PolarMoment

Bringing electronic payments to a cash-driven industry

AT A GLANCE

- A previously cash-based industry
- Hardware to enable cashless payments on machines
- Mobile app to allow customers to pay
- Back-end services developed using cloud-based, secure, serverless architecture

Game Payment
TECHNOLOGY

SUMMARY

Polar Moment designed, developed and implemented the technology for disruptive payments start-up, Game Payment Technology. Latitude 91, Polar Moment's parent company, is one of the shareholders.

Prior to the introduction of Game Payment, gaming and amusement machines were only able to be paid for using cash. Card payments directly onto fruit machines are illegal. Polar Moment designed a compliant, secure and easy-to-use payment app for these machines.

The solution comprises custom hardware, embedded software, mobile apps and cloud services hosted in AWS.

SYSTEM OVERVIEW

In-machine hardware:

Polar Moment designed custom interface boards, enabling cashless payments to and from fruit machines that use the ccTalk protocol. When combined with a Raspberry Pi and software developed by Polar Moment, this hardware unit (a TP-SLU) provides a secure interface between the gaming machine, a player's device, and the cloud services and wallet.

The TQ-SLU (pictured left) shares a lot of components with the TP-SLU but is suitable for machines that use a pulse line to apply credit. The unit is also based upon a Raspberry Pi and secure software developed by Polar Moment.

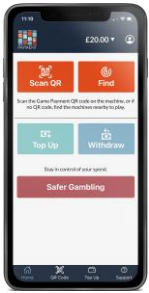# PolarMoment

We make payments happen

The TR-SLU (pictured right) uses a powerful security chip and embedded software to support battery-powered machines - mainly pool tables. This device was designed to only draw a few microamps of current to avoid reducing the battery life significantly.

A software-based solution was also developed for digital fruit machines.

Mobile applications:

Players can download the Polar Moment-developed Game Payment app (pictured left), free, from the Apple or Google stores.

This app was developed in React Native using Expo. The app allows players to register their credentials. These are all managed in AWS's Cognito service. Players verify their age by simply taking a selfie if they wish to use the app to play on gaming machines. We use AI technology provided by Yoti to do this.

Each player can securely top-up and withdraw from their eMoney wallet using a debit card. Polar Moment integrated the system with Cybersource's and Barclaycard's payment processing services. Players then simply connect the app to a machine over Bluetooth or by scanning a QR code presented by gaming machine, then transfer funds from their wallet with a button press.

Polar Moment also developed a dedicated app for engineers who need to service machines in the field. This allows them to check machine health and perform maintenance tasks.

Additionally, a reporting application was developed using AWS QuickSight to provide access and insights to data, including machine learning powered forecasting. Machine operators can view real-time transactional data as well as health data including reports on the battery levels in pool tables. This allows pool table operators to proactively replace batteries before they run too low.

Cloud services:

The cloud services designed and developed by Polar Moment all use Amazon Web Services' serverless capabilities.

An API is used to provide access to services used by players, engineers, operators and partners. These APIs, called lambda functions, were developed mainly in NodeJS and interact with an Aurora MySQL Serverless v2 database. The services are designed to scale up and down depending on the load placed on the system. The Game Payment system can support tens of thousands of users without changing the system configuration.

- A RESTful API allows operators to query their data from the Game Payment system. They can information on machine performance and player metrics in near real-time.

- Audit services run regularly to ensure the integrity of the data held by Game Payment, as well as alert on potential anomalies using CloudWatch Alarms.

- A settlement service ensures that the correct amounts of money are paid to Game Payment's customers (the machine operators) each week. Wallet balances are checked each banking day.

Security:

The entire Game Payment system has been subject to rigorous third-party penetration testing to ensure the security of the hardware and software.

Amazon services are used to monitor the configuration and security of the services and detect any changes from the standard configuration.

THE RESULTS

- The Game Payment system has enjoyed an impeccable record of 100% uptime since it went live.
- Player adoption of the app and the eMoney Wallet continues to grow each month.
- App reviews received in the stores are overwhelmingly positive.
- Operators now have a cashless option for an industry that was previously cash-driven. They are seeing the benefits of protecting their revenues even though cash use is declining.
- Operators, the industry, and regulators are gaining insights into the spending patterns that are not possible when cash is used.

OPERATOR'S FEEDBACK

"AMS have been advocates of this product since inception and we are now focusing all our product purchasing on models that are Game Payment-enabled. We greatly value this additional payment method and consider it crucial for continued revenue growth."

Jason Jarrett, managing director at AMS.

"…the lack of cash on site meant we needed a cashless solution for our pool tables. Fitting the TR-SLUs was extremely quick and easy and there's the added bonus of being able to monitor battery voltages as well. Since the installation, we have seen a steady uplift in takings overall, together with a week on week increase of app usage. Cashless is definitely the future and this solution has enabled Amusement Caterers to be there at the start of the inevitable transition in a simple and cost-effective way."

Andrew Cater, *owner of Amusement Caterers.*

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We make payments happen

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