

Course project

Beauty Website



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CSCE 310

PART A

1. Description of the database application

My PDA is about Beauty Online Shopping. Being a girl who is interested in beauty, I decide to choose this topic for my application. There are 6 entity sets for this application which is Customers, Products, Brands, Cart, Payment and Service. The attributes for Customer are ID, name, address, email, service ID and product type. ID is identified as INT primary key, name as varchar (45), address as varchar(45), email as varchar(45), service\_ID as INT, and product type as varchar(45). The attributes for Products are ID, name, type, brands\_ID, and Customers\_ID. ID is identified as INT primary key, name and type as varchar (45),Cart\_ID, brands\_ID and Customers\_ID are int. The attributes for Brands are ID, type and product name. Brands ID is INT primary key, type is varchar (45), and product name is varchar(45). The attributes for Cart is ID, Customer ID, Product ID, total Amount, and Payment Card number. All 3 ID types in Cart is identified as INT, total amount and payment card number are identified as varchar(45). The ID for the Cart is the key. The fifth entity set is Payment which has card number and shipping address as attributes. Card number is varchar(45) primary key and shipping address is varchar (45). Service has questions, customer ID and service ID. The customer ID and service ID are INT primary key, and the questions is varchar (45). The relationship between Customers and Products are one-many. The relationships connect the two entity sets is “choose”. The Products will have the relationships of many-one to Brands. In Products, will have brands ID and also in Brands have Product name. The relationships connect two entities is “has”. Many products can be placed into one and only cart in the website. As a result, the relationship between Products and Cart is many-one relation and connected by “added”. Customers and Cart is one-one relationships connect by “placed”. One customer can only place the product into the cart at one time. In Cart, will have the attributes called Customer ID. Also, Cart and Payment is also one-one relationship connected by “confirmed”. One cart can only have one payment, and one payment is only paid for one cart. Customer and Service is many to one relationship connected by “ask”. Many customers can only ask one service of the website. One website cannot have many services.

PART B

1. E/R diagram to relations

Choose (Products, Customers)

Has (Products, Brands)

Placed (Customer, Cart)

Confirmed (Cart, Payment)

Ask (Customer, Service)

Add (Products, Cart)

Products (ID, type, name, cart\_ID, brands ID, Customers\_ID)

Brands (ID, product name, type)

Customers (ID, name, address, email, product\_Type, Service\_ID)

Service (ID, customer ID, questions)

Cart (ID, products ID, total Amount, Customer ID, Payment\_card number)

Payment (Card number, shipping address)

1. Specify nontrivial functional dependencies for the relations

Customers:

ID → name, address, email, product type, service\_ID

Products:

ID → type, name, brands\_ID, Cart\_ID, Customers\_ID

Brands:

ID → product type

Cart:

ID → Customer ID, total Amount, Products ID, payment \_Card number

Payment:

Cart number → shipping address

Service:

ID → customer ID, questions

PROJECT REPORT

At the first step, which is building the E/R diagram, I spend quite a long time to complete the diagram because I want to have the best design for my topic and to build the best logic for my diagram. At first, I build a small E/R diagram with 3 entity sets to make sure all their relationships. The three main entity sets are Customer, Products and Cart. From that three entities, I improved the E/R diagram and turn it into a bigger E/R diagram with 6 entity sets as required with: Brands, Payment, and Service. From here, I have successfully created a diagram that I expected for my topic.

After successfully created the tables by using the commands and specified the types for the attributes, I inserted the data into the tables. The command that I use to create table is

drop table if exists `Customer`;

create table `Customer` (

`ID` int not null,

`name` varchar(45) not null,

`address` varchar(45) not null,

`email` varchar(45) not null,

`product\_Type` varchar(45) not null,

`Service\_ID` int not null,

primary key (`ID`),

index `fk\_Customers\_Service1\_idx` (`Service\_ID` ASC),

constraint `fk\_Customers\_Service1`

foreign key (`Service\_ID`)

references `chaungo`.`Service` (`ID`)

on delete no action

on update no action);

Then I inserted the data follow this command

insert into `Customers`(`ID`, `name`,`address`, `email`, `product\_Type`, `Service\_ID`) values

(11, 'Chloe' , 'Colgate Drive' , 'chloe@sql.com' , 'skin care' ,881),

(12, 'ChloEric', 'Eastmark Rd' , 'chloeric@tamu.edu' , 'face make up',882),

(13, 'Eric' , 'University Drive', 'eric@gmail.com' , 'hair product',883),

(14, 'Ashley' , 'Texas Ave' , 'ashley@hotmail.com', 'lips product',884),

(15, 'Bella' , 'Upper Kirby Dr' , 'bella@yahoo.com' , 'skin care' ,885),

(16, 'Shu-hao' , 'Cypress Rd' , 'haohao@yahoo.com' , 'skin care' ,888);

Follow this command, I applied it to other entity sets such as Product, Brands, Cart, Payment and Service. Next, I use select\* form to display the tables.

Select\* from `Customer` limit 100;

I can see that the first step when we set all the data types such as primary, references is very important. If we didn’t set it well, then it is very hard to use the queries for the tables. For the relationships, if we don’t specify clearly at the beginning, it will be a problem when we join or union the tables. The primary keys are also very important. In order to have the tables with a tight relation, we have to describe everything clearly while we create the table.

The problem I encountered during the project is how to make the relations between them so that they can be understandable. Also, I have to update my E/R quite a few times and also the type of the attributes. I figured out that the Card Number is overflow for integer type but if I set it as float then it will appear as 123e23 which is not what I want so I must set it as varchar (20). Another problem that I have encountered is the connection between Workbench and Tamu server. Somehow, I couldn’t connect to the tamu server from MySQL Workbench. In additional, I had sought for help from a friend in class but he couldn’t connect too. Moreover, I also came to the Computer Science helpdesk and emailed the TA but I still couldn’t connect. Thus, I didn’t want to spend more time on how to connect to the server for Workbench anymore because I want to spend more time on the project. Hence, I came up with the decision that I will use putty to connect to the server to make it easier.