EECS 341 Final Project Report

Project Team 5

**Group Members:**

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* Mark Gross (mag210)
* Michael Folz (maf152)
* Mingxuan Ju (mxj255)

**Files Included:**

* “FinalProject” folder
  + Command Line Java application submitted with the VM
* “FinalProjectGUI” folder
  + Graphical application of our database submitted with the VM (the extra credit assignment)
* CWRU Drinks Presentation
  + Powerpoint presented in class
* ER Diagram.png
  + Our databases ER diagram
* TableCreation.sql
  + File containing the SQL for creating out database’s tables
* DataInsertion.sql
  + File containing the SQL for adding out data to the database
* SQL\_QUERRIES.txt
  + Example SQL queries used in our project

**Application Background:**

Our project, which we named CWRU Drinks, was a database meant to help those around Case Western Reserve University find local places to drink, buy alcohol, or see local events hosted by bars near them. The intended demographic for use of this database are CWRU students.

**Data Description:**

* Place\_Of\_Service
  + ID : ID of this place of service, UNIQUE, NOT NULL
  + Name : name of this place of service
  + Address : address of this place of service
  + Type : type of place of sale (Ex: Bar, gas station, etc.)
* Bartender
  + Name : name of the bartender, UNIQUE, NOT NULL
  + Gender : bartender’s gender
  + Rating : rating of how good a bartender is (out of 10)
* Company
  + Cname : name of the company, UNIQUE, NOT NULL
  + Country : country the company headquarters is located in
  + Territory : where in the country the company is located (Ex: Missouri, Shandong, etc)
  + City : city the company headquarters is located in
* Drink
  + Name : name of drink, UNIQUE, NOT NULL
  + Type : type of drink (Ex: beer, whiskey, etc.)
  + Company : company that makes the beer
* Manager
  + Mid : manager ID, UNIQUE, NOT NULL
  + Name : name of the manager
  + Gender : manager’s gender
  + Networth : manager’s net worth
* Event
  + Name : name of event, NOT NULL
  + Date\_of\_event : date the event occurs, NOT NULL
  + startTime : time the event starts
  + maxAttendance : maximum number of people allowed into the event
* Student
  + SID : student ID, UNIQUE, NOT NULL
  + Name : student name
  + Year : graduation year
* Operational\_Times
  + OT : ID of the operational time, UNIQUE, NOT NULL
  + Open\_day : day of the week it opens
  + Open\_hour : hour of the day it opens
  + Close\_day : day of the week it is closes
  + Close\_hour : hour of the day it closes
* Sells
  + POS\_ID : place of sale ID where a sale can take place, NOT NULL
  + drinkName : name of drink being sold, NOT NULL
  + price : price of the drink being sold
* Works
  + POS\_ID : place of sale ID where the bartender work, NOT NULL
  + bartenderName : name of bartender working, NOT NULL
  + startShiftTime : time when the bartender shift starts
  + endShiftTime : time when the bartender shift ends
* Makes
  + Cname : name of the company making the drink, NOT NULL
  + drinkName : name of the drink being made, NOT NULL
* Is\_Open
  + POS\_ID : place of sale ID, which place of sale is being open, NOT NULL
  + OT : Operational times ID, when the place of sale is being open, NOT NULL
* Manages
  + POS\_ID : place of sale ID, the place being managed, NOT NULL
  + Mid : manager ID, the manager that manages this place of sale, NOT NULL
* Hosts
  + POS\_ID : place of sale ID of the place hosting the event, NOT NULL
  + eventName : name of the event being hosted, NOT NULL
  + dateOfEvent : date the event is occurring, NOT NULL
* Attend
  + SID : student ID of the student attending the event, NOT NULL
  + eventName : name of the event, NOT NULL
  + dateOfEvent : date the event is occurring, NOT NULL
* Buys
  + SID : student ID of the student buying a drink, NOT NULL
  + drinkName : name of the drink bought by the student , NOT NULL
  + numBought : number of this drink bought by this student

**ER Diagram:**

* See this file: ER Diagram.png

**Functional Dependencies:**

* Place\_Of\_Service
  + ID 🡪Name, address, type
* Bartender
  + Name 🡪 gender, rating
* Company
  + Cname 🡪 country, territory, city
* Drink
  + Name 🡪 type, company
* Manager
  + Mid 🡪 name, gender, networth
* Event
  + Name, Date\_of\_event 🡪 startTime, maxAttendance
* Student
  + SID 🡪 name, year
* Operational\_Times
  + OT 🡪 Open\_day, Open\_hour, Close\_day, Close\_hour
* Sells
  + POS\_ID, drinkName 🡪 price
* Works
  + POS\_ID, bartenderName 🡪startShiftTime, endShiftTime
* Makes
  + \*\*\*NONE\*\*\*
* Is\_Open
  + \*\*\*NONE\*\*\*
* Manages
  + \*\*\*NONE\*\*\*
* Hosts
  + \*\*\*NONE\*\*\*
* Attend
  + \*\*\*NONE\*\*\*
* Buys
  + SID, drinkName 🡪 numBought

**Schema:**

**Note: For table creation (including data types) see file: TableCreation.sql**

Place\_Of\_Service (ID, Name, Address, Type)

Bartender(Name, Gender, Rating)

Company(Cname, Country, Territory, City)

Drink(Name, Type, Company)

Manager (MID, name, gender, networth)

Event (startTime, name, dateofevent, maxattendence)

Student (SID, name, year numeric)

Operational\_Times (OT, Open\_day, Open\_hour, Close\_day, Close\_hour)

Sells (POS\_ID, drinkName, Price numeric)

Works (POS\_ID, bartenderName, start\_shift, end\_shift time)

Makes (Cname, drinkName)

is\_Open(POS\_ID, OT)

Manages (POS\_ID, mid)

Hosts (POS\_ID, eventName, dateofevent)

Attend (SID, eventName, dateofevent)

Buys (SID, num\_bought, drinkname)

Our database is BCNF because for every Functional Dependency in a relation, the functional dependency is the superkey of that relation.

**Example Queries:**

* See this file: SQL\_QUERRIES.txt

**Implementation:**

* See these files for the Java Code:
  + “FinalProject” folder
    - Command Line Java application submitted with the VM
  + “FinalProjectGUI” folder
    - Graphical application of our database submitted with the VM (the extra credit assignment)

**Contributions:**

* David Navia (dan57)
  + Project Proposal
  + ER Diagram creation
  + Data Insertion
  + Project Presentation
* Mark Gross (mag210)
  + Project Proposal
  + SQL Query Creation
  + Java Command Line Application
  + Java GUI Application
  + Project Presentation
  + Final Project Report
* Michael Folz (maf152)
  + Project Proposal
  + ER Diagram Creation
  + SQL Query Creation
  + Java Command Line Application
* Mingxuan Ju (mxj255)
  + ER Diagram Creation
  + Table Creation SQL
  + Data Insertion SQL