# **Implementation Report**

#### Introduction

The report is showing the database of CQCP. All tables are being defined in the report. The dependency and relationship among tables are also being defined. All tables are created in the database by the ER Diagram. There were some issues in the ER Diagram table but all have been removed from the table and new generated tables are in third normal form.

### **Functional Dependency in two Tables**

TableAnalyst

TABLEANALYST (EID, FirstName, MiddleName, LastName, Address, Phone\_Number, Qualification, Job\_Title)

Two analysts can have same name and address and in these types of situations there should be one field which can uniquely identify the complete record. EID can be unique in the analyst table and can manage the ubiquity of the record. Therefore, FirstName, LastName and Address functionally depends upon EID-

FirstName → EID

LastName → EID

Address → EID

Every other field depends upon the primary key, so TableAnalyst is in third normal form.

Janalta Interactive Inc. 2015)

#### *TablePortfolio*

TABLEPORTFOLIO (PortfolioID, ClientID, AvailableCash, ManagerID)

Two portfolios can have same manager and available cash and in these types of situations there should be one field which can uniquely identify the complete record. PortfolioID can be unique in the analyst table and can manage the ubiquity of the record. Therefore, ManagerID and AvailableCash functionally depends upon PortfolioID -

ManagerID → PortfolioID

AvailableCash → PortfolioID

Every other field depends upon the primary key, so TABLEPORTFOLIO is in third normal form.

(teach-ict.com n.d.)

#### **Demonstration of Normalisation in two Tables**

Following rules are showing the rules of third normalization in the database tables-

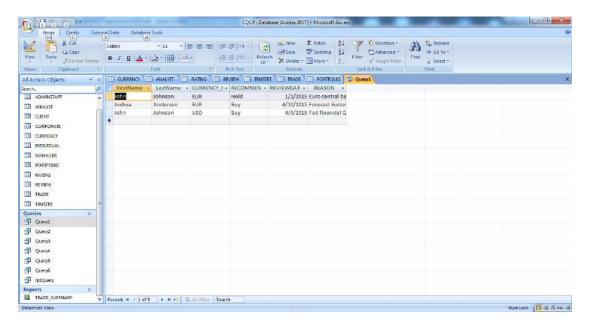
- 1. The data in each database table is unique.
- 2. Only primary key is able to uniquely identify the record.
- 3. There is relation among all similar tables.

TableAnalyst and TablePortflio are shown above for functional dependency.only primary key is able to uniquely identify the record in both tables and each table is containing unique data. In this way, both tables are in third normal form.

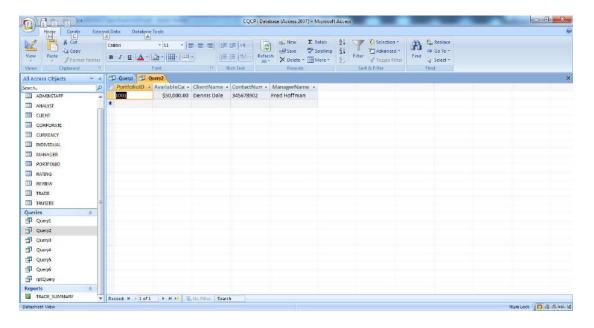
### **SQL Queries**

#### Query 1

SELECT TABLEANALYST.FirstName, TABLEANALYST.LastName, TABLEREVIEW.CURRENCY\_CODE, TABLEREVIEW.RECOMMENDATION, TABLEREVIEW.REVIEWDATE, TABLEREVIEW.REASON FROM TABLECURRENCY INNER JOIN (TABLEANALYST INNER JOIN TABLEREVIEW ON TABLEANALYST.EID=TABLEREVIEW.EID) ON TABLECURRENCY.CurrencyCode=TABLEREVIEW.CURRENCY\_CODE WHERE TABLEREVIEW.CURRENCY\_CODE In ("USD","EUR") And REVIEWDATE>#1/1/2015#;

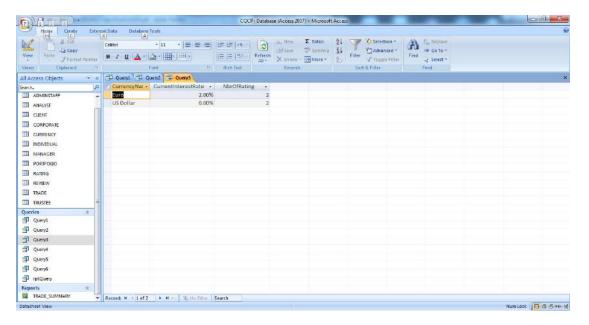


SELECT TABLEPORTFOLIO.PortfolioID, TABLEPORTFOLIO.AvailableCash, TABLECLIENT.FirstName+' '+TABLECLIENT.LastName AS ClientName, TABLECLIENT.ContactNumber, TABLEMANAGER.FirstName+' '+TABLEMANAGER.LastName AS ManagerName FROM TABLEMANAGER INNER JOIN (TABLECLIENT INNER JOIN TABLEPORTFOLIO ON TABLECLIENT.ClientID=TABLEPORTFOLIO.ClientID) ON TABLEMANAGER.EID=TABLEPORTFOLIO.ManagerID WHERE TABLEPORTFOLIO.AvailableCash=(select top 1 AvailableCash from TABLEPORTFOLIO order by AvailableCash);

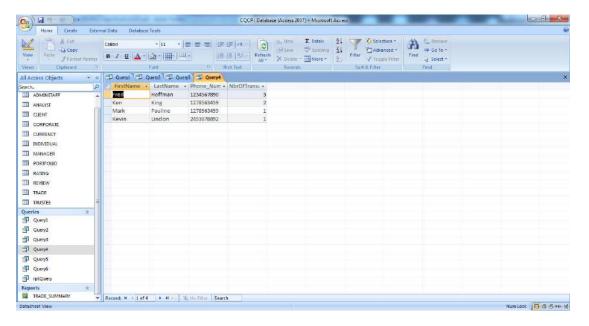


SELECT TABLECURRENCY.CurrencyName,

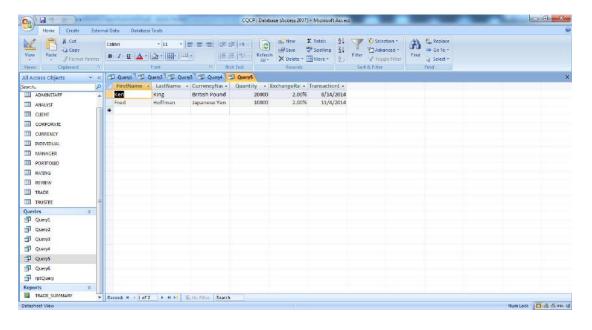
TABLECURRENCY.CurrentInterestRate, Count(TABLERATING.Rating) AS
NbrOfRating FROM TABLECURRENCY INNER JOIN TABLERATING ON
TABLECURRENCY.CurrencyCode = TABLERATING.CurrencyCode GROUP BY
TABLECURRENCY.CurrencyName, TABLECURRENCY.CurrentInterestRate
HAVING (((Count(TABLERATING.Rating))>=2));



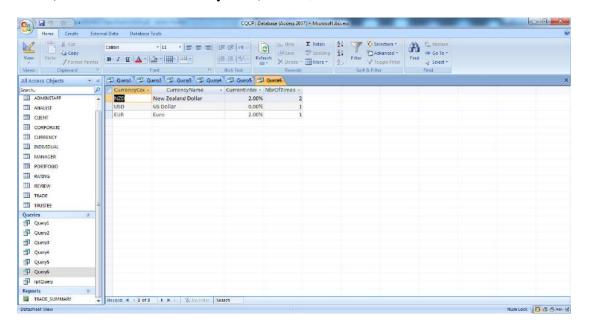
SELECT FirstName, LastName, Phone\_Number, count(TABLETRADE.ManagerID) AS NbrOfTransaction FROM TABLEMANAGER INNER JOIN TABLETRADE ON TABLEMANAGER.EID=TABLETRADE.ManagerID GROUP BY FirstName, LastName, Phone\_Number ORDER BY count(TABLETRADE.ManagerID) DESC;



SELECT FirstName, LastName, CurrencyName, Quantity, ExchangeRate, TransactionDate FROM TABLECURRENCY INNER JOIN (TABLEMANAGER INNER JOIN TABLETRADE ON TABLEMANAGER.EID=TABLETRADE.ManagerID) ON TABLECURRENCY.CurrencyCode=TABLETRADE.CurrencyCode WHERE (((TABLETRADE.TransactionDate)>#1/7/2014# And (TABLETRADE.TransactionDate)<#1/1/2015#) And ((TABLETRADE.CurrencyCode) In ("GBP","JPY")) And ((TABLETRADE.Trade\_Mode)="Buy"));

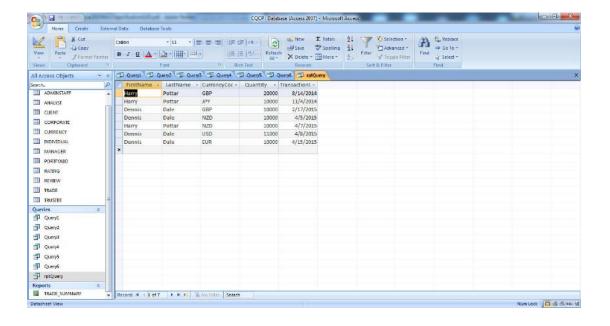


SELECT TABLECURRENCY.CurrencyCode, TABLECURRENCY.CurrencyName, TABLECURRENCY.CurrentInterestRate, count(TABLETRADE.CurrencyCode) AS NbrOfTimesTraded FROM TABLECURRENCY INNER JOIN TABLETRADE ON TABLECURRENCY.CurrencyCode=TABLETRADE.CurrencyCode GROUP BY TABLECURRENCY.CurrencyCode, TABLECURRENCY.CurrencyName, TABLECURRENCY.CurrentInterestRate HAVING TABLECURRENCY.CurrencyCode in (SELECT top 3 CurrencyCode FROM TABLETRADE order by TransactionDate desc;) ORDER BY count(TABLETRADE.CurrencyCode) DESC;

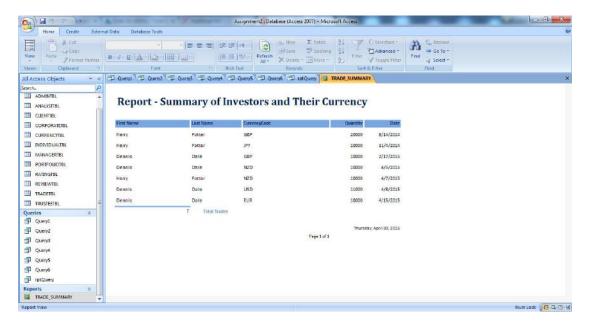


#### Report Query

SELECT TABLECLIENT.FirstName, TABLECLIENT.LastName,
TABLETRADE.CurrencyCode, TABLETRADE.Quantity,
TABLETRADE.TransactionDate FROM (TABLECLIENT INNER JOIN
TABLEPORTFOLIO ON TABLECLIENT.ClientID=TABLEPORTFOLIO.ClientID)
INNER JOIN TABLETRADE ON
TABLEPORTFOLIO.PortfolioID=TABLETRADE.PortfolioD ORDER BY
TABLETRADE.TransactionDate:



### **Summary Report**



### **Limitations in Assignment**

There is no any big limitation in the assignment but there are some lack of features in the assignment as defined below-

- 1. Lack of making forms
- 2. Lack of outer join queries

### **Learning Features in Assignment**

There are so many learning features in the assignment-

- 1. Use of sub queries
- 2. Use of Currency data type
- 3. Report Generation
- 4. Use of Group by clause
- 5. Use of Count Function etc.

#### Conclusion

The report is showing full database implementation including queries, report in ms access etc. the report is giving brief overview of CQCP database. The report is giving knowledge about normalization, functional dependency in the tables also.

After studying this report, user can easily understand the CQCP database functionality.

## References

- [1] Janalta Interactive Inc. 2015, Functional Dependency, Viewed on 13<sup>th</sup> May 2015 <a href="http://www.techopedia.com/definition/19504/functional-dependency">http://www.techopedia.com/definition/19504/functional-dependency</a>
- [2] teach-ict.com n.d., Third Normal Form, Viewed on 13<sup>th</sup> May 2015 < http://www.teach-ict.com/as\_a2\_ict\_new/ocr/AS\_G061/315\_database\_concepts/normalisation/miniweb/pg9.htm>

