

AceFly

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Software Project

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# Introduction

**Overall aim -** to make a website and sell the drones on website.

**Application area -** Online website and customize drones.

**Technologies -** PHP, MySQL, Bootstrap, CSS

**Tools -** Visual Studio Code, phpMyAdmin, Miro

**Project management -** GitHub

**Business Concept -** to make customize the drone and the parts for drones

**Requirements -** to sell the drones

**Design -** Drones

**Implementation -** 12 weeks

**Testing -** Users and Admins

**Reflection -** The topic of Business drones.

# Business Concept

## Business Idea

Drones are everything, since talking the bussines about the drone in late 2016, the technology has quickly transformed. So my bussines about drones and parts of drone that what the staffs or customers need to build custom drone with own hands.

## Business model

We are selling the different parts and can do building custom drones as “ready to fly” which for the people who are Aerial photography, freestsyle fpv, racers fpv, and more.

## Market Research

Market research helps a company to identify its target market and collect opinions and other feedback from customers further about their interest in the product.

## Marketing/Advertising

Company will put advertising from YouTube Ads, Facebook Ads, some companies.

## Suppliers

Company will buy components from Dji, iFlight, Emax, and some companies.

## Competitors

There’s lots competitors which are fpv racers, cimematic, and more.

## Employees

5 - Staffs of building the drones

2- Couriers

2 - Support Service agent

## Environmental Impact

Drones are best suited to helping in the response to humanitarian and environmental challenges.Drones are helping in the prevention of diseases such as dengue fever.

# Requirements

## Introduction

My website displays for sale drones, images, and prices so that users can look for drones, click to buy them, delete them, or add products.

## Requirements gathering

Customers: The information gathers the data of goods from the customers who brought the goods.

### Graphical user interface, website Description automatically generatedSimilar applications

(Fig.1)

Graphical user interface, website

Description automatically generated

(Fig.2)

**Descripions**

Fig 1 and Fig 2 are very similar in website, but they are different in layouts, colours, and other ways. They are selling the drones and there is information on what the people need and are looking for.

**Advantages**

Fig 1 and Fig 2 are good websites because they show nice spaces, layouts, images, and details that are easy to read and their workflows are easy to follow step-by-step and buy the goods

**Disadvantages**

Fig 2 didn’t have menu of product category on top nav because if the user need to search the drone.

### Interviews

Interviewed the 2 users. I gave them some short tasks that follow step-by-step and buy the goods.

## Requirements modelling

### Functional requirements

* Authentication of user whenever he/she logs into the system.
* A Verification email is sent to user whenever he/she registers for the first time on some software system.

### Non-functional requirements

* Emails should be sent with a maximum latency of 12 hours after such an activity.
* Each request should be processed within 10 seconds.

### Diagram Description automatically generatedUse Case Diagrams

Diagram

Description automatically generated

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## Feasibility

**Validating CSS and HTML codes -** This is due to the fact that code is read and handled differently depending on the browser you're using. Even minor mistakes, such as forgetting to close a tag, can result in an error. When an error occurs, some browsers may automatically correct it, whereas others may not display the feature at all.

# Web application Design

## Layout

I use bootstrap for my web appliacteion which I use css and html. I use bootstrap for my web applications, for which I use CSS and html.

## Interaction

* The navigation showing the homepage, categories, learn more, login, and cart.
* The main thing is colour. The colour yellow is often used to show **liking and friendship which to show the people’s visuals. Space between the boxes of products on the page, which shows price, details and images, and makes it easy to read the information.**

## Colour schemes

I use yellow and black for my website because it’s clear to read the website. Navigation shows yellow and add white in texts in nav. Heading is black or Yellow and Paragraph is light text with yellow or black.

Chart, pie chart

Description automatically generated

I downloaded a image from unsplash website. Then put it to shows you codes of different colours from palettegenerator website.

## Font choices

Roboto is a neo-grotesque sans-serif typeface family designed by Google

A picture containing text, indoor, screenshot

Description automatically generated

## Wireframes

**Homepage Product list Page**

Treemap chart

Description automatically generated

Whiteboard

Description automatically generated with low confidence

**Product page Checkout page**

**Chart, treemap chart

Description automatically generatedChart, treemap chart

Description automatically generated**

# 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

* Organisers need to be able to create, read, update, and delete: drones, and genres.
* Users will need to be able to find all drone ordered by their start date.
* 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

I used Larvel which intended for the development of web applications following the model–view–controller.

* 1. Model View Controller

My web application has an admin panel, where it’s like adding, deleting, and editing the product.

* 1. User Authenticaion

Laravel contains authentication and session services that are usually accessed through the Auth and Session facades. These features provide cookie-based authentication for web browser-initiated requests. They give techniques for validating and authenticating a user's credentials.

* 1. Routing

Network routing is the process of selecting a path across one or more networks.

* 1. Templating

A diagram of a flowchart

Description automatically generated with low confidence

# Testing

* 1. Introduction
  2. Functional Testing
     1. Login/Registration

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

* + 1. Navigation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

* + 1. Calculation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

* + 1. CRUD

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No | Description of test case | Input | Expected Output | Actual Output | Comment |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## Discussion of Functional Testing Results

Describe the results from the tests. Address any functionality where unexpected behavior could not be debugged.

* 1. User Testing
  2. Conclusion

Discussion of test results.

# Project Management

## Introduction

## Project Phases

### Requirements

### Design

### Implementation

### Testing

## SCRUM Methodology

## Project Management Tools

### Github Project

A project is a customisable spreadsheet that works with your GitHub pull requests. You may change the layout of your problems and PRs by filtering, sorting, and grouping them. Custom fields can also be added to track information. Projects are designed to be flexible, allowing your team to operate in the way that works best for them.

Graphical user interface, application

Description automatically generated

When I'm done, I click the ticks that indicate it’s finished working on the tasks like this image of my project.

### GitHub

GitHub is a service that hosts Git repositories, but it also adds many of its own services. While Git is a command-line application, GitHub has a graphical user interface that is accessible over the web. It also includes access control and a variety of collaboration capabilities, such as basic task management tools for each project.

Pull requests allow you to notify others about changes you've made to a branch in a GitHub repository. Once you've started a pull request, you may discuss and review possible changes with collaborators and make follow-up commits before your changes are merged into the base branch.

# Reflection

## Your views on the project

It was OK, but it took a lot of time to research websites about the online business and what kind of products the drone had to offer.

## How could the project could be developed further?

## Assessment of your learning.

Laravel - I had lessons from Laravel about routes, views, apps, web, and more. Sometimes I had errors with the codes, but later the lecturers did sort it out with the errors. There were no images on the website and the login wouldn’t open.

## Completing a large software development project

## Technical skills

Laravel - put the codes like routes, views, apps, web and more

Visual Studio Code - to make designs, images, space, html, css,

BootStrap - to make design the product page, homepage, nav, footer

## Further competencies and skills

In the future, I would need more time to work on my project and I'd need to learn how to fix the errors if they're happening.

# References

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