PLYMOUTH UNIVERSITY

School of Computing, Electronics and Mathematics

ISAD251

Database Application Development

2019/2020

BSc (Hons) Computer Information Security

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Table of contents

URL for GitHub repository : https://github.com/CadL94/LeesPub

URL for GitHub prototype page : https://CadL94.github.io

URL for API middleware and hosted web pages :

http://web.socem.plymouth.ac.uk/ISAD251/LCadman   --- Home Page of application

Used application on Google Chrome & Mozilla Firefox
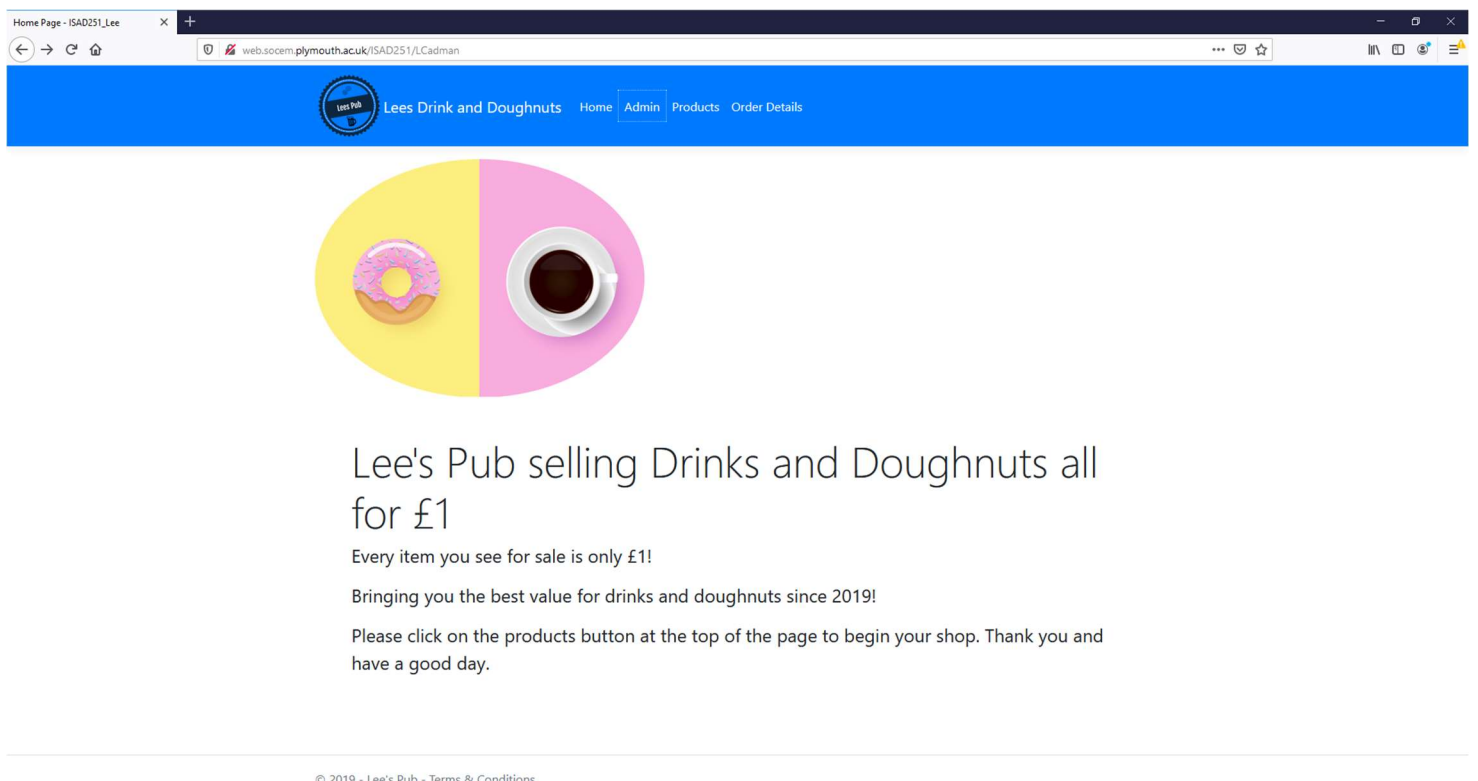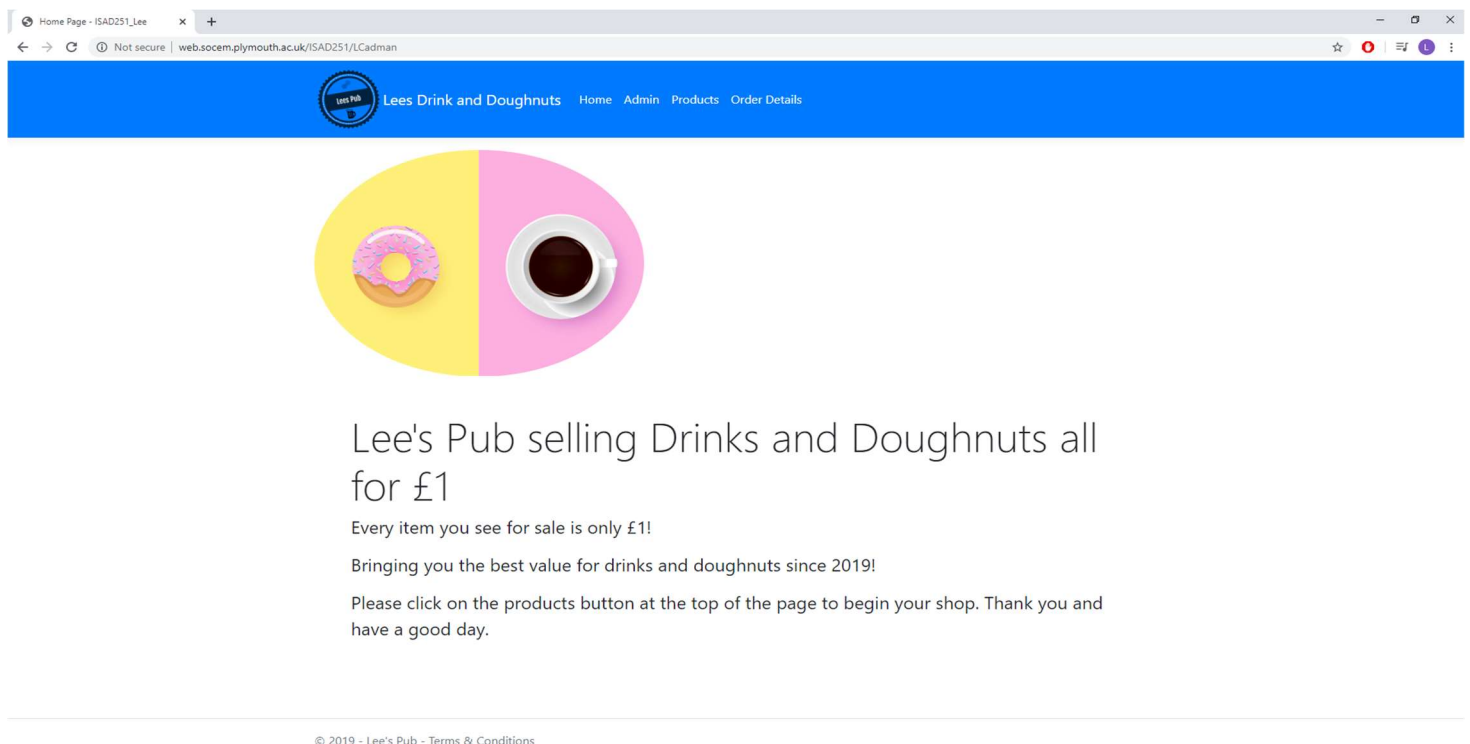
Entity relationship diagram

OrderDetails

FK	OrderID	INT
FK	ProductID	INT
NOT NULL	Price	SMALLMONEY
NOT NULL	Quantity	SMALLINT
NOT NULL	OrderStatus	BIT

Product

PK	ProductID	INT
FK	CategoryID	INT
NOT NULL	ProductName	NVARCHAR(50)
NOT NULL	ProductDescription	NVARCHAR(MAX)
NOT NULL	QuantityPerUnit	NVARCHAR(30)
NOT NULL	Price	SMALLMONEY
NOT NULL	UnitsInStock	SMALLINT
NOT NULL	RestockLevel	SMALLINT
NOT NULL	Available	BIT

Tables

PK	TableID	TINYINT
NOT NULL	TableName	NVARCHAR(20)
NOT NULL	DateAdded	DATETIME

Orders

PK	OrderID	INT
FK	TableID	TINYINT
NOT NULL	OrderDate	DATETIME

Category

PK	CategoryID	INT
NOT NULL	CategoryName	NVARCHAR(20)
NOT NULL	CategoryDescription	NVARCHAR(MAX)
NOT NULL	CategoryImage	NVARCHAR(30)
NOT NULL	DateAdded	DATETIME

—————————+	One
—————————<	Many
—————————++	One (and only one)
—————————O+	Zero or one
—————————<	One or many
—————————O<	Zero or many

Data Dictionary

Product

Key	Field Name	Data Type	Null/Not Null	References	Description
PK	ProductID	INT	NOT NULL		Products unique ID number
FK	CategoryID	INT	NOT NULL	'Category' table	Category unique ID number
	ProductName	NVARCHAR(50)	NOT NULL		Name of products
	ProductDescription	NVARCHAR(MAX)	NOT NULL		Description of products
	QuantityPerUnit	NVARCHAR(30)	NOT NULL		Quantity per unit
	Price	SMALL MONEY	NOT NULL		Price of products
	UnitsInStock	SMALL INT	NOT NULL		Units in stock
	RestockLevel	SMALL INT	NOT NULL		Level to restock products
	Available	BIT	NOT NULL		Product available or not

OrderDetails

Key	Field Name	Data Type	Null/Not Null	References	Description
FK	OrderID	INT	NOT NULL	'Orders' table	
FK	ProductID	INT	NOT NULL	'Product' table	Products unique ID number
	Price	SMALL MONEY	NOT NULL		Price of order
	Quantity	SMALL INT	NOT NULL		Quantity of products
	OrderStatus	BIT	NOT NULL		Order Status complete or not

Orders

Key	Field Name	Data Type	Null/Not Null	References	Description	
PK	OrderID	INT	NOT NULL		Unique ID when ordering	
FK	TableID	TINY INT	NOT NULL	'Tables' table	Unique Table ID number	
	OrderDate	DATETIME	NOT NULL		Date time of order	

Category

Key	Field Name	Data Type	Null/Not Null	References	Description
PK	CategoryID	INT	NOT NULL		Category unique ID number
	CategoryName	NVARCHAR(20)	NOT NULL		Category name
	CategoryDescription	NVARCHAR(MAX)	NOT NULL		Description of category
	CategoryImage	NVARCHAR(60)	NOT NULL		Category image
	DateAdded	DATETIME	NOT NULL		Date and time category was added

Tables

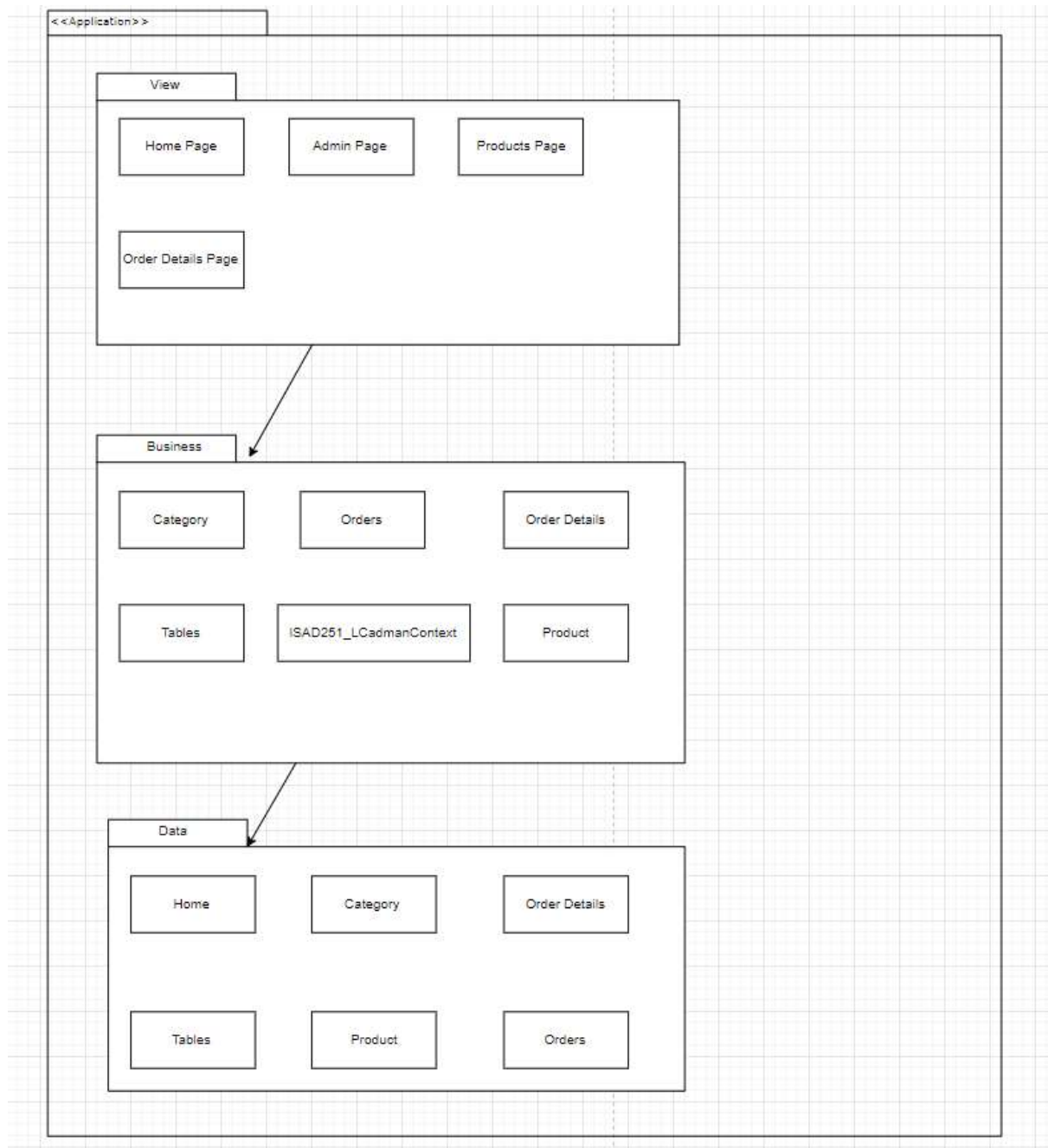| Key	Field Name	Data Type	Null/Not Null	References	Description
PK	TableID	TINY INT	NOT NULL		Unique Table ID number
	TableName	NVARCHAR(20)	NOT NULL		Table name
	DateAdded	DATE TIME	NOT NULL		Date and time table was added

Use case diagram

UML for stored procedures
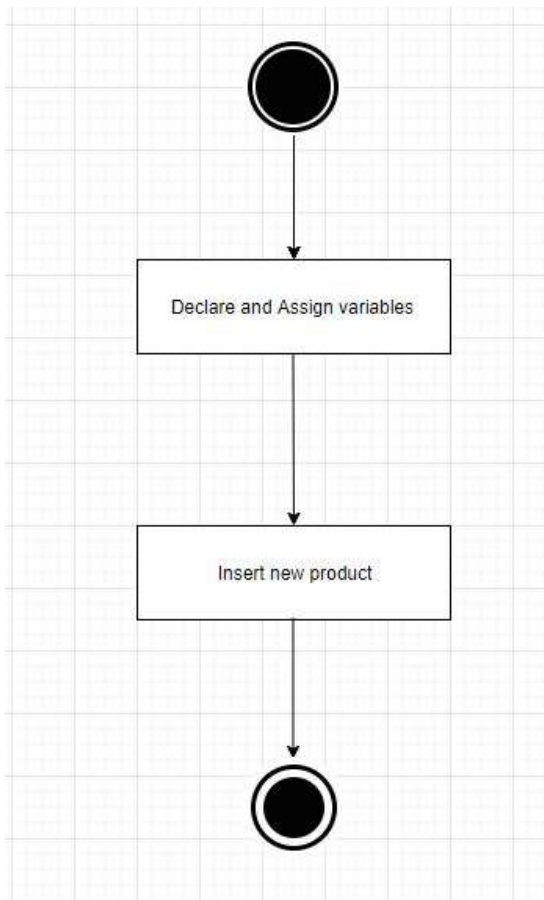
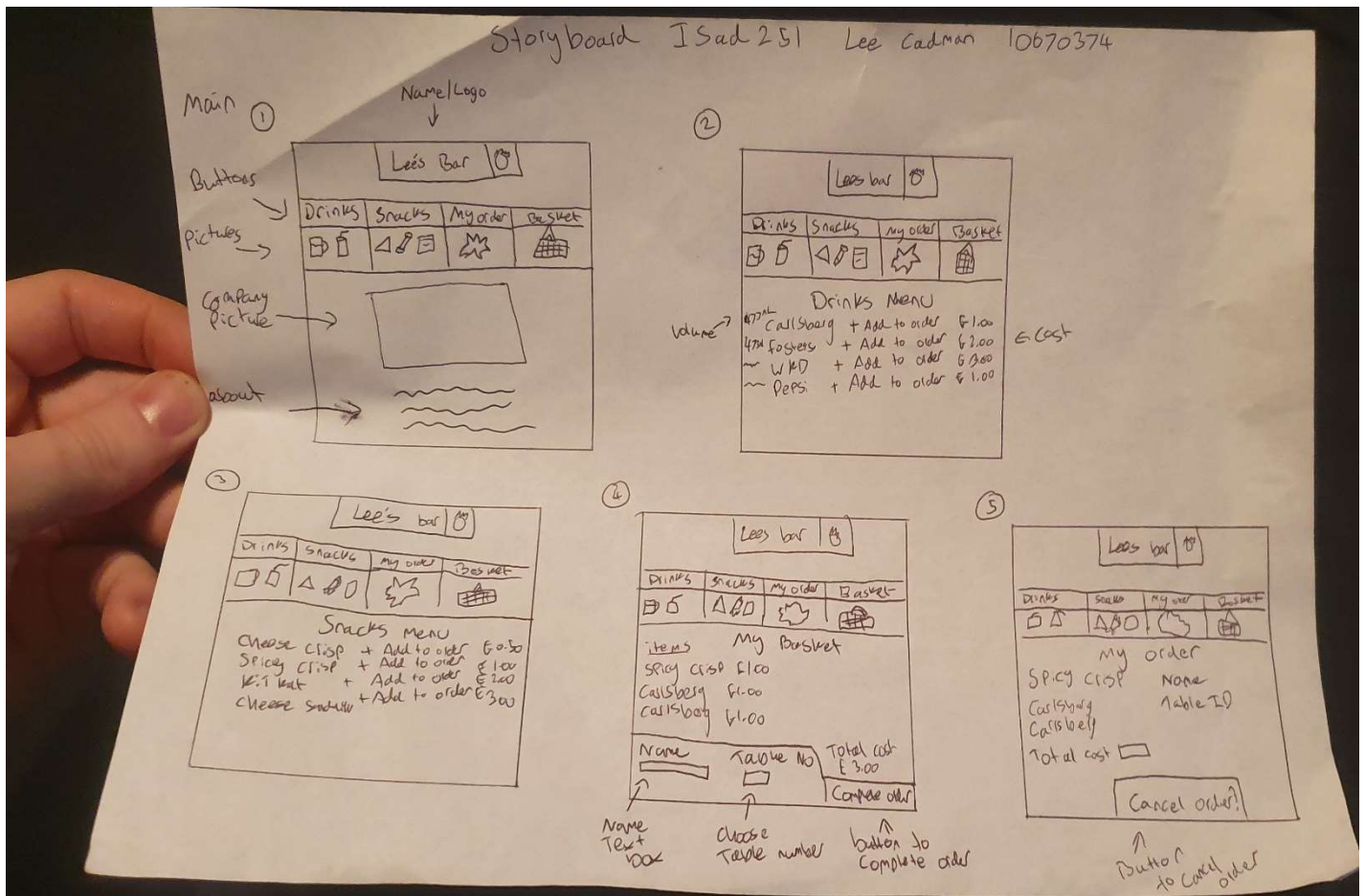| Label	Value
Operation Name	spProduct_AddNewProduct
Involved Tables	Product
Overview	Insert
Pre-condition	Product table has been created
Post-condition	A new record is added into the product table
Input parameters	@CategoryID, @ProductName, @ProductDesription, @QuantityPerUnit, @Price, @UnitsinStock, @Restocklevel, @Avaliable
Output parameters	None
Return Value	None
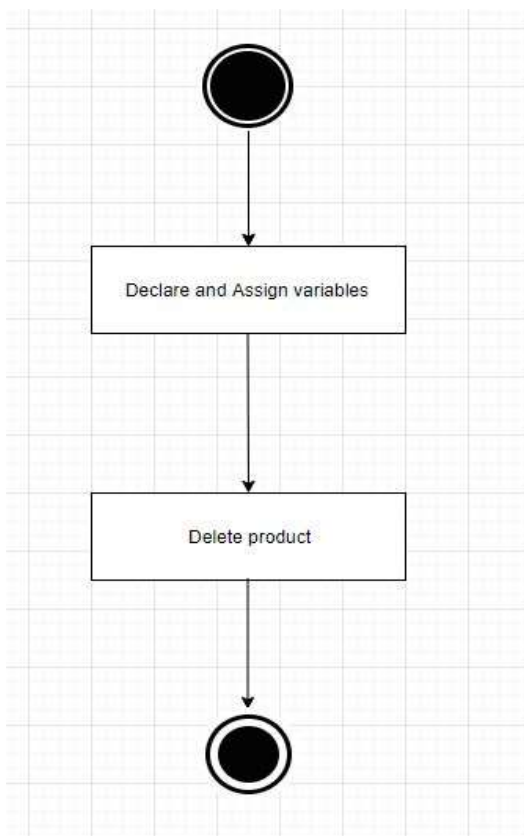
Label	Value
Operation Name	spProduct_RemoveProductFromDB
Involved Tables	Product
Overview	Delete
Pre-condition	Product table has been created
Post-condition	A record is removed from the product table
Input parameters	@ProductID
Output parameters	None
Return Value	None

UML application architecture

<<Application>>

View

| Home Page | Admin Page | Products Page |

Order Details Page

Business

| Category | Orders | Order Details |

| Tables | ISAD251_LCadmanContext | Product |

Data

| Home | Category | Order Details |

| Tables | Product | Orders |

Storyboard design for application + Feedback

Review carried out by : Matt   Date 21/10/2019

Buttons need to be clearer so the user can navigate easily.

Need to add remove/edit order buttons to basket.

I took this feedback onboard when designing my application.

Web Accessibility initiative (WAI)

Provided clear navigation mechanisms.

Ensured that documents are clear and simple.