# CMPG 223 – FINAL PROJECT

## Names of Group Members:

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## Topic:

The P.P.S. Engineering Group offers multidisciplinary engineering consulting and construction services to their clients in Pretoria, South Africa. The new system to be used by the P.P.S. group would improve workflow in the business with the system allowing to better manage different components of the business.

## Programming Language:

C#

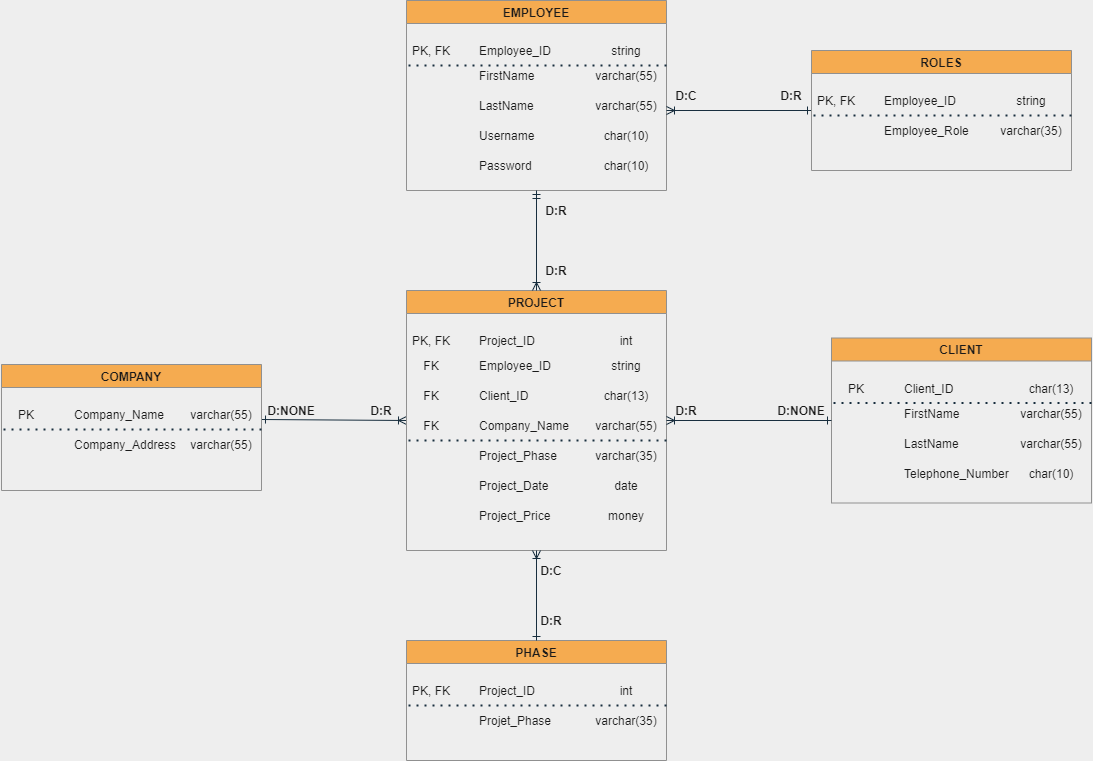
## DBMS:

**PLEASE SUPPLY DBMS USED**

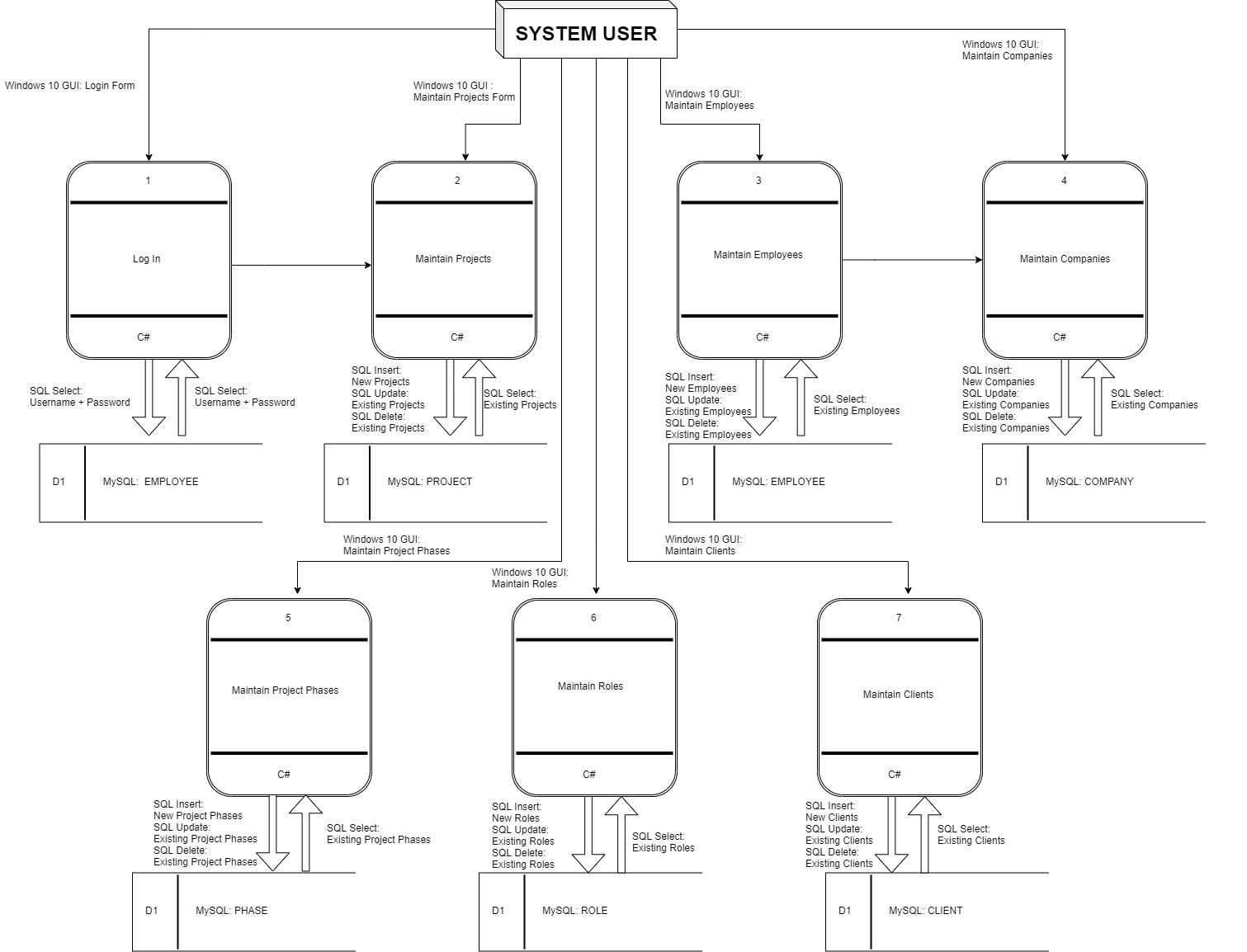
## Username and Password:

**PLEASE SUPPLY USERNAME AND PASSWORD**

## Physical Data Model



## Physical Process Model



**PLEASE SUPPLY SCREEN PRINT OF DATABASE SCHEMA CREATED ACCORDING TO**

**PHYSICAL DATA MODEL IN DBMS, E.G. PICTURE OF ER DIAGRAM IN**

**SQL SERVER**

## SQL Used

CREATE DATABASE PPS\_Database;

CREATE TABLE EMPLOYEE (

Employee\_ID char(13) NOT NULL,

FirstName varchar(55) NOT NULL,

LastName varchar(55) NOT NULL,

Username char(10) NOT NULL,

Password char(10) NOT NULL,

PRIMARY KEY (Employee\_ID)

);

CREATE TABLE CLIENT (

Client\_ID char(13) NOT NULL,

FirstName varchar(55) NOT NULL,

LastName varchar(55) NOT NULL,

Telephone\_Number char(10) NOT NULL,

PRIMARY KEY (Client\_ID)

);

CREATE TABLE COMPANY (

Company\_Name varchar(55) NOT NULL,

Company\_Address varchar(55) NOT NULL,

PRIMARY KEY (Company\_Name)

);

CREATE TABLE PHASE (

Project\_ID int NOT NULL,

Project\_Phase varchar(35),

PRIMARY KEY (Project\_ID)

);

CREATE TABLE PROJECT (

Project\_ID int NOT NULL,

Employee\_ID char(13),

Client\_ID char(13),

Company\_Name varchar(55) NOT NULL,

Project\_Phase varchar(35),

Project\_Date date,

Project\_Price money,

PRIMARY KEY (Project\_ID),

FOREIGN KEY (Employee\_ID) REFERENCES EMPLOYEE(Employee\_ID),

FOREIGN KEY (Client\_ID) REFERENCES CLIENT(Client\_ID),

FOREIGN KEY (Company\_Name) REFERENCES COMPANY(Company\_Name)

);

**PLEASE SUPPLY SCREEN PRINT OF EXAMPLE PROGRAMMING CODE FOR MAINTAINING**

**A CHILD ENTITY OF THE DATA MODEL AND ILLUSTRATING THE EFFICIENT REUSE OF CODE (E.G. MAKING USE OF METHODS)**

**PLEASE SUPPLY SCREEN PRINTS OF TWO REPORTS GENERATED FROM YOUR SYSTEM**

## User Guide:

**PLEASE SUPPLY A FEW GETTING STARTED STEPS**

* Supported operating system:

The system will install and run on the following operating systems (64 bit recommended):

* + Windows 10
  + Windows Server 2019
  + Windows Server 2016
  + Windows 8.1
  + Windows Server 2012 R2
  + Windows 7 SP1

* Hardware:
  + 1.8 GHz or faster processor. Quad-core or better recommended
  + 2 GB of RAM. 8 GB of RAM recommend.
  + Hard disk space: Minimum of 800MB up to 210 GB of available space.
  + Hard disk speed: To improve the performance, install Windows and system on a solid-state drive (SSD).
  + Video card that supports a minimum display resolution of 720p (1280 by 720). The system will work best at a resolution of WXGA (1366 by 768) or higher.