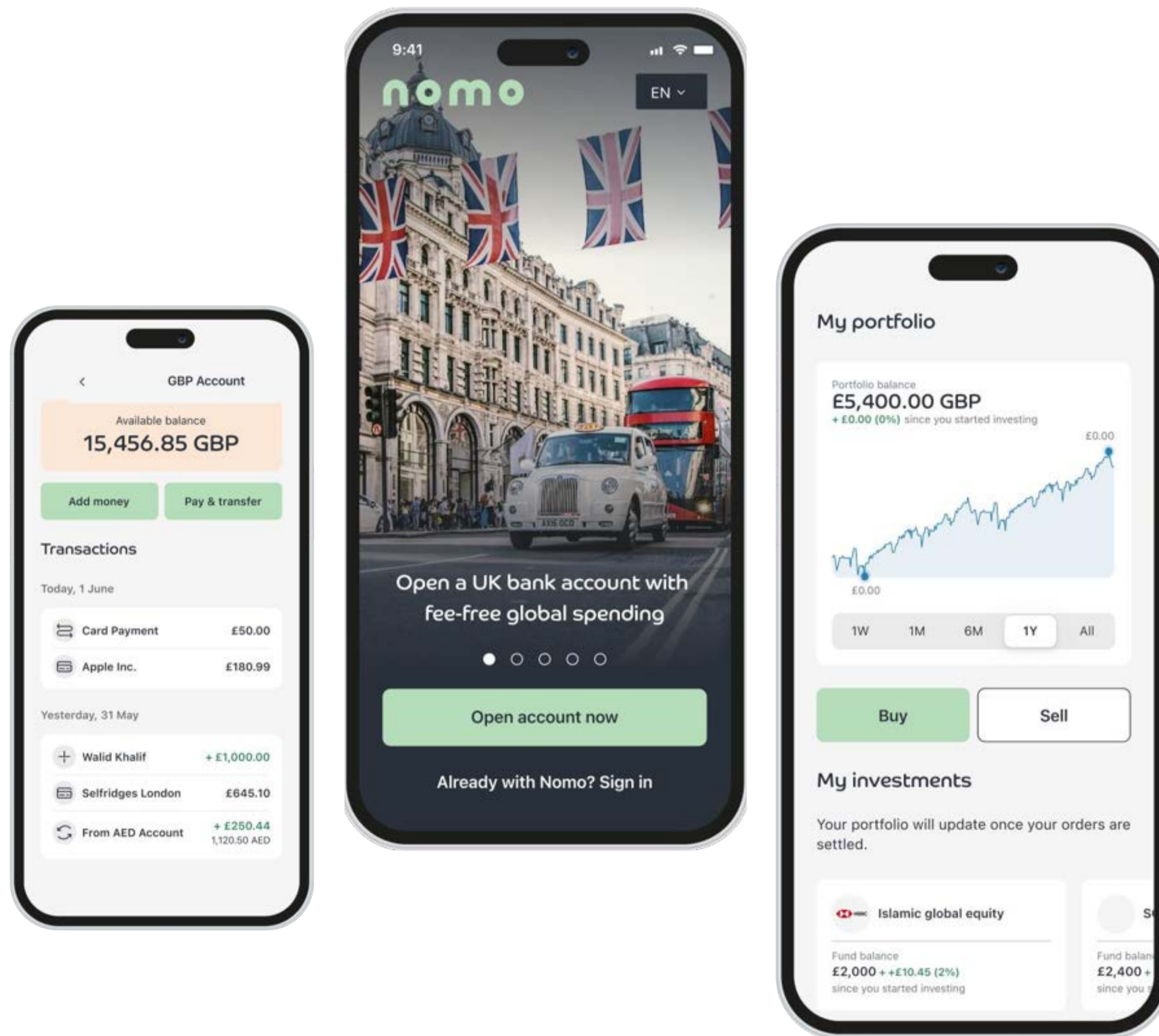# Colibri Digital x Nomo Fintech

Leading the AI Revolution:
A Blueprint for Real-Time Data Empowerment in Fintech

Colibri Digital partnered with Nomo Fintech to pioneer AI-driven fintech revolution. Together, we built a serverless data lake which resulted in real-time data processing, enhanced analytics, agility for innovative projects and more.

The client

In the rapidly evolving fintech sector, the technology start-up behind Nomo Bank, Nomo Fintech is led by creativity and innovation and has a vision to disrupt traditional banking through next-gen technology and best-in-class user experiences.

Nomo Fintech's ambition is not just to create another digital bank, but to redefine the banking experience for B2C customers, making it seamless, secure, and data-driven in easy to manage digital interfaces for easier overview, transactions and money exchange all through the Nomo Bank app.

Our goal

To build a robust data architecture that could scale with Nomo Fintech's growth and adapt to the ever-changing challenges in the fintech landscape.

The challenges

"When we engaged in the collaboration with Colibri Digital, less than 1% of our total headcount was dedicated to work with our data infrastructure, so we needed a very easy to manage infrastructure and we had to keep the cost down."

Ben Hughes
Head of Data, Nomo Fintech

An early pivotal challenge for Nomo Fintech was effectively harnessing vast real-time data volumes and converting raw data into actionable insights.
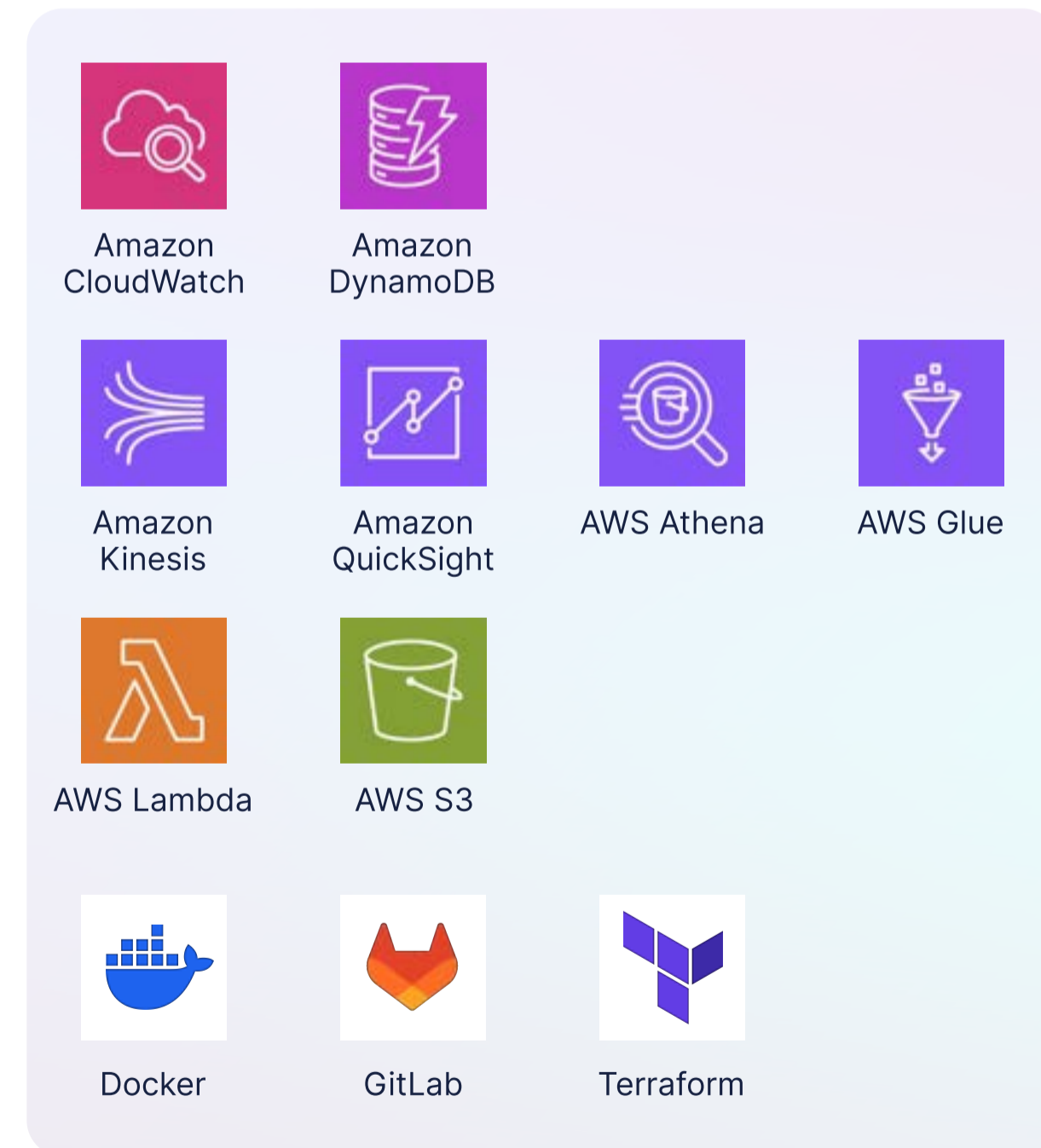
The challenge extended beyond mere data management, encompassing critical objectives such as enhancing customer experience, ensuring regulatory compliance, and making strategic decisions based on reliable information. The task at hand demanded an innovative approach, one that could handle scalability, performance, and cost-effectiveness simultaneously.

To help them realise the project and their ambition to be at the digital frontier, the Colibri team, with its deep expertise in AWS and serverless technologies, were brought in to define, build, and deliver the foundations of Nomo Fintech's data architecture and strategy.

Solution

A Serverless Data Lake Built to Scale

Key Technologies and Platforms in the AWS Architecture Setup:

Amazon CloudWatch

Amazon DynamoDB

Amazon Kinesis

Amazon QuickSight

AWS Athena

AWS Glue

AWS Lambda

AWS S3

Docker

GitLab

Terraform

Together, Nomo Fintech and the Colibri team embarked on constructing a serverless data lake on AWS services.

Flexible AWS Architecture with Serverless Components

The architecture was chosen for its flexibility, scalability, and cost-efficiency. By leveraging AWS services like Lambda, S3, Athena, AWS Glue, Kinesis, DynamoDB, Amazon CloudWatch, and QuickSight. Utilizing Terraform for infrastructure coding and GitLab for CI/CD, Colibri Digital crafted a serverless data lake with streamlined deployment through custom Docker images.

Efficient Data Processing and Organisation with AWS Tools

To process and organise data, Colibri team used AWS Lambda functions to combine data from different sources into a single table using Athena SQL. Two other tools, Glue and Athena, were used to write the blended data into tables organised by certain criteria - making it much easier to work with. The team then used DynamoDB Streams to capture changes to the tables in real time.

Real-Time Data Capture and Visual Insights

Finally, Colibri Digital's engineers also used Amazon Quicksight to create visual dashboards for each data source and to ensure consistent and accurate data across different environments, they built a pipeline using Quicksight APIs. This guaranteed that data was consistent and reliable across all environments, which is important for quality assurance. Overall, this step made working with the data and gaining valuable insights even easier.

Outcome

Scalability and Flexibility:
The Pillars of Commercial Success

Data transparency within 6-sec lead time

Faster predictions on customers' needs and capturing new opportunities

+20 headcount in the data team

The serverless architecture has led to substantial cost savings and operational efficiencies, supporting Nomo Fintech's compliance and technological advancement. It also provided the flexibility needed for scaling operations without escalating costs.

Nomo Fintech is now able to process data almost instantaneously (within six seconds of events occurring), capture essential metrics, store them centrally, and structure them for in-depth analysis, supporting advanced analytics and real-time decision-making, critical for fraud detection and for driving best in class customer experiences.

As Nomo Fintech continues to grow, the infrastructure is designed to evolve in tandem, ensuring that the technological backbone of the bank remains robust and responsive to changing demands.

"When a user interacts with our app, we can detect it within six seconds, enabling rapid response and predictive insights. With enhanced infrastructure and a larger data team, we have the ability to swiftly pivot and deploy new data-driven projects, giving us a substantial edge in agility and innovation over traditional banking systems."

Ben Hughes
Head of Data, Nomo Fintech

Conclusion

Setting New Standards in Fintech Innovation

"By focusing on the business outcomes and understanding the unique needs of Nomo Fintech, we were able to architect a solution that not only meets their current demands but is also poised for future expansion. This project is a testament to what can be achieved when innovation is driven by a clear understanding of business value and customer needs."

James Cross
Founder & CTO, Colibri Digital

The collaboration with Colibri Digital and implementation of the serverless data lake and centralised infrastructure has transformed Nomo Fintech's approach to data handling and furthermore paved the way for further commercial gains and new innovative products and services.

In the short term, the setup allows Nomo Fintech to undertake substantial projects across marketing or mobile platforms without being hindered by dependencies and data-silos, facilitating rapid execution. The long-term commercial outcomes are even more striking. Nomo Fintech has positioned themselves as one of the most technologically advanced banks, substantially reducing the cost per user compared to Neo Banks and traditional banks.

This efficiency negates the need for a large customer operations team, enabling Nomo Fintech to scale effectively while keeping costs linear, critical in a challenging VC funding environment. Looking ahead, Nomo Fintech is exploring the development of proprietary data products, like fraud models, which speaks to the high quality and capability of the infrastructure in place, allowing for polished product development beyond an MVP mindset yet with a rapid time to market.

Colibri
Digital

For more information about Colibri Digital visit