University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: ____1____

Date: _____2024/2/9_____

Group Number: _____2_____

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

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Project Description:

The application is an investment management system. We want to build a robust and user-friendly platform to empower users to manage their investments in bonds and stocks effectively. Thus, the domain of the application is investments in bonds and stocks. The database manages the data of two financial markets: the stock market and the bond market. For the financial market ISA relationship, the overlapping constraint is a disjoint constraint, since the stock market and bond market have no element overlap. For the covering constraint, there is a total constraint since we focus on stock market and bond market in the domain of our application, it includes foreign exchange market, money market and so on. A user can be in different financial markets and different financial markets can have different users. Each stock market has many stocks and each bond market has many bonds. Stocks can be in different stock markets and bonds can be in different bond markets. Every stock needs to be in a stock market while every bond needs to be in a bond market. Each stock is published by only one public traded company, while a public traded company can have many stocks. Bonds may have other types beyond corporate and government bonds, but for the scope of our application, we will only focus on these two aspects. These two categories will not overlap, so the overlapping constraint is disjoint and the covering constraint is total for the ISA relationship of bonds since we focus on government bonds and corporate bonds in the domain of our application. A public traded company can issue several corporate bonds and a government can issue several government bonds. Each corporate bond is issued by only one public traded company and each government bond is issued by only one government. Each user can only have one account. Every account must be owned by only one user. Account can operate many stocks and bonds while stocks and bonds can be operated by different accounts. Every account can have several watchlists, which collect a list of bonds and stocks the user would like to pay attention to. The watchlist cannot be uniquely identified without the account and each watchlist must belong to an account. The name of the watchlists can not be duplicated in one account. Each watchlist can have many bonds and stocks while bonds and stocks can be included in different watchlists. The database focuses on stocks of public traded companies and bonds issued by public traded companies and governments.

Database Specifications:

The database will provide comprehensive functionality to facilitate efficient investment management. Users will be able to create and manage personalized investment portfolios containing stocks and bonds. Users can browse bonds and stocks with specific details describing them, like price, P/E ratio for stocks, maturity date for bonds, and so on. Users can find the market in which the stock or bond is in and the institution to which they belong. This information equips users with valuable insights to make more informed investment decisions and optimize their portfolios effectively.

Application Platform:

We will be using Oracle as our project platform.

We will be using the Php language as the primary language to manage our database. And the frameworks and libraries that match Php

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