|  |  |
| --- | --- |
| **Project Case** | Diagram  Description automatically generated |
| ISYS6197 | ISYS6197003  Business Application Development |
| **Computer Science** | **O232-ISYS6197-LC06303-00** |
| ***Valid on*** *Odd Semester Year 2022/2023* | **Revision 00** |

1. Seluruh kelompok tidak diperkenankan untuk:

*The whole group is not allowed to:*

* + - Melihat sebagian atau seluruh proyek kelompok lain,

*Seeing a part or the whole project from another groups*

* + - Menyadur sebagian maupun seluruh proyek dari buku,

*Adapted a part or the whole project from the book*

* + - Mendownload sebagian maupun seluruh proyek dari internet,

*Downloading a part or the whole project from the internet,*

* + - Mengerjakan soal yang tidak sesuai dengan tema yang ada di soal proyek,

*Working with another theme which is not in accordance with the existing theme in the matter of the project,*

* + - Melakukan tindakan kecurangan lainnya,

*Committing other dishonest actions,*

* + - Secara sengaja maupun tidak sengaja melakukan segala tindakan kelalaian yang menyebabkan hasil karyanya berhasil dicontek oleh orang lain / kelompok lain.

*Accidentally or intentionally conduct any failure action that cause the results of the project was copied by someone else / other groups.*

1. Jika kelompok terbukti melakukan tindakan seperti yang dijelaskan butir 1 di atas, maka **nilai kelompok** yang melakukan kecurangan (menyontek maupun dicontek) akan di – **NOL** – kan.

*If the group is proved to the actions described in point 1 above, the score of the group which committed dishonest acts (cheating or being cheated) will be “Zero”.*

1. Perhatikan jadwal pengumpulan proyek, segala jenis pengumpulan proyek di luar jadwal tidak dilayani.

*Pay attention to the submission schedule for the project, all kinds of submission outside the project schedule will not be accepted.*

1. Bila Anda tidak membaca peraturan ini, maka Anda dianggap telah membaca dan menyetujuinya.

*If you have missed to read these regulations, so you are considered to have read and agreed on it*

1. Persentase penilaiaan untuk matakuliah ini adalah sebagai berikut:

*Marking percentage for this subject is described as follows:*

|  |  |  |
| --- | --- | --- |
| **Tugas Mandiri**  *Assignment* | **Proyek**  *Project* | **UAP**  *Final Exam* |
| 40% | 60% | - |

1. Software yang digunakan pada matakuliah ini adalah sebagai berikut:

*Software will be used in this subject are described as follows:*

|  |
| --- |
| **Software**  *Software* |
| Eclipse 2020.6  Java 11  Java FX  MySQL Java Connection Library 8.0.24  XAMPP 8.0.7 |

1. Ekstensi file yang harus disertakan dalam pengumpulan tugas mandiri, proyek, dan uap untuk matakuliah ini adalah sebagai berikut:

*File extensions should be included in assignment, project, and final exam collection for this subject are described as follows:*

|  |  |  |
| --- | --- | --- |
| **Tugas Mandiri**  *Assignment* | **Proyek**  *Project* | **UAP**  *Final Exam* |
| JAVA, CLASS | JAVA, CLASS, SQL | - |

Soal

*Case*

**CARETHREE**

**CARETHREE** is a grocery store that allows people to buy products digitally. To manage all CARETHREE’s products and transactions, the owner asked you to create an application for it. The program should be made using **Java Programming Language**, with **MySQL Database Engine**.

There are some requirements to build this application:

Diagram

Description automatically generated

Execute the provided create and insert query file on “**carethree\_db**” database! (“create+insert.sql”).

1. **Login Scene**

This is the first form which will appear when the program is run. The **Login** **Form** is used by users to **log in**, so they can access the **Main** **Form**.

Graphical user interface

Description automatically generated

Figure . Login Scene

**Components:**

* **Label** for Email and Password.
* **TextField** for Email input.
* **PasswordField** for Password input.
* **Button** for Login and Register buttons.

**Description:**

* If user clicks **Login** button, then validate:
  + **Email** and **Password** must be **filled.**
  + **Email** and **Password** must **exist** and **matched** in database.

Graphical user interface, text, application

Description automatically generated

Figure .If email doesn't exist in database

**Graphical user interface, text, application

Description automatically generated**

Figure .If password didn't match / wrong

* + The program will **validate** role (user / admin).
  + **Direct** user to **Main Scene** if password and email matched.
* If user failed to log in, display an **Error Alert**
* If user click **Register** button, the program will clear all fields (TextField, PasswordField) and direct user to **Register Scene.**

1. **Register Scene**

The **Register Form** is used by users to **Register.**

Graphical user interface, text, application, email

Description automatically generated

Figure . Register Scene

**Components:**

* **Text** for Name, Username, Password, Confirm Password, Email, Phone Number, Gender and CheckBox.
* **TextField** for Name, Username, Email, and Phone Number.
* **PasswordField** for Password and Confirm Password.
* **RadioButton** for Gender (Male or Female) input.
* **CheckBox** for agreeing terms and conditions.
* **Button** for login and register.

**Description:**

* If user clicks **Register** button then **validate:**
  + **User ID** is generated with format:

**UXXX**

Where **X**: Random Digit (0-9)

Example: U5579, U0084, U2420

**R**

* + **Name** must be **between 5-20 characters**.
  + **Username** must be **between 3-10 characters**.
  + **Password** must contain **minimal 8 characters** and **alphanumeric**.
  + **Confirm Password** must **same** as **Password**
  + **Email** must **end with ‘@gmail.com’**, **contains 1 ‘@**’ and **not in front**, and **unique**.
  + **Phone Number** must contain **at least 10 characters**, **numeric**, and **starts with ‘+62’**
  + **Gender** must be **choosed**.
  + **CheckBox** must be **checked**.

**(ps: Every error message will be shown on Error Alert)**

Graphical user interface, text, application

Description automatically generated

Figure .Invalid Email Format Error

* If user successfully register**, insert a new user to the database**. Then the program will close the **Registration** Scene and open the **Login** Form.
* If user clicks the **Login** Button, the program will direct user to **Login Form**.

1. **Main Scene**

This is the main scene of the program. In this scene, user can select menus from the menubar, such **as Menu (Product List, Manage Products and Cart)** and **Accounts (Logout).** If user’s role is **‘user’, Manage Products** menu is **hidden** and **cannot be accessed.** If user role is **‘admin’,** The only menu available is **Manage Products.**

Graphical user interface

Description automatically generated with low confidence

Figure .Main Scene

**Components:**

* **‘user’** role:
  + **Menu** for Menu and Account Menus.
  + **MenuItem** for ProductList and Cart.
* **‘admin’** role:
  + **Menu** for Menu and Account Menus.
  + **MenuItem** for Manage Products

**Graphical user interface, text, application

Description automatically generated**

Figure . 'user' role Menu Items

Graphical user interface, application

Description automatically generated

Figure .'admin' role Menu items

A picture containing timeline

Description automatically generated

Figure . Account Items

**Description:**

* If the user clicks **Product List** Menu item, the program will open the **Product List** window.
* If the user clicks **Manage Product** Menu item, the program will open the **Manage Product** window.
* If the user clicks **Cart** Menu item, the program will open the **Cart** window.
* If the user clicks **Logout** Menu item, the program will open the **Login** Scene.

1. **Product List Window**

This window allows users to add items to their cart

Graphical user interface

Description automatically generated

Figure .Product List Window

**Components:**

* **TableView** for products.
* **Text** for ProductID and Qty.
* **Spinner** for Qty input.
* **Button** for Add to Cart and Remove from Cart.

**Description:**

* **Add to cart**
  + **ProductID** and **amount of product** must be filled.

Table

Description automatically generated

Figure . Current Cart

Table

Description automatically generated

Figure .cart after user insert a product that already in the cart.

* + **Validate:**
    - productID must exist in database
    - Qty is less than available stock and minimal add 1 item to cart.
    - If same product already **exists** in cart, **update** its number of items instead.

**(ps: Every error message will be shown on Error Alert)**

1. **Cart Window**

This window allows users to check out the items in their cart

Graphical user interface, text

Description automatically generated with medium confidence

Figure .Cart Window

**Components:**

* **TableView** for products.
* **Text** for Total Price.
* **Button** for Checkout.

**Description:**

* **Remove from cart**
  + Requires user to input **productID** and **amount of product** user want to remove from cart.
  + **Validate:**
    - **productID** must **exist** in cart
    - Count of item user wants to remove must **less than or equal** to count of item user **already have** in the cart.
    - Require user to remove **at least one** item in their cart.
* **Display** total price of each item by **multiply** qty with price of the product.
* **Display** Grand total of user’s purchase.
* **Check Out**
  + **Validate:**
    - Item user want to check out is **less than or equal** to available stock.
  + If the product passed the validation, then **update** products stock by **deducting** stock with the amount of products user check out. And **clear** the cart.

**(ps: Every error message will be shown on Error Alert)**

Table

Description automatically generated

Figure .Before user check out cart

Table

Description automatically generated

Figure .Products in Cart

Table

Description automatically generated

Figure . After user check out cart

1. **Manage Product Window**

This window allows admin to manage the products.

Graphical user interface

Description automatically generated

Figure .Manage Products

**Components:**

* **Text** for brand,type,price, and stock.
* **Spinner** for price and stock
* **ComboBox** for Type.
* **Button** for Insert,Update, and Remove.

**Description:**

* **Insert:**
  + **Validation:**
    - All field must be **filled / choose.**
    - Brand must **between 5 – 20 characters.**
    - Price must **between 1.000 – 100.000.**
    - Stock must **between 30 – 1.000.**
  + **Generate** id with format:

**YXXX**

Where **X**: Random Digit (0-9)

Where **Y**: first letter of type

Example: S9485, F0930, D3435

* + If user successfully passed all the validation, insert the product to database.
* **Update:**
  + User must **fill** price, stock, and productid. User can type the product id in Brand’s textField.
  + **Validation:**
    - All fields mentioned above must be **filled.**
    - **Validate** productID is exist in database, otherwise show error message.
  + **Update** product’s **stock and price** based on the productID in database.
* **Delete:** 
  + User must **fill** productID. User can type the product id in Brand’s textField.
  + **Validation:**
    - All fields mentioned above must be **filled.**
    - **Validate** productID is exist in database, otherwise show error message.
  + **Delete** product from database based on productID that user’s input..

1. **Logout**

If user choose **logout**, then **clear** all user data and fields. Then direct User to **Login Scene.**

**Additional notes:**

1. Here are the credentials that you can use for this case:
   1. Role admin

Email: [admin@gmail.com](mailto:admin@gmail.com)

Password: admin1234

* 1. Role User

Email: [boodi@gmail.com](mailto:boodi@gmail.com)

Password: user1234

**Here are the rules that you must follow to create your project:**

1. Use appropriate software for this subject based on **Sistem Praktikum** that can be downloaded from Binusmaya.
2. Collect appropriate files for this subject based on **Sistem Praktikum** that can be downloaded from Binusmaya.
3. Include the other files that can support your project, such as:
   * All files in your project
   * Other files (image, audio, video, etc.) used in your project

**If there is something you don’t understand, feel free to ask your Assistant**