TRADING ANALYTICS APPLICATION

Functional Specification Document

Trading Analytics Application

The Trade Analytics Application (TAA) is planned to be designed to automate the search, retrieval and export of crucial analytics of the past trading data within the bank.

This document, therefore, is critical to outline the functional requirements for the development and implementation of TAA. This will help ensure the application's alignment with the project objectives and stakeholder needs.

1) SCOPE

TAA mainly aims to streamline the process of gathering and analysing trading data, providing actionable insights to the Analytics team.

TAA will also provide the Bank with an enhanced regulatory compliance through the facilitation of seamless reporting to the FCA.

The usage of the application will allow for search and export of key metrics including the number of orders, buy-sell ratio, status of orders, and more.

2) STAKEHOLDERS

- Global Head of Compliance: Faiza Qazi
- Analytics Team: End-users responsible for analysing trading data (Several roles in a bank are the potential end-users to this application, including but not limited to Financial Analysts, Quants, Risk Managers, Compliance Officers, Portfolio Managers, Traders, Data Analysts/Scientists, BI Analysts, Tech/IT Specialists)
- Development Team: Responsible for the building, deployment and maintenance of the application
- Project Manager: Oversees the project execution and delivery.

3) FUNCTIONAL SPECIFICATIONS

3.1. User Roles and Permissions

TAA will be designed to support two primary user roles:

Analyst: An employee with analyst access will be able to **search and view** trading analytics.

Exporter: An employee with exporter access will be able to **search, view and export** trading analytics reports.

3.2. Dashboard

For users to get insights at a glance, TAA will feature interactive dashboards to visualise trading data. Through dashboard components, the following will be accessible:

- Overview of trading activity
- Visual Representation of Buy-Sell ratio
- Distribution of order statuses
- Top trading instruments

3.3. Search Functionality

TAA will offer robust search capabilities allowing users to query and filter trading data based on various parameters such as:

- Company's Trading Name or Stock Name
- Trading Instrument (ISIN/Ticker)
- Order status (pending, partial, filled)
- Order type (buy, sell)
- Date / Date Range

The requirements for indexing across different roles shall be known for a satisfactory querying experience for all users.

To illustrate, a compliance manager may not necessarily know a stock name's abbreviation but may need to search for that on the search bar, in which case typing Apple or Apple inc. instead of AAPL shall also return the desired results.

3.4. Export Functionality

Export Functionality will allow selected users to export search results and analytics reports in formats such as CSV or spreadsheet for further analysis or regulatory reporting purposes.

3.5. Automation

TAA will automate the retrieval and processing of trading data from MySQL and Oracle databases, which will help eliminate any manual logging processes and ensuring data accuracy and timeliness.

3.6. Reporting

The application will generate reports that list the following:

- Total number of orders
- Number of large orders
- Buy-sell ratio
- Price spread of each order (if split)
- Open and close auction counts
- Order Status distribution

(Options to sort rows and filter columns will be available so that reports can be produced in a tailored way according to needs of different roles)

3.7. Integration

TAA will seamlessly integrate with Oracle and MySQL databases to fetch trading data and ensure consistency across platforms. The data to be fetched will include the above, among others.

3.8. Performance

The application shall be optimised for performance. This is the only way the application will be capable of handling large volumes of data in an efficient manner, which is vital for **timely retrieval and analysis of trading data**.

3.9. Security

TAA shall have robust security measures to protect sensitive trading data, including **role-based access control**, **data encryption** during transmission/storage and **audit logs** for user actions.

3.10. Compliance

The application shall comply with regulatory requirements by featuring timely and accurate reporting of trading activities.

4. NON-FUNCTIONAL REQUIREMENTS

4.1. Usability

The user interface shall be intuitive and easy to navigate. Informative tooltips shall also be offered to enhance user experience.

4.2. Scalability

As the volume of trading activities and transactions increase, scalability requirements will need to be accommodated. Therefore, the application architecture shall be designed in a way that it is capable of handling increased data volume and user traffics.

4.3 Reliability

TAA shall exhibit reliability at a high level, where the downtime should be minimal and robust error handling mechanisms to ensure constant access to trading analytics should be in place.

4.4. Performance

The TAA shall deliver performance at an optimum level, where the response times should be within acceptable limits even under peak load conditions.

4.5. Compatibility

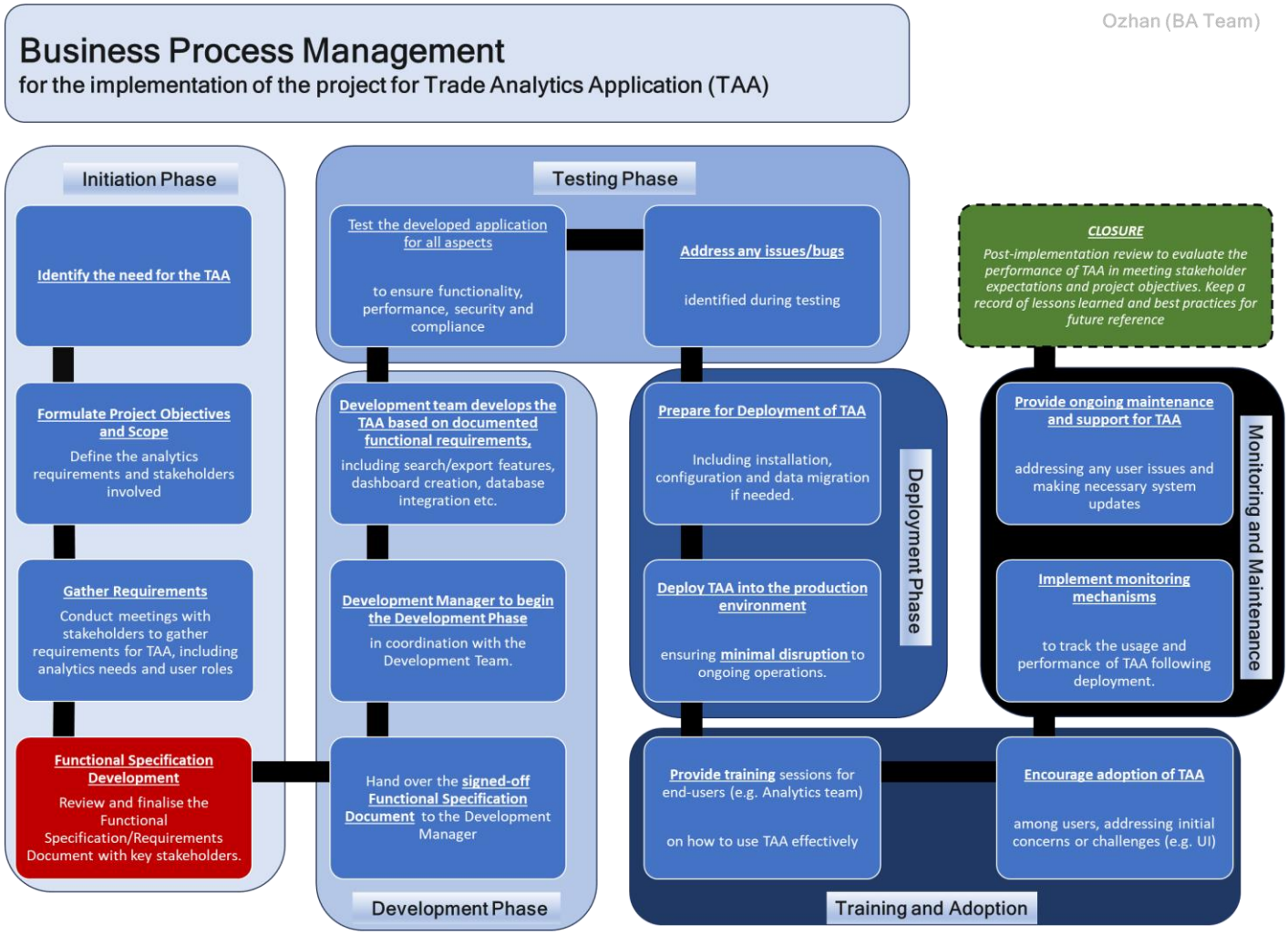
The TAA shall be compatible with the platform where it is going to run, ensuring an ideal level of user experience across different web browsers or devices.

CONCLUSION

In summary, this document provides a comprehensive guide for the development and implementation of the TAA, laying the groundwork for its effective integration and utilisation across the organization for various role-specific purposes.

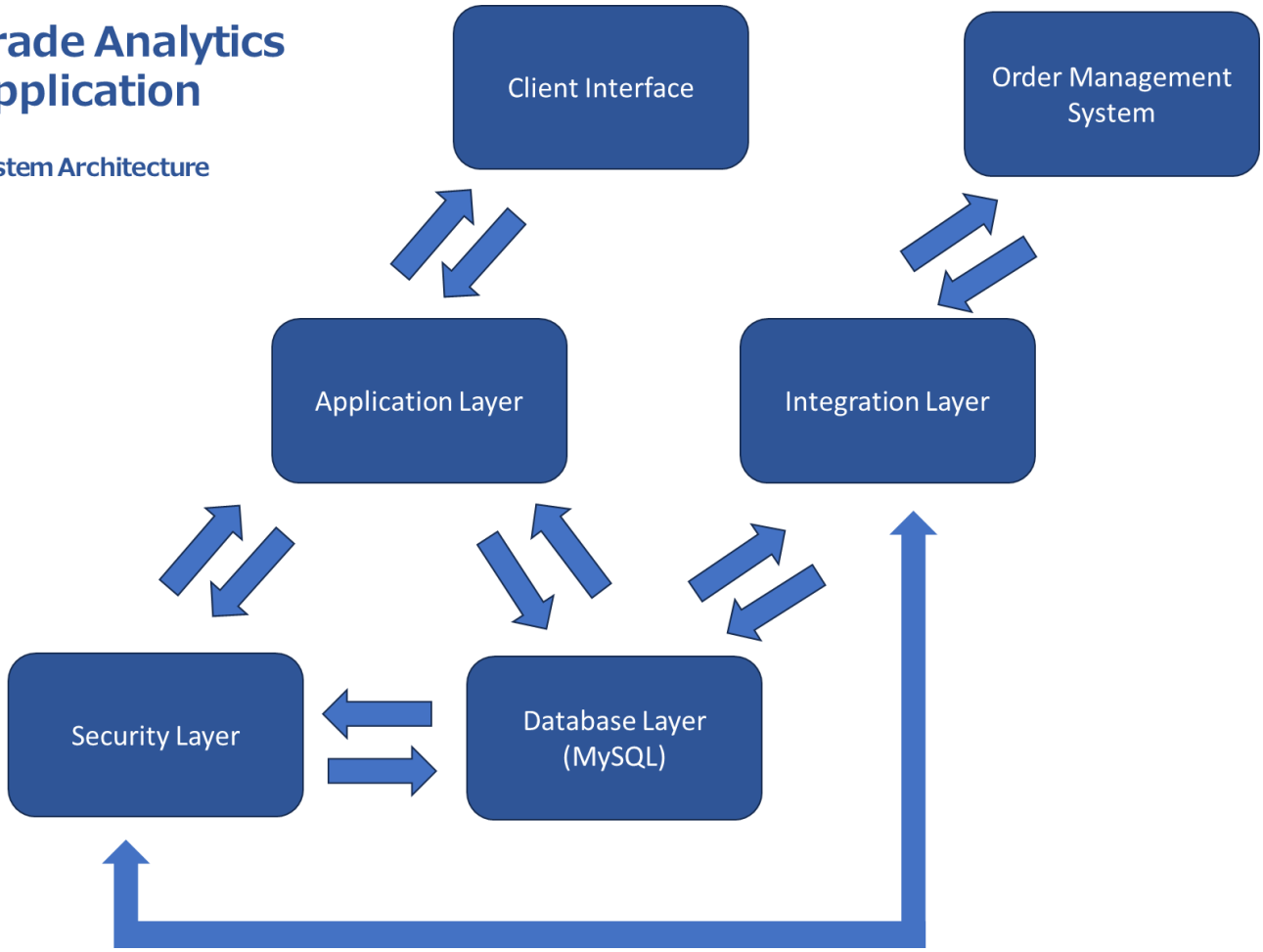
It is important to note that while this document thoroughly outlines the functional requirements of TAA, additional specifics such as technical architecture, system design, and testing procedures will be required, which will allow for the development team to have a comprehensive understanding of the project, as well as act as a reference point for them.

Ozhan (BA Team)



Trade Analytics Application

System Architecture



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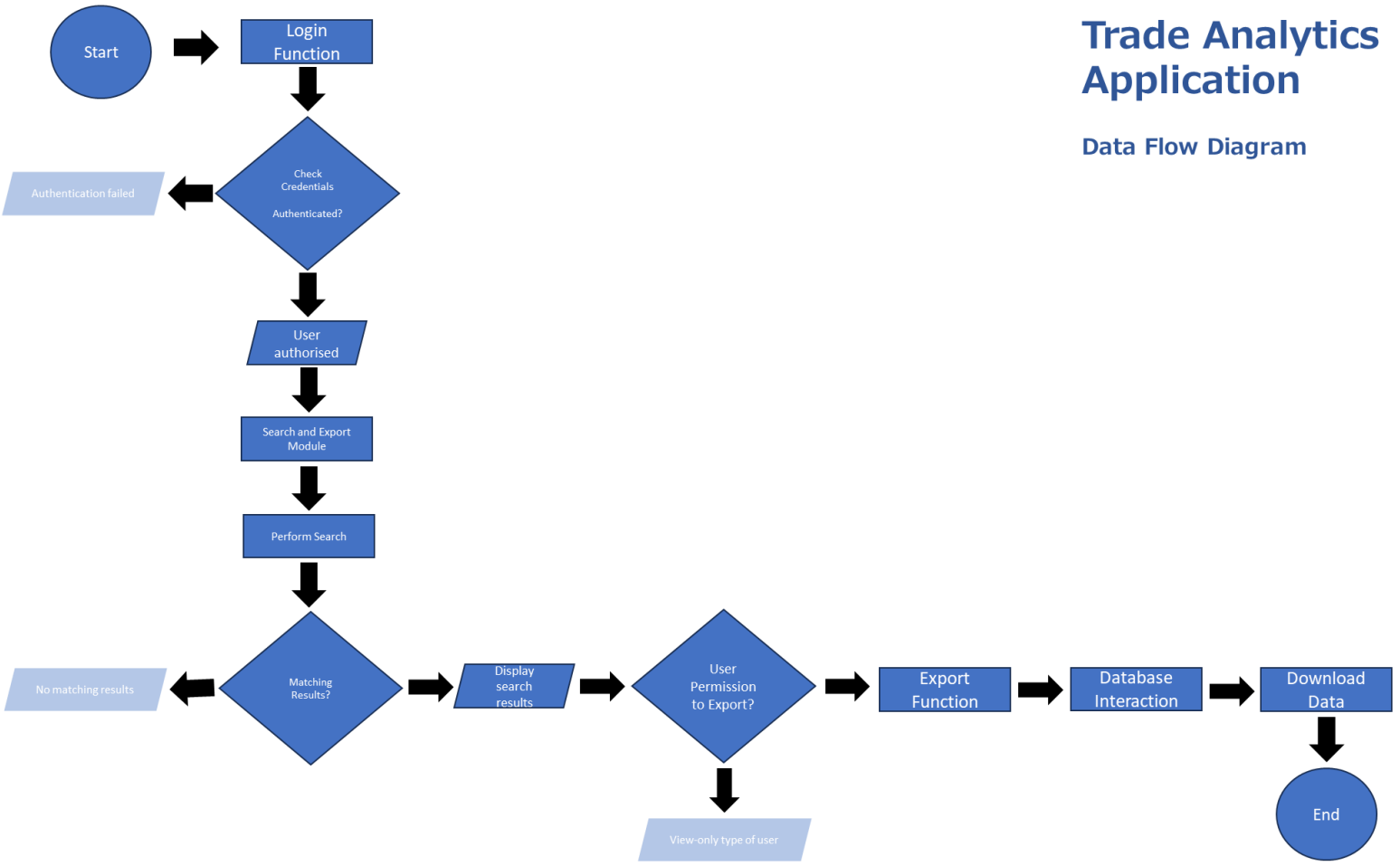
Data Flow Diagram