Sri Lanka Institute of Information Technology


Assignment

MLB_04.1_04

# Online Music Store


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**Information Systems and Data Modeling – IT1090**

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# Introduction

RythemLK will offer buying public a superior shopping alternative, with a huge selection of school band and orchestra instruments, plus guitars, keyboards, violins, percussion and flutes for reasonable prices. Our products will be supported by friendly staff and service as focused on educating the customers on closing the sale. We will exploit discounts. Our unique marketing schemes include “Pay Less Buy Lot”.

RythemLK will focus on the novice, hobbyist and semi – professional musician, these three groups are seeking value, customer service and knowledgeable assistance in making what can be a rather significant purchase. We will establish our branding with our superior service and selection, the excitingly modern look of our retail environment, our “hands on ” merchandising approach, and a series of ads with our motto: “Stop Dreaming, Start Playing ”. Once in the store, our clients want to come back often for the special treatments they receive here and nowhere else.

Although RythemLK may not become the biggest, our intention is to become a “Must-shop Destination” for those looking to buy a new musical instrument in Sri Lanka.

## Hypothetical Scenario

In an online music store system anyone can be accessed to our website, RythemLK. Registered customer can directly login by username and password. If not a registered customer, this customer has to fill the registration form and login to the system again. This system has only one admin. Admin also have to login to the system by using username and password only admin can make changes and modify the system. When customers register they have their own profile. These details of customers' are highly secured. When a customer select an instrument to buy, a form will be displayed including the payment details, quantity, price of the product and the name of the product in the payment page on the site. Then the admin can retrieve a data and update the database, once a customer submits a payment form. Once a customer submits a payment from through the system, customer will get an email and a success message about their successful payment and order details.

## Requirement Analysis

Main Requirements

- Register to the system as a member.
- Login to the system using username and password.
- Browse items.
- Select a product and add to cart.
- Enter payment details and, submit the form.
- Update product details.
- Add new arrivals.
- Check validity of login
- Check validity of payments.
- Get an email and a success message for success payment.

❖ Register as a customer – If customer is a new customer he/she should create a new profile and became a registered customer.

❖ Login to the system – After registration customer should login to the system by using their correct username and password.

❖ Browse items – Customer can browse instruments using categories.

❖ Select a product – Customer can select any instrument.

❖ Add to cart - As customer wish to buy it she/he can add to his own cart.

❖ Purchase a product – Directly can purchase a product by filling the payment details for the customers can pay via card or cash on delivery.

❖ Update details – Record enter details to the database.

❖ Add new arrivals – Manager can add new arrival instrument to the site.

❖ Check validity of login – Check whether the username and password is correct and matching.

- Check validity of payment details - Check all the details customer entered as payment details.
- Send a confirmation message – If payment is done correctly, system will send a confirmation message successfully to customer profile and email.

## Functional Requirements

Admin – He is provided of user and products and he can update the system software to meet the requirements.

User – The user can view the details of products by entering URL of the website and login to the profile. User should be able to search for a particular product. He/she can just view the details but cannot manipulate them. Registered users can purchase products.

Home Page – It is used for the registration of customers.

Register – It is used for the registration of customers.

Category – It shows categories of instruments such as guitars, violins, percussion and flutes.

Cart – It is used to put selected items.

Update cart – It's specifies the modifications of the selected list.

Payment - It provide payment details to be filled.

## Non – Functional Requirements

Non - functional requirements describe user visibility aspects of the system that are not directly related to the functional behavior of the system.

- Scalability – Any number of users can be able to access at the same time all the login and other details must stored securedly.

- Availability – 24 * 7 availability will be provided if there is internet connection.

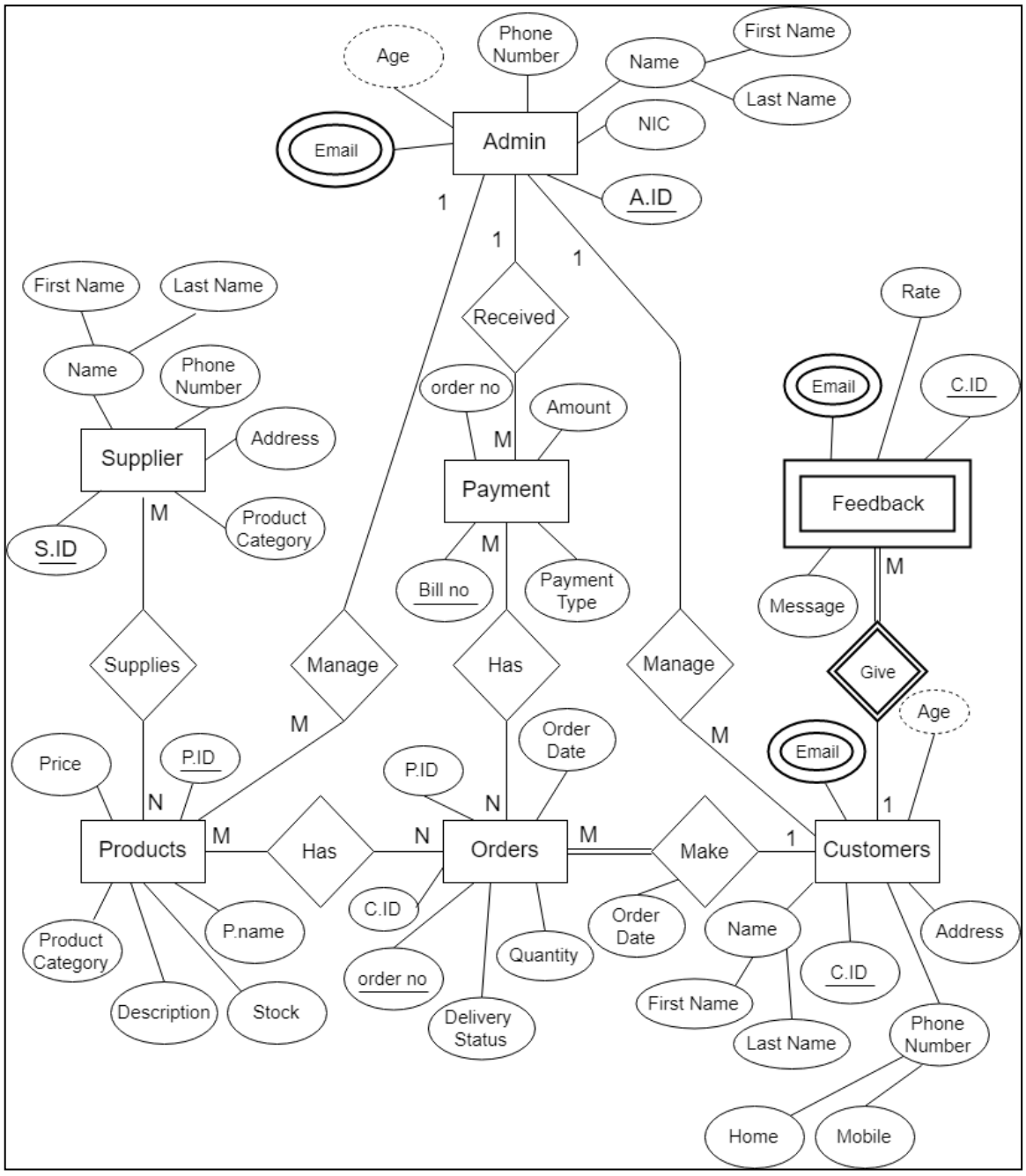
- System modification – This system is flexible but the only thing is all modification can be done by admin only.

- Security issues – The database in which all the information stored securedly other than the admin others cannot access it. Also no one can login the site using others' username and password.

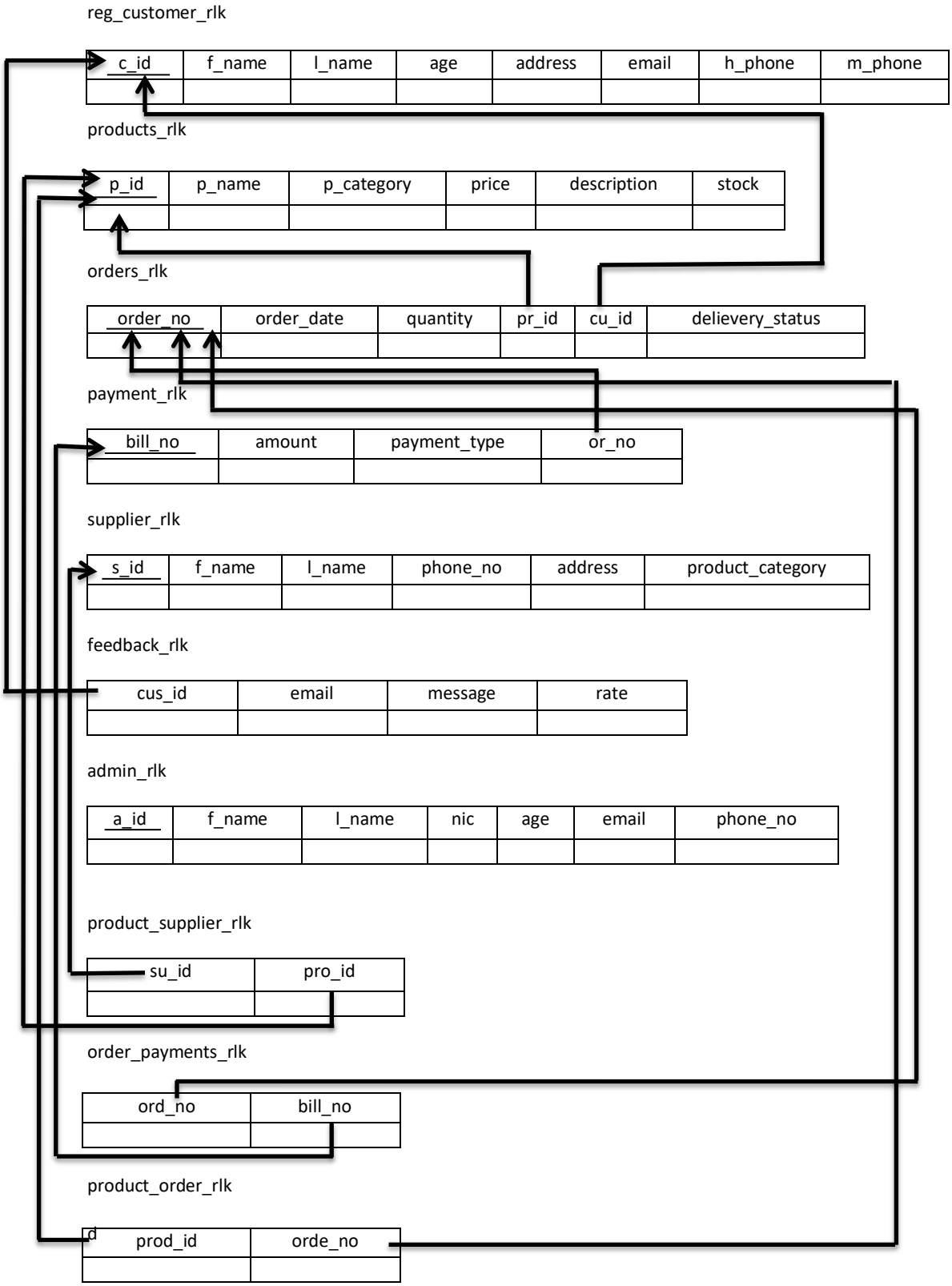
## Schema of the database

1) reg_customer_rlk : c_id, f_name,l_name,age, address, email, h_phone, m_phone.
2) products_rlk : p_id, p_name, p_category, price, description, stock
3) orders_rlk : order_no, order_date, quantity, pr_id, cu_id, delivery_status
4) payment : bill_no, amount, payment_type, or_no
5) supplier_rlk : s_id, f_name, ,l_name,phone_no, address, product_category
6) feedback_rlk : cus_id, email, message, rate,
7) admin_rlk : a_id, f_name, l_name, nic, age, email, phone_no
8) product_supplier_rlk : su_id, pro_id
9) order_payments_rlk : ord_no, bi_no
10) product_order_rlk : prod_id, orde_no

# ER Diagram


Age
Phone Number
Name
First Name
Last Name
Email
Admin
NIC
A.ID
1
1
1
First Name
Last Name
Name
Phone Number
Supplier
Address
S.ID
Product Category
M
Supplies
M
Price
P.ID
N
Products
M
Manage
Received
order no
Amount
M
Payment
M
Bill no
Payment Type
Has
M
Order Date
P.ID
N
N
Orders
M
Has
M
C.ID
order no
Quantity
Delivery Status
Product Category
P.name
Description
Stock
Manage
M
Make
1
Order Date
Rate
Email
C.ID
Feedback
M
Message
Give
Age
Email
1
Customers
Name
C.ID
Address
First Name
Last Name
Phone Number
Home
Mobile

# Relational Schema



## SQL Queries

```
Create table reg_customer_rlk(
	c_id int,
	f_name varchar(20),
	l_name varchar(20),
	age int,
	address varchar(50),
	email varchar(30),
	h_phone int,
	m_phone int,

	constraint pk_reg_customer_rlk primary key(c_id)
	);

create table products_rlk(
	p_id int,
	p_name varchar(50),
	p_category varchar(20),
	price money,
	description varchar(100),
	stock int,

	constraint pk_products_rlk primary key(p_id)
	);


create table orders_rlk(
	order_no int,
	order_date date,
	quantity int,
	pr_id int not null,
	cu_id int not null,
	delivery_status varchar(100),

	constraint pk_orders_rlk primary key(order_no),
	constraint fk_orders_rlk foreign key(pr_id) references products_rlk(p_id),
	constraint fk_orders_rlk_1 foreign key(cu_id) references reg_customer_rlk (c_id)
	);


create table payment_rlk(
	bill_no int,
	amount money,
	payment_type varchar(20),
	or_no int not null,

	constraint pk_payment_rlk primary key (bill_no),
	constraint fk_payment_rlk1 foreign key (or_no) references orders_rlk(order_no)
	);
```

```
create table supplier_rlk(
       s_id int,
       f_name varchar(20),
       l_name varchar(20),
       phone_no int,
       address varchar(100),
       product_category varchar (20),

       constraint pk_supplier_rlk primary key(s_id),
       );

create table feedback_rlk(
       cus_id int not null,
       email varchar(30),
       message varchar(200),
       rate int,

       constraint fk_feedback_rlk foreign key (cus_id) references reg_customer_rlk(c_id),
       );

create table admin_rlk(
        a_id int,
        f_name varchar(20),
        l_name varchar(20),
        nic varchar(20),
        age int,
        email varchar(30),
        phone_no int,
        constraint pk_admin_rlk primary key(a_id),
        );

create table product_supplier_rlk(
       su_id int,
       pro_id int,

       constraint fk_ product_supplier_rlk foreign key(su_id) references
      supplier_rlk(s_id),
       constraint fk_ product_supplier_rlk _1 foreign key(pro_id) references
      products_rlk(p_id),
);

create table order_payments_rlk(
       ord_no int,
       bi_no int,

       constraint fk_order_payments_lk1 foreign key(ord_no) references
      orders_rlk(order_no),
       constraint fk_order_payments_lk2 foreign key(bi_no) references
      payment_rlk(bill_no),
       );

create table product_order_rlk(
       prod_id int,
       orde_no int,

    constraint fk_product_order_rlk1 foreign key(prod_id) references  products_rlk(p_id),
    constraint fk_product_order_rlk2 foreign key(orde_no) references orders_rlk(order_no),
       );
```

```
INSERT INTO reg_customer_rlk(c_id,f_name,l_name,age,address,email,h_phone,m_phone)
VALUES (123,'Tharuka','Perera',25,'Colombo7','tharuka123@gmail.com',0112729729,
0712800895),
       (124,'Sandaken','Alwis',30,'Nugegoda','sandaken2000@gmail.com',0112895157,077714981
3),
       (125,'Madushan','Fernando',28,'Maharagama','madushan.fernando@gmail.com',0112598118
,0767145960),
       (126,'Sewanika','Peris',20,'Homagama','sewanika1212@gmail.com',0112895117,077809876
6),
       (127,'Sajith','Perera',40,'Malabe','sajith.perea@gmail.com',0117975157,0779053206)

INSERT INTO products_rlk(p_id,p_name,p_category,price,description,stock)
VALUES (211,'Yamaha electric guitar','guitar',15000,'White/Black',5),
(212,'Yamaha violin','violin',7500,'Red/Brown',10),
(213,'LP Drums','percussion',50000,'Blue/Black',3),
(214,'Orchestra flute', 'flute',2000,'White/Silver',15),
(215,'Casio base guitar','guitar',8000,'black/Blue',20)

INSERT INTO orders_rlk(order_no,order_date,quantity,pr_id,cu_id,delivery_status)
VALUES (311,'2019/9/21',3,211,123,'delivered'),
       (312,'2019/9/22',2,212,124,'delivered'),
       (313,'2019/11/15',1,213,125,'to be delever'),
       (314,'2019/11/20',5,214,126,'to be delever'),
       (315,'2019/12/20',4,215,127,'to be delever')


INSERT INTO payment_rlk(bill_no,amount,payment_type,or_no)
VALUES (411,45000,'cash',311),
       (412,15000,'cash',312),
       (413,50000,'cash',313),
       (414,10000,'cash',314),
       (415,32000,'cash',315)

INSERT INTO  suppllier_rlk(s_id,f_name,l_name,phone_no,address,product_category)
VALUES (511,'Pasan','Perera',0112595119,'Nugegoda','guitar'),
       (512,'Lahiru','Silva',077151813,'Maharagama','percussion'),
       (513,'Kasun','Peris',0115729813,'Kottawa','flute'),
       (514,'Rangana','Kabral',0712900995,'Malabe','violin'),
       (515,'Fathima' ,'Deen',0113107581,'Moratuwa','guitar')


INSERT INTO  feedback_rlk(cus_id,email,message,rate)
VALUES(123,'tharuka123@gmail.com','exellent',5),
       (124,'sandaken2000@gmail.com','urgent delivery',4),
       (125,'madushan.fernando@gmail.com','more quality',3),
       (126,'sewanika1212@gmail.com','need to pay via card',2),
       (127,'sajith.perea@gmail.com','need warranty',1)

INSERT INTO  admin_rlk(a_id,f_name,l_name,NIC,age,email,phone_no)
VALUES (611,'Kamal','Perera','741498114V',45,'Kamal@gmail.com',0777159813)


INSERT INTO product_supplier_rlk(su_id,pro_id)
VALUES (511,211),
       (512,212),
       (513,213),
       (514,214),
       (515,215)
```

```
Insert into  order_payments_rlk(ord_no,bi_no)
values (311,411),
       (312,412),
       (313,413),
       (314,414),
       (315,415)

Insert into   product_order_rlk(prod_id,orde_no)
values (211,311),
       (212,312),
       (213,313),
       (214,314),
       (215,315)
```

## Performance Requirements

- Error message should be displayed in at least 4 seconds.
- Customer should login to the system after entering username and password with in not more than 5 seconds.
- Confirmation message should be sent and displayed at least in 5 seconds.
- The system will be available in 24 hours for 365 days.
- Web pages must loaded with in few seconds.

## Security Requirements

- The details of the customer must be safe and secured.
- After entering the correct username and password only customer can access the website and own profile.