## Challenges and Solutions

- It became clear there's a need to capture the app users' visit and dwell time for analytics and target marketing. We plan to continue exploring the best methods.
- The need for a "Trial Package" incorporating all elements necessary for small-scale pilot deployment has emerged, and we are considering market launch.
- To meet the need for acquiring new store customers, we're looking into implementing a feature that allows app login with minimal data entry.

## Future plans

- We plan to promote a business that offers authenticators for a fixed monthly rental fee.
- For a retail chain with 1,000 stores, achieving an annual reduction of 1,000 staff can lead to cost savings of 3 billion yen per year. We are planning to provide such a highly cost-effective service for retail chains.
- Based on these results, we are also starting to explore the market in the United States.