Functional Specification Document

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# Introduction

These specifications contain the functional and non-functional requirements placed on the product to be developed. It serves as the basis for the tender and contract design and thus forms the specification for the preparation of the offer. If a contract is concluded between the contractor and the client, the existing specifications are legally binding. All agreements previously made between the client and the contractor usually lose their validity due to the specifications – unless otherwise stated here. The requirements are used to define the framework conditions for development, which are detailed by the contractor in the specifications.

# General

## Aim and purpose of the document

The present specifications describe the realization of a web application, which automatically records trading positions of crypto dealers and offers the possibility to provide individual trading entries with additional data.

## Starting situation

The project is carried out as part of the WIFI course "Software Developer C# (18172011)".

## Project relationships

The present project is an independent project without reference to other projects.

## Abbreviations and technical terms

Crypto Forex Hands: Crypto Currency Hands are specialized in foreign exchange. They work on exchanges where they are involved in the purchase and sale of crypto currencies. With corresponding buy and sell orders, they try to make profits from the price fluctuations of the various currencies.

Cryptocurrency: Cryptocurrencies are digital currencies with a mostly decentralized structure. They are based on networks in which all information is exchanged with each other. Transactions are stored and processed publicly.

Pagination: A pagination is a navigation element on websites with which a user can move across different subpages within the project. The individual subpages also form many individual contents (e.g. trade entries).

API Key/ Secret: The API Key and API Key Secret are software-level credentials that allow a program to access an account without having to tell the software the actual username and password.

## Teams and interfaces

|  |  |  |  |
| --- | --- | --- | --- |
| **Role(s)** | **Name** | **Telephone** | **Email** |
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| Coach | Christopher Benge | - | www.cb@mit.at |

# Concept

## Goal(s) of the provider

A system is to be created that supports the trader in the documentation and evaluation of his currency transactions. The following tasks are to be realized:

* The application should be operated via web interface
* The Trading Journal should automatically load trades into the system via WebSocket connection and/or REST API. The integration is limited to the trading platform ByBit, other platforms are not supported.
* The users should have the possibility to use several ByBit accounts at the same time
* Only API keys that have read-only permissions are allowed. If the API Key also has **write** permissions, the system should reject it.
* Management of orders, positions, and trade entries. (An order becomes a position as long as it is not cancelled, a position consists of several trade entries)
* For each position, the possibility should be given to store comments, pictures, and tags.
* The website should be responsive and optimally display content on both mobile and desktop devices
* Statistics should be easily visualized (per day and per month)
* There should be the possibility to switch between a light and dark design , the preference of the user should also be stored without registration (browser)

## Goal(s) and benefits of the user

The Web application is designed to support a merchant's administrative tasks with the following properties:

* Automatic collection of trade-related data
* Easy to use

## Target groups

* Dealers
* As soon as you have logged in to the system (e-mail, password), the entire functionality of the program is available. All users have the same functionalities, there are no different rights or roles.

## Non-Targets

The following list contains the non-targets, i.e., properties that are explicitly not fulfilled by the program:

* Multilingualism of the application
* Support for multiple trading platforms
* Target groups consisting of several people (trading/investment companies)
* Manual creation of trading positions (all trading data should be imported purely via the platform the trade originated).

# Functional requirements

## Main

When opening the start page, a login process is necessary for the user. Upon delivery, an account with the following data will be supplied:

* E-Mail: Trader1@example.com
* Password: [Trader1@example.com](mailto:Trader1@example.com)

Graphical user interface, text, application

Description automatically generated

All test accounts, including the above account, should be deleted before the system goes live.

### Menu

The menu is only visible after the user has logged in.

|  |  |
| --- | --- |
| It has the following structure:   * Dashboard * Trades * Reports * Weekday * Month   Accounts | Graphical user interface, application  Description automatically generated |

## Dashboard

The dashboard is used as a landing page, the user is redirected to this page directly after logging in.

### Preconditions

* Authenticated user

### Function

When you click on one of the trades, it opens in the detail view. This is the only feature that contains the dashboard page.

### Structure of the site

A picture containing graphical user interface

Description automatically generated

## Trades / Hidden Trades

The **Trades** page is intended to provide the user with access and an overview of all trade entries.

The **Hidden Trades** page, which can be reached via the garbage can icon, serves to remove unwanted trades from the main view.

The two sides are extremely similar in their functional white and differ only minimally.

### Preconditions

* Authenticated user

### Function

* When you click on one of the trades , you open it in the detail view.
* The page has **pagination** and loads only a specified number of entries when opened. Via the arrow symbols below the table, the user can switch sides.
* The user can mark several trades using the checkbox and then hide them using the "Hide" button. These trades are then only visible in a dedicated view.
* In the **Hidden Trades** view, trades with **Unhide** can be switched visibly again on the main window.

### Structure of the pages

A screenshot of a computer

Description automatically generated with medium confidence

A screenshot of a computer

Description automatically generated with medium confidence

## Trades - Detailed view

Page should list all the details of the selected trade and give it the opportunity to add comments to it.

### Preconditions

* Authenticated user

### Function

* The user can enter notes in the journal area and adjust the **Confluences** number field .
* If data has been adjusted, it is necessary to save it using the **SAVE** button.

### Structure of the site

A screenshot of a computer

Description automatically generated with medium confidence

## Reports

The report pages give the user insight into his historical trading results.

### Preconditions

* Authenticated user

### Function

The pages do not offer any function.

### Structure of the pages

Graphical user interface, application

Description automatically generated

Graphical user interface

Description automatically generated

## Accounts

### Preconditions

* Authenticated user

### Function

* The **DISABLE** button disables an account. Dependent background processes are terminated. The status of the account is stored in the database and updated in the user view.
* The **Delete** button behaves similarly to the **DISABLE** button.
* The user is called upon to confirm the deletion process again. (Security query)
* Instead of updating the status, it deletes the entry from the database, all related trades are also deleted. After deletion, the entry is also removed from the user's view.
* The **Add Account** button sends the user to the page of the same name. This is explained in detail below.
* The page has "pagination" and loads only a specified number of entries when opened. The user can switch between the pages via the arrow symbols below the table.

### Structure of the site

Text

Description automatically generated

### Delete Dialog

Graphical user interface, text, application

Description automatically generated

## Add an Account

### Preconditions

* Authenticated user

### Function

The feature allows you to add another trading account.

* The field for the trader (logged in) is pre-filled
* The text entered in the **Name** field must not be used multiple times by the same user (unique values per user)
* The **API** **Key** and **API Secret** fields must contain values
* By pressing the **Submit** button, the validation process begins, errors are output in a text field under the input fields:
  + The key is checked with authentication test.
  + The key is tested for its rights, if it has more than read access, it will be rejected.
  + The name is checked for its uniqueness.
  + If all validation steps were successful, the **trading account** is stored in the database.

### Structure of the input mask

Text

Description automatically generatedGraphical user interface, text, application

Description automatically generated

# Non-functional requirements

Non-functional requirements are requirements for the quality in which the required functionality is to be provided. This includes, for example, the design, compliance with certain laws/regulations or the response time of the system.

## General requirements

No special general requirements

## Legal requirements

The program must comply with the requirements of the General Data Protection Regulation (GDPR).

## Technical requirements

The program has the following technical requirements:

* Maximum number of traders (100)
* Maximum number of trading accounts (200)
* Response time less than 5 seconds

# General conditions

## Schedule

|  |  |
| --- | --- |
| Milestone | Appointment |
| Product concept catalogue | 21.01.2022 |
| Specification | 28.02.2022 |
| Design Document | 11.02.2022 |
| Implementation/Test ready | 18.03.2022 |
| Acceptance (test day) | 25.03.2022 |

## Technical requirements

The program runs on the following environment at the customer's site:

* IIS Web Server
* Microsoft SQL-Server

## Problem analysis

### No trading positions are imported

If no new positions are imported, it is probably because the server time differs more than 5 seconds from the time of the ByBit server. All requests contain a time stamp, which may differ a maximum of 5 seconds from the server time of the trading portal.

On the Windows Server, you can force time synchronization to resolve this issue.

Graphical user interface, text, application

Description automatically generated

## Quality

As part of quality assurance, the following tasks are carried out:

* Review of documents
* Test of the program against a test list

# Terms of Delivery and Acceptance

The following parts are delivered:

* Executable program
* User documentation (help system)
* Database (structure, a predefined dealer)

The realization of the project takes place within the framework of a Wifi course. Acceptance takes place by presenting the program as part of the final examination.