**Team Three**

*ACME company is a private bank serving high net worth individuals (>£3M). Customers of the bank engage in a high volume of transactions since their finances are intertwined with investment firms, funds and philanthropic organisations. ACME company are very keen to upgrade their fraud detection systems to be able to protect customers from malicious transactions. ACME company approach your team to develop a fraud detection (with generative AI technology) system to automatically detect malicious transactions and block them if necessary. The system should be able alert fraud analysts at the bank in case of a malicious transaction.*

**Key Stakeholders**

**Head of Fraud Operations**

The end user of this system will be our core banking application which is tied to the bank’s ledger. The application will call on this model’s inference endpoint before allowing a transaction to proceed. If a transaction is not deemed suspicious, the system should return a **FRAUD\_DETECTION\_PASSED** message and allow the transaction to propagate to the ledger’s immutable database, if something looks suspicious, it should return a **FRAUD\_DETECTION\_FAILED** message, block the transaction and alert a fraud analyst. A fraud analyst would then like to understand why it has been flagged as suspicious with a generated report.

The model should be trained on current transactions from the last 5 years. During the 5 years there has been more than 638M transactions, of which, 0.7% were detected as fraudulent. Per day, the bank processes about 350,000 transactions across it’s customer base of 7000.

**Head of Data Science**

We have a data science and engineering team here at ACME with 30-40 members. They are very experienced at developing ML models and have a background in the financial services industry. They are comfortable with Python and Java programming languages and we would like to understand how this model would be deployed using AWS.

**Chief Financial Officer**

We realise how critically important fraud detection is hence the organisation is willing to invest significantly in infrastructure to train models with and draw inferences from. However, we are very keen that strict budgets are enforced and monitored in non-production environments.