**Analysis**

**Background Information**

The program enables the users to check up stock information, collect and analyse the stock information that are stored in the database, including numerical and graphically statistical data. The user can also choose and save a portfolio of equity. On top of the basic features, I’m intended to build a system that can analyse financial statements of the specific company, and maybe downloading the documents itself from the Hong Kong Exchange official website. The source of data is currently considered from the HKEX official website as well. At the same time, I hope the system can be used on a USB drive and synchronise with the database of work station.

**Analysis of existing systems**

Currently there is no computerised system that can replicate the job at the moment.

**Problem Identification**

There is no computerised system and manually entering data of stock/portfolios is time consuming and may cause human error. With a computerised automatic system these problems can be resolved.

**Identification of prospective user(s)**

The main user is myself. Despites the system is intended to be used at home for data collection and probably analysing work, but it could also be a potential security problem if it is used outside home and therefore login system might be added at the late stage of the system.

**Limitations**

The system requires internet connection, if the internet connection is not working this could cause a big problem.

**Identification of user needs**

Basic required features:

* Checks the info of the stock on demand and regularly (5 minutes)
* Stores a watch list and a portfolio of stocks
* Stores info of stocks on everyday close time (4:00 PM)
* Analyses the data collected and produce numerical & graphical results
* Able to minimise on the Tray
* Alert at target price

Additional features

* Plug&Play USB and synchronise with the home work station
* Download the updated company financial statements and analyse
* Compile a simple company report
* Choosing different background

**Data sources and destinations**

**Input**

* Portfolio and watch list

**Output**

* Stock information (Price, close, high, low, volume)
* Compiles simple reports base on stock info and store at specific folder
* Download financial statements

**Data flow diagram**

*Data flow diagram Level 0*

Stock Info System

Stock Info

Portfolio & Watch list

Login Data

Company Info

Portfolio Status

Analysis Results

Data flow diagram Level 1

Check Info

Login Data

Stock Info

Company Info

Analysis Results

Update Watch List

Analysis

Update Portfolio

Portfolio Status

**Analysis Data Dictionary**

-**LOGIN** (UserID, Username, Password, BGFolder)

-**STOCKINFO** (Date, Price, NetChange, Change, High, Low, Volume)

-**COMPANYINFO** (StockNumber, Name, LotSize, Portfolio, WatchList, Target)

-**PORTFOLIOSTATUS** (TradeID, *StockNumber*, LotNo, AtPrice)

-**ANALYSIS** (ReportNumber, *StockNumber*, Beta, ExpectedReturn)

**Table Structures and Planned Validation**

Table Name: LOGIN

Key Field: UserID

|  |  |  |  |
| --- | --- | --- | --- |
| **Field Name** | **Type, Size** | **Comment** | **Validation** |
| UserID | Autonumber, 4 | To identify user uniquely | 1 |
| Username | Text, 15 | To identify user name | myxspirit |
| Password | Text, 20 | To identify password | a1b2c3d4e5 |
| BGFolder | Text, 20 | To identify background folder | Cars |

Table Name: STOCKINFO

Key Field: Date

|  |  |  |  |
| --- | --- | --- | --- |
| **Field Name** | **Type, Size** | **Comment** | **Validation** |
| Date | Date/Time, 8 | To identify date | 07/02/2011 |
| Price | Integer, 2 | Collected Data | 88.00 |
| NetChange | Integer, 2 | Collected Data | 1.00 |
| Change | Integer, 2 | Collected Data | 1% |
| High | Integer, 2 | Collected Data | 90.00 |
| Low | Integer, 2 | Collected Data | 86.00 |
| Volume | Long Integer, 4 | Collected Data | 400,000 |

Table Name: COMPANYINFO

Key Field: StockNumber

|  |  |  |  |
| --- | --- | --- | --- |
| **Field Name** | **Type, Size** | **Comment** | **Validation** |
| StockNumber | Integer, 2 |  | 5 |
| Name | Text, 40 |  | HSBC |
| LotSize | Integer, 2 |  | 400 |
| Portfolio | Boolean, 1 |  | Yes/No |
| WatchList | Boolean, 1 |  | Yes/No |
| Target | Integer, 2 |  | 80.00 |

Table Name: PORTFOLIOSTATUS

Key Field: TradeID

|  |  |  |  |
| --- | --- | --- | --- |
| **Field Name** | **Type, Size** | **Comment** | **Validation** |
| TradeID | Autonumber, 4 |  | 1 |
| StockNumber | Integer, 2 |  | 5 |
| LotNo | Integer, 2 |  | 2 |
| AtPrice | Integer, 2 |  | 88.00 |

Table Name: ANALYSIS

Key Field: ReportNumber

|  |  |  |  |
| --- | --- | --- | --- |
| **Field Name** | **Type, Size** | **Comment** | **Validation** |
| ReportNumber | Autonumber, 4 |  | 1 |
| StockNumber | Integer, 2 |  | 5 |
| Beta | Long Integer, 4 |  | 0.667283 |
| ExpectedReturn | Long Integer, 4 |  | 0.05232 |

**Entity-Relationship Model Diagram**

STOCKINFO

PORTFOLIOSTATUS

LOGIN

ANALYSIS

COMPANYINFO

There will be lots of STOCKINFO tables, with each named after their stock code (e.g. 5 for HSBC). STOCKINFO is not related to any other tables within the database but it is related in the system as analysis required the collected data. **Stocknumber** in COMPANYINFO are required in various occasions in PORTFOLIOSTATUS & ANALYSIS.

**Objectives for the proposed system**

After analysing the needs, below I outline the objectives that the system must be able to achieve:

* Check up stock information on demand

This is the most fundamental task this system should achieve

* Automatically refresh information for watchlist/portfolio every 2 minutes

This function is based on the check up

* Automatically save information of selected stock after each day end

Applies the check info function and saves info onto database

* Create a table for each stock quote and adds details into COMPANYINFO

Save a template table and copy, then renamed the replicated empty table

* Analyse data collected, produce numerical & graphical statistical information

Uses the data collected from each day end