

College of Business and Management
MSYS 101 – Principals of Management Information Systems
Team Project and Presentation - Spring 2020-2021

Technology Application Project -Due 29/04/2021 (CLO. A1, A2, B1, C)

The goal of the Technology Application Project, due **week 13**, is to allow you to develop an Information System to provide information for effective decision making. This project is a team assignment to allow individuals to exchange ideas and learn from each other. You will build an Information System to manage your investment club. So, your job is to build this system in **MS Access**, and you will use it to store stock and investment information with data downloaded from the Internet and copied from other sources and produce the appropriate information for decision making.

TASK:

Your team has created an investment club with **\$100,000** which must be invested in five different stocks from the following list of stocks file (the excel file is uploaded on Canvas: <https://canvas.aubh.edu.bh/courses/302/assignments/3316/edit>). After you purchase your stocks, you must collect all required data related for these stocks and store this data into your database. **Every week**, the group produces **investment reports** which are analyzed by the members who make future investment choices.

Team Application & Essay: 20%

Presentation: 10%

General Guidelines:

Technical

1. The solution must be built in **MS Access database**

Functional

1. The solution shall produce a query which shows the **gains/losses of your stocks in \$ and % amounts and the comparative S&P 500 performance for the same period.**

Description

Data Collection and Conversion

1. Decide which 5 stocks you will purchase as a team and submit your selections on Canvas. You will purchase your stocks after the closing of the market on **12th March 2021** (this way, you all pay the same price for your stocks; no morning purchases). You could use financial sites like <http://finance.yahoo.com> or <http://moneycentral.msn.com> to find the closing prices and other information for your stocks.

Data Analysis and Data Modeling

2. Import all data from the list of stocks Excel workbook into a new table in your database. The new table will be named **List of Stocks**. The primary key for this table is the **Ticker** field. After the **List of Stocks** table has been created, change the size of the Symbol field to 6 Text characters. Also, use the appropriate data types for all other fields.
3. Build a new table named **Members** with the fields shown in Fig. 1 (ERD diagram) below. Is Manager field being a Yes/No field. Choose the appropriate format for the other fields.
4. Build a new table named **Team**. Create a team picture collage with all the team members. Store that picture in the Team Picture field.

Table 1: Team Table

Field Name	Data Type	Key
TeamNumber	Integer	Yes
TeamName	Text (30)	
TeamPicture	OLE	

5. Build a new table named **Trades** with the following specifications:

Table 2: Trades Table

Field Name	Data Type	Key
TradeID	AutoNumber	Yes
MemberID	You decide	
Ticker	Text (6)	
TradeDate	Date/Time	
TradeShares	You decide but you must have 2 decimal places	
TradeSharePrice	Currency	
TradeCost	Calculated Field (TradeShares times TradeSharePrice)	

6. Trade Date field described above is formatted as short date.
7. Build a new table named **Prices** with the following specifications:

Table 3: Prices Table

Field Name	Data Type	Key
Symbol	Text (6)	Yes
Date	Date/Time	Yes
Price	Currency	

8. Enter Trade data in the database. Also, start recording the closing prices for your team stocks and enter this data in the Prices table. Record Friday closing prices from **12/03/2021 until 23/04/2021** (6 times 5 stocks = 30 different daily prices).
9. Create the Relationships (ER Diagram) for the tables created up to this point, as shown below (Fig. 1) and add the Members table as you see fit.

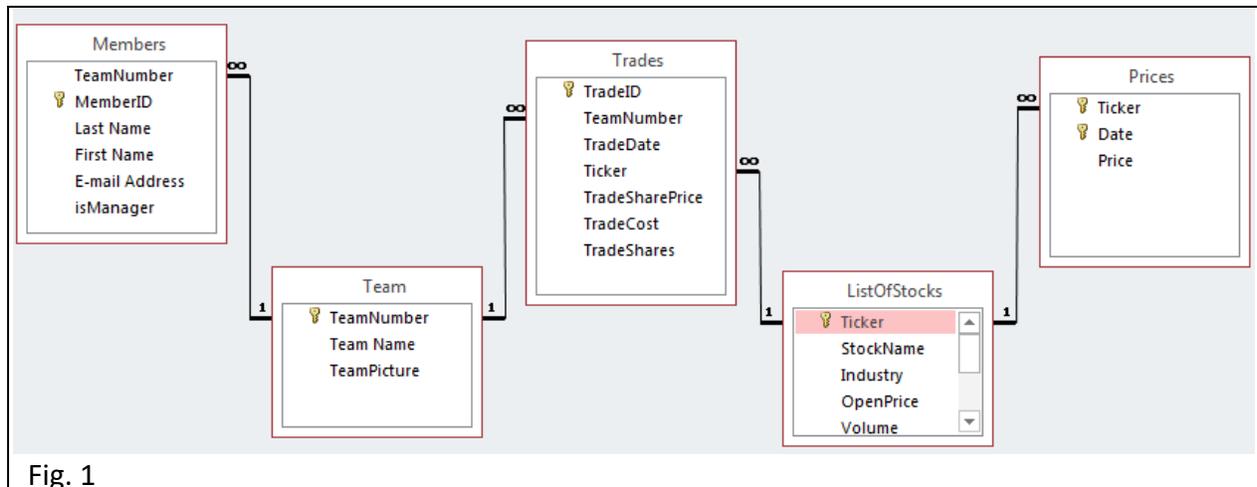


Fig. 1

Data Processing and Information Delivery

10. Build a query that will show all stocks in the "Financials" industry with Price Earnings between 5 and 10 times. Name that queries Value Financials List. Show the fields of your choice.
11. Build the Gain or Loss Query shown below where Gain or Loss is calculates as Trade Shares times the difference between Price and Trade Price per Share. Query is sorted by Symbol. Also, please pay attention to the currency formats for all \$ amounts. Note that your query layout and format does not have to look identical to mine. I am interested in the information you provide and not in the format (look and feel) of the query.

Year	TradeDate	Ticker	StockName	Industry	TradeShareF	TradeShares	TradeCost	Date	Price	Per Share Gain/Loss	Total Gain/Loss
0	12/31/2020	amzn	Amazon.com Inc	Consumer Discretionary	\$1,791.44	11.16	\$20,000.00	1/1/2021	\$1,785.88	(\$5.56)	(\$62.07)
0	12/31/2020	goog	Alphabet Inc Class C	Information Technology	\$1,273.74	15.70	\$20,000.00	1/1/2021	\$1,311.37	\$37.63	\$590.86
0	12/31/2020	mdt	Medtronic plc	Health Care	\$108.57	184.21	\$20,000.00	1/1/2021	\$107.03	(\$1.54)	(\$283.69)
0	12/31/2020	noc	Northrop Grumman Corp.	Industrials	\$352.13	56.80	\$20,000.00	1/1/2021	\$350.11	(\$2.02)	(\$114.73)
0	12/31/2020	shw	Sherwin-Williams	Materials	\$579.64	34.50	\$20,000.00	1/1/2021	\$531.85	(\$47.79)	(\$1,648.95)

Fig. 3

Often, I receive a database with several unnecessary objects. A team may attempt to create a query for the Gain and Loss report several times. When I grade your projects, I have no idea which of the queries to grade since there are many similar queries. So, please do not have any tables, queries, or reports in the database are not required by this assignment.

Information Verification

12. Create an Excel file that produces the same information as your Gain or Loss Query. This Excel file is your Unit Test Plan (UTP) which verifies that the MS Access Query is correct.

Evaluation

13. Describe the changes you would make to this database application system to improve it (in a bulleted list format) with minimum of 10 changes. In this list, try to include items from the following questions:

1. Did we accomplish everything we wanted to accomplish with this database application system?
2. Any areas for improvement?
3. Why are these changes necessary?

Please note that in this question, I do not ask to evaluate the Assignment but the database (your product) itself.

Assignment Submitting Key Dates:

1. First submission on 25/02/2021: Team Name, members, and selection of stocks
2. Second submission on 04/03/2021: Q2, Q3 & Q4.
3. Third submission on 31/03/2021: Q5, Q6, Q7 & Q8.
4. Final submission 29/4/2021: MS Access file, MS Excel with Test Plan, and word files.

For online tutorial, please visit: <https://edu.gcfglobal.org/en/access2007/>