Requirment Analysis of

Postion Management Project

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# Introduction

This Postion Management Project is an unsophisticated project for answering the interview test from CIeNet.

# Functionality

1. The program running will stand by and accept trade transactions.
2. The program store received trade transactions into database, batch process all trades, then calculate the quantity for each trade and accumulate quantity based on “TradeId”.
   1. A certain trade is initiated by a “INSERT” type of transaction.
   2. A trade quantity may be updated by a series of “UPDATE” type of transaction.
   3. A trade may be cancelled by a “CANCEL” type of transaction, quantity will be treated as 0.
   4. The detailed decryption of transaction is attached (supposed to attached the test paper here or a link is provided).
3. The Program output is current equity position filtered by SecurityCode.

# Design

**Service**:

TransactionHandlerService interface abstract the main function of this program, accept transaction, and then process and provide the equity position.

**Entity**:

Entity “Transaction” abstract the inbound transaction carrying all the transaction content.

Entity “TradeStatus” abstract the processed data model of this program. Each transaction will be processed and result in TradeStatus updating/cancelling. This entity is supposed to be stored in to database or other persistent approach.

**Output**:

The output of this program is EquityPosition, field Equity stands for SecurityCode, and field position stands for the summarize of all trades quantity regarding to this Equity (SecurityCode).

**Exception:**

UnexpectedTransaction will be popped up while business error occurred.

1. INSERT type of trade with version != 1.
2. CANCEL type of trade has a version lower than any UPDATE trade.

# Comments

This program store transactions immediately into database while accepting a transaction. Then processed later to support transactions arrived in any sequence.

Currently, the “batch process” method is called manually by providing a method in EquityPositionService. This method is supposed to be invoke in a background job (which is not implemented in this project).

Therefore, the time window and data size window should be considered in the job.

The transaction loss and housekeeping working should be considered as well.