Business Analysis - Project – Trade Analytics Application (TAA)

Tatiana Bonoeva

Data and Business Analysis Trainee

Date: 30th of Jan

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Project Summary

The Bank's Global Head of Compliance has initiated a project to develop the Trade Analytics Application (TAA). This application is designed to enhance the Bank's Analytics team's capacity to analyze the previous day’s equity trading activities and streamline reporting processes.

The project goal is to write the Functional Specification Document before 9th Feb. The report has detailed information on the steps of crafting the document during the first two days. As the result of the first days the initial version of the document was created for key stakeholders reviewing. Key activities:

29th Jan: Kickstart the project with an in-depth understanding of requirements.

29th - 30th Jan: Engage in iterative development of the Functional Specification document. Create diagrams for the document.

30th Jan: Present the initial draft for stakeholder review. Prepare a management plan to ensure that the document will be signed off in time.

The following tools were utilized: Confluence, JIRA, Lucidchart, and Figma.

29th of Jan: Understanding the Requirement

For writing a project's Functional Specifications Report, it's highly important to understand the requirements for the project – what product users want to have and how they are willing to use it.

To comprehend their needs, it's crucial to be familiar with the range of possible features of the product, which helps to select the most important questions to ask stakeholders to identify what features the desired application should have.

Research

The research starts with identifying all possible features an identical application can have. In this case, the purpose is to develop a new Trade Analytics Application that will provide analytics about the previous day's equity trading activity.

The most important features that should be considered in drafting the Functional Specifications Report: the main objective, user identification, reporting, methodology of analysis, main functionalities, current users' technology, personalization, type of communication between the application and users, etc.

Stakeholder Interview

After understanding the main parameters that are most valuable for application development, the questions are created – Appendix 1.

The interview is limited in time – the questions are discussed in 10 – 15 minutes.

Due to the high volume of demand for interviews, it was challenging to interact with stakeholders the day before the 30th of Jan. As the draft version of the Functional Specifications Report had to be prepared by the 30th of Jan, it was decided to use Camila's findings after the first interview, that she kindly shared with all team members. In Camila's shared document the following information is revealed:

1) Users - The Analytics team of the Bank;
2) Purpose – facilitation of the reports that the Bank provides to the Financial Conduct Authority (FCA);
3) Application main features:
    a. Search the number of the orders;
    b. Search the number of larger orders,
    c. Search the buy-sell ratio;
    d. Search the split orders;
    e. Search the number of open auctions and close auctions;
    f. Search the status of the orders (such as pending, partial, filled);
    g. Export all the reports of these transactions;
    h. Have labels (ISIN);
    i. Have a dashboard with data visualizations.
4) Current technology – MySQL, and Oracle to store the data logged;
5) Current state every order is logged manually. Future State automation of the search and export of the analytics of the orders;
6) First Sprint – 3 months.

This information is useful for building the draft version of the Functional Specification Report for the Development Team.

29th of Jan: Drafting the Functional Specification

The Functional Specification document provides detailed features and information for the development of a Trade Analytics Application designed to facilitate the generation of reports for the FCA by the Bank's Analytics team.

During drafting the following things were assumed:

- The analytical team would want to have an intuitive interface for ease of use;
- The speed of processing and data accuracy representation should be the highest possible;
- Users will mostly need and use a web-based platform.

The version of the document was written in Confluence for training purposes (link to the Confluence document). Also, the high-level application representation was created by using Lucidchart software for the development team to visually understand the application (Figure 1).

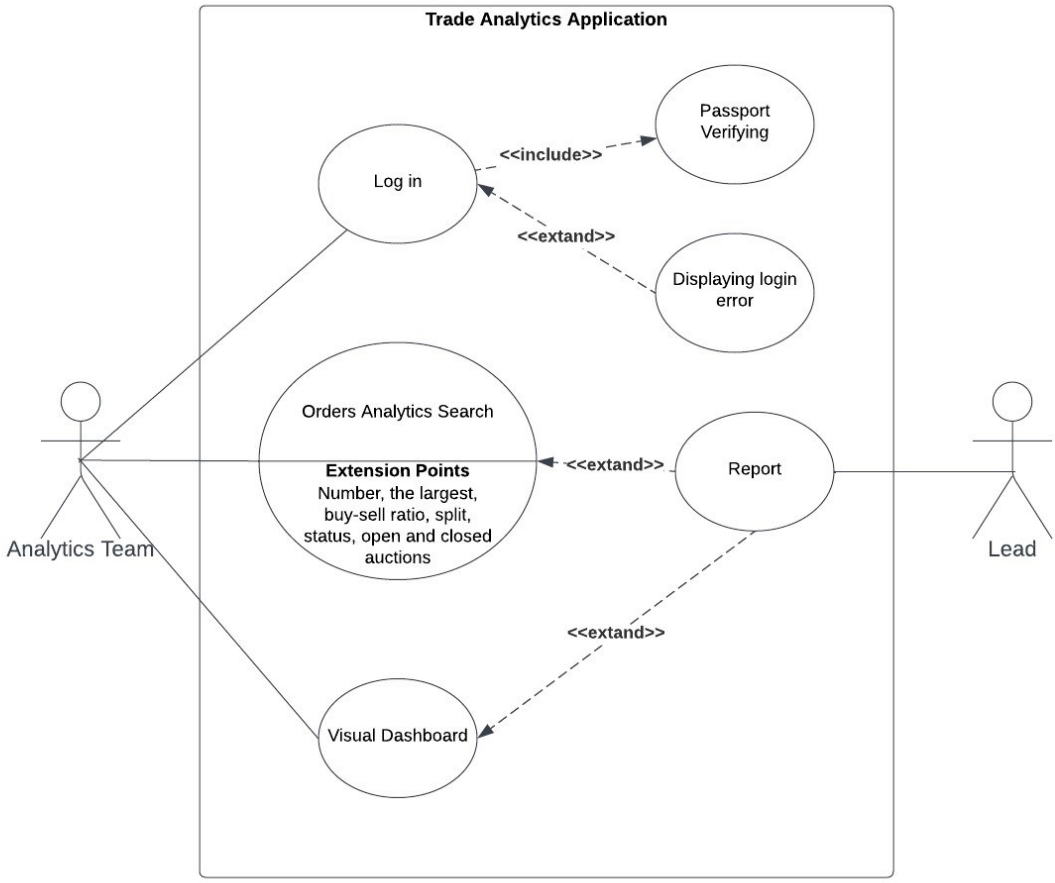

Figure 1. UML Use case diagram. High-level application representation.
Slightly modified after the second communication with stakeholders.

29th – 30th of Jan: Iterative Development of Functional Specifications

Overall, the process of the Functional Specification document is iterative and consists of constant communication with stakeholders to gather a comprehensive picture of the requirements and improve the documents relying on the new and more detailed knowledge of the desired application.

Stakeholder communication

After getting a high-level understanding of the application and its main scope. More detailed information should be asked to draw a better picture of what a product should be and how it can be developed.

For preparing the initial Functional Specification document that should be reviewed by stakeholders on 30th Jan, more detailed questions were created (Appendix 2).

After the interview with the stakeholders, the following information was received:

1) There are **2 user profiles** with different types of access;
2) Users **use email** to log in to the system;
3) The **level of access is known** by the user's email;
4) Users use the application **for the lead's** needs (the lead sometimes is asked to provide the information that the application can report, e.g. information for FCA);
5) The expected application should operate on the **bank's standalone server:**
    a) The first version of the application **does not have any networks**;
    b) The next versions probably should have (e.g. wifi).
6) **No sections**, **only the main page** with the possibility to search and report data;
    a) **The first thing that users should see – stocks from the previous day on the page;**
    b) **No preferences in design.**
7) The search should be available by name of the stock, etc.;
8) **The database has multiple tables** that have the needed information;
9) The reports should be in Excel format have the following order:
        1. The number of orders
        2. The Largest Order
        3. The ratio of buy to sell orders
        4. The Price Spread of each order (if split)
        5. The number of Orders filled in the Opening auction
        6. The number of Orders filled in the closing auction
10) The **automation and personalized functions are not expected** but are considered to be in the future.

That information helped to build the initial Functional Specification for the first review.

Development of Functional Specifications

After receiving more information the Initial Functional Specification document was created (link to the Confluence document) for the initial review with the key stakeholders.

For visual representation of users' requirements the following diagrams were chosen:

- Data Flow Diagram. Important to illustrate how data is collected from the banks' SQL databases, processed, and then outputted (Figure 2);
- Entity-Relationship Diagram. The diagram is chosen to detail the database schema, especially how different entities like financial orders, auctions, and users are related (Figure 3);
- Website Wireframe. This figure visualizes the user interface, particularly the dashboard that displays data visualizations (Figure 4).

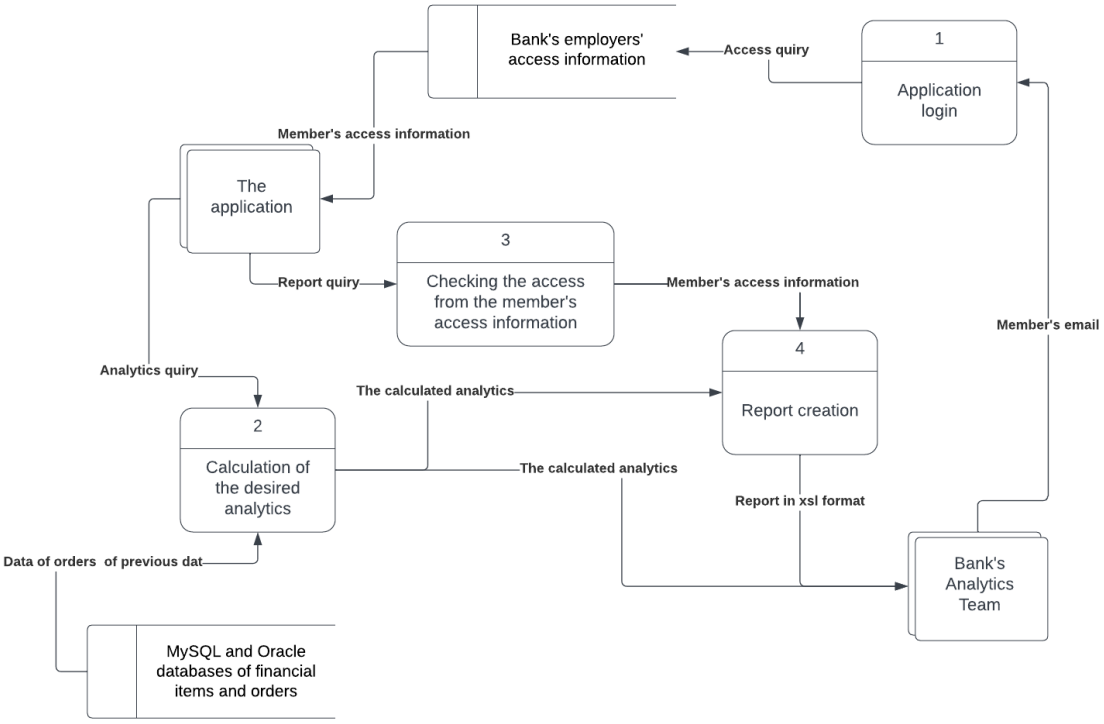

Figure 2. Data Flow Diagram

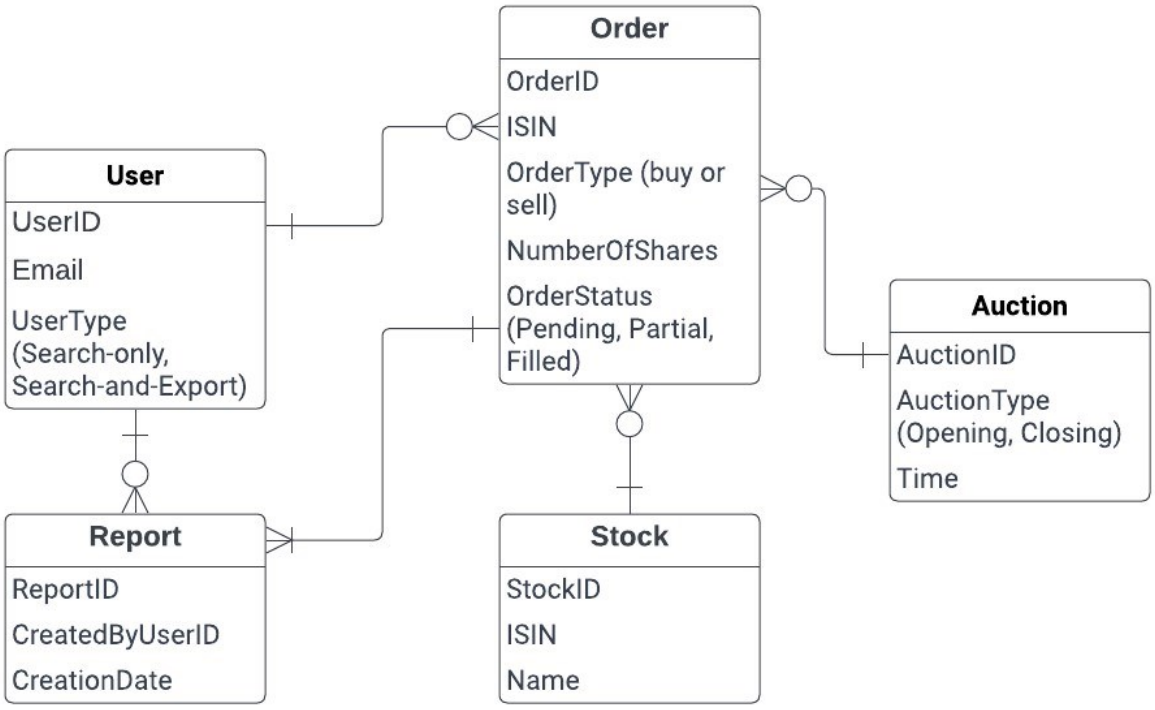

Figure 3. Entity-Relationship Diagram

Figure 4. Website Wireframe

After the stakeholder review on 30th Jan, the feedback is received and certain adjustments and modifications will be done.

30th of Jan: Planning the Development Process

According to the project timeline, the document should be signed off before the 9th Feb. That means that the iterative process of document development has slightly more than a week. During this week, communicating with stakeholders should be arranged as often as possible to gather a comprehensive understanding of application requirements and improve the functional specifications relying on key stakeholders' feedback.

To plan the process and keep tracking updates the Agile methodology is implemented (it was implemented from the beginning and the iterative customer-orientated Agile process is shown in the first 2 days reports).

To plan further the JIRA SCRUM project management tool is implemented. The project consists of 3 sprints with a length of 4 days, each sprint has its tickets to be done and will be repeated a second time from 4th Feb till 8th (Figure 5). The length of 4 days was chosen to consider the risk of stakeholders' disability to arrange a call at the closest date.

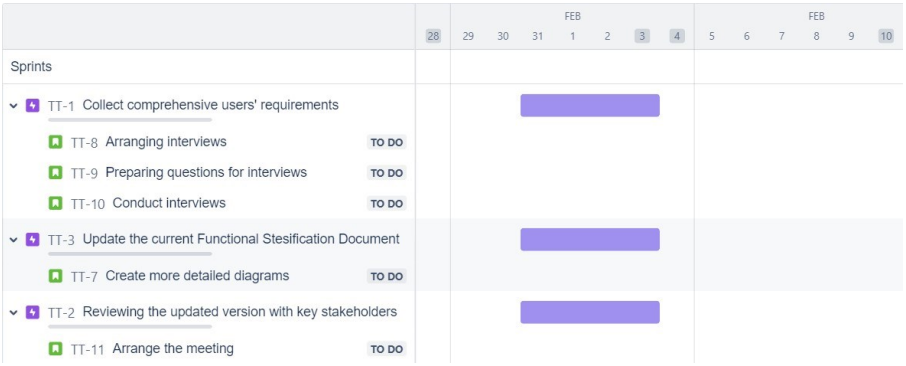

Figure 5. JIRA SCRUM Timeline.

Appendix 1: Questions for the first interview

1) What is the **main purpose of the Trade Analytics Application**? For instance, is it primarily for risk management or decision-making efficiency?
    a. Are there specific **areas of equity trading activity** we should focus on?
2) **Who** will be using the application regularly?
    a. Do users have specific **geographic markets of interest**, like certain countries or stock exchanges?
3) What are the **key features users expect in the application**? What unique features are they looking for?
    a. What **sections the application** should have? For instance, do users expect to see risk analysis and/or compliance monitoring?
    b. What are the **main requirements for the report**?
        i. Which **types of reports and analyses** are most critical?
            1. Is **analysis** fundamental or technical?
            2. What **financial metrics**, key performance indicators (**KPIs**), and benchmarks should be reported?
        ii. Are there preferences for **visual data representations** and **report formats**?
            1. Should reports be in pdf format?
        iii. Does it provide **visual representations of data** (of current or past data)?
    c. Do users expect features like **direct trading capabilities** or market updates?
    d. Do users want to receive **personalized information** for specific equity?
    e. What are the **data sources** for analysis? What marketplaces?
    f. What the **data format** is expected to handle?
    g. Will it be a **publicly available application**? Should users login to use the service?
    e. What are the preferred methods for **user communication and updates** (e.g., email, in-app notifications)?
    f. Should the application include interactive features like a **chatbot for user support**?
4) How **many users** are expected to use the application?
5) How do we plan to manage user **privacy and security**?
6) What is the **deadline** specifically?

Appendix 2: Questions for the second interview.

1) How big the analytical team is? **How many members?**
2) What **server** (hardware) do you use?
3) What are Interface Requirements?
    a. What are the essential features that need to be immediately accessible on the main screen?
    b. What sections the application should have? Should each of the desired order analytics be on different sections?
    c. How should the application adapt to different screen sizes and devices?
    d. Do you have any preferences in colors or themes in the application interface?
    e. What are the factors that are the most important for application? Speed or accuracy?
4) Do you currently search all data manually? How the **database is structured** to find relevant information for FCE?
5) In what **format reports** should be produced? PDF?
6) What necessary information each report should have? What report information is manageable by the analytics team?
7) Are any **automation** reports services needed? Daily or Weekly?
8) What data should be **protected**?
    a. Do the team need the **levels of access** for different roles?
9) What is **compliance with FCA regulations** and other relevant financial laws for the data?