Gathering of Requirements

The gathering of requirements is done by e-mail (dated 06/04/2024 17:44, see "*360T - Your Job Application _ Invite to the e-Assessment.eml*").

360T - Your Job
Application _ Invite to

The email contains the instructions for implementing the attached task and give an impression about the coding style and the level of expertise. The attached files are:

1. "*Data Engineer Assignment.pdf*" with the explanation of the assignment that should be done and the requirements of another optional assignment.

   Data Engineer
   Assignment.pdf

2. "*rates_sample.csv*" an example of CSV containing a sample of events that needs to be analysed

   rates_sample.csv

Analysis of Requirements

In the analysis of requirements phase, we determine the needs and expectation of a new Datawarehouse (DWH) product called "*ForeignExchangeRateDWH*". The purpose of the analysis is to define expectations, resolve conflicts, document all the key requirements; it involves frequent communication with the stakeholders.

Stakeholder Identification

The project is composed by the following stakeholders:

- **360T**: 360T is a company founded in 2000 and it provides a range of FX trading solutions. Today 360T is uniquely positioned to help connect the global FX industry via proprietary suite of web-based technology solutions.
  As the Deutsche Börse Group's global FX unit, 360T offer a full range of streamlined services across the entire trading workflow of FX and Short-Term Money Market products, enabling firms to transact in a more transparent and efficient manner, whilst also reducing operational and regulatory risk. It is the company that provides the requirements.
- **Andrei Szabo**: He's a Development Team Lead at 360T. The stakeholder is the main interface between the provider of the service and 360T.
- **Rocco Caliandro**: Rocco is a Data Engineer that works for build the ForeignExchangeRateDWH datawarehouse

Requirements

REQUIREMENT ID	REQUREMENT NAME	REQUIRED	DESCRIPTION
REQ_001	DisplayRate	True	Display for each currency pair the FX exchange rate
REQ_002	DisplayChangePercentage	True	Display for each currency pair the percentage of the change compared to yesterday's rate at 5PM New York Time
REQ_003	HighFrequency	True	Rates are received in high frequency, milliseconds

REQ_004	OutputFormat	True	The output must have the following format:
			`ccy_couple,rate,change`
			`"EUR/USD",1.08081,"-0.208%"`

REQ_005	JobSchedule	True	Schedule a job which runs every 1 hour and have the possibility to change the schedule to run every 1 minute instead
REQ_006	ActiveRates	True	The job should consider only "*active*" rates. What "*active*" means will be specified in the business logic during the design phase (for currency pairs that

			don't have an "*active*" rate, no output should be produced)
REQ_007	GenericSolution	True	In the example file there are 5 currency pairs but the job should work also if we assume 300 currency couples (or even more)
REQ_008	RealTimeStreaming	False	It's an optional requirement. Instead of a batch, we would like to change the process into a streaming one and display data in real time