# Database Design

## Description

A company has a website where they sell drones in various parts. They'd need a database for all of their drones and order locations. They would need the games purchased, the total price, the date of the order. The database must keep track of every drone that is sold. Customers must enter their information when creating an account. Customers will also be required to enter their credit card information when paying for their order.

## Business Reporting Requirements

Substitute in here the information the users of your application will want to be able to view.

1. Organisers need to be able to create, read, update, and delete: drones, and genres.
2. Users will need to be able to find all drone ordered by their start date.
3. Users need to find all drones using a list of genres.

## Textual Representation of Data-Set

Substitute in here the tables for your database

**PRODUCT** (title, description, price, category, image\_id(fk)

**USER** ( email(pk), password)

**IMAGE** (id, filename)

**CARTITEM** (quantity, price, cart\_id(FK), product\_id(fk), totalPrice)

**CUSTOMER** (id(pk), firstName, lastName, cart\_id(fk), shippingAddressId(FK) )

**SHIPPINGADDRESS** (id(pk), address, eircode)

**SALESORDER** (id(pk), cart\_id(FK), customer\_id(FK), shippingAddress\_id(fk) )

## Business Rules

Substitute in here the business rules for your database

 A **Product** has many **CartItem**. (one to many)

 A **CartItem** can have a single **Customer**. (many to one)

 A **Customer** can have a single **User**. (one to one)

 A **Customer** is performed on one **ShippingAdrdress**. (one to one)

 A **Product** can have a single **Image**. (one to one)

 A **ShippingAdrdress** can belong to many **SalesOrder**. (one to many)

 A **CartItem** can belong to many **SalesOrder**. (many to many)

 A **SalesOrder** can belong to many **Customer**. (many to one)

 A **Customer** can belong to many **CartItem**. (one to many)

## Entity Relationship Diagram

Diagram

Description automatically generated

## Tables

Diagram

Description automatically generated

## Database Dictionary

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table** | **Column name** | **Datatype** | **Description** | **Required** | **PK/FK** | **FK Ref Table** |
| Product | id  title  description  price  category  image\_id | Int  Varchar(20)  Varchar(20)  Mediumint(64)  Varchar(20)  Varbinary(64) | Primary key  Name of product  Explain of product  Cost  Choices product  Photos of product | Yes  Yes  Yes  Yes  Yes  Yes | PK  FK |  |
| CartItem | Id  quantity  price  cart\_id  product\_id | Int  Smallint(64)  Mediumint(64)  Varchar(20)  Varchar(20) | Primary key  Number of product  Cost  A bag or basket  Marketing | Yes  Yes  Yes  Yes  Yes | PK  FK  FK |  |
| SalesOrder | Id  cart\_id  customer\_id  shippingAddress | Int  Varcahr(20)  Varcahr(20)  Varcahr(20) | Primary key  A bag or basket  Number of names  Delivery | Yes  Yes  Yes  Yes | PK  FK  FK  FK |  |
| Shipping  Address | id  address  eircode | Int  Varcahr(20)  Varcahr(20) | Primary  House  Code of house | Yes  Yes  Yes | PK |  |
| Customer | Id  firstName  lastName  cart\_id  shippingAddress | Int  Varcahr(20)  Varcahr(20)  Varcahr(20)  Varcahr(20) | Primary key  First Name  Last Name  A bag or basket  Delivery | Yes  Yes  Yes  Yes  Yes | PK  FK  FK |  |
| User | id  email  password | Int  Varcahr(20)  Varcahr(20) | Primary key  Email  Password | Yes  Yes  Yes | PK  PK |  |

# System Design/ Architecture Overview

* 1. Introduction

This section will describe the internal functionality of the web framework that you have chosed for the implementation. Add further sections if required by the specification of your web application ??????

* 1. Model View Controller

It emphasises the separation of business logic and display in software. Which Controller that you can receive the product or click “add item” to add product.

* 1. User Authenticaion

User authentication confirms a user's identity when trying to gain access to a network or computing resource by authorizing a human-to-machine transfer of qualifications during network connections to confirm a user's authenticity.

* 1. Routing

The process of selecting a path across one or more networks is known as network routing.

* 1. Templating

Describe the templating engine and how it was used to configure/ style the web application.

Add a sequence diagram in this section and other diagrams that illustrate the architecture clearly. ??????