|  |  |
| --- | --- |
| **Project Case** | Diagram  Description automatically generated |
| ISYS6197 | ISYS6197003  Business Application Development |
| **Computer Science** | **O232-ISYS6197-LC05405-00** |
| ***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*

**T-Shirt Store**

**T-Shirt Store** is a shop that sells clothes with good quality. To manage all the transactions and manage system of the t-shirt, T-Shirt Store’s owner asked you to create the program for the store. The program should be made using **Java Programming Language**.

There are some requirements to build this application:

Diagram

Description automatically generated

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

1. **Login Form**

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

Graphical user interface, application, website

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Figure 1. Login Form

**Components**:

* **Label** for Title, Username, Password, Register.
* **TextField** for input Username.
* **PasswordField** for input Password.
* **Button** for Login.

**Description**:

* If user clicks **Login** button, then **validate**:
  + **Username** field **must** **be** **filled**.
  + **Password** field **must** **be** **filled**.
  + **Username** and **Password** **must** be **correct** according to the **existing data in database**.
* If user has successfully signed in, program will **validate** either its role is “**User**” or “**Admin**”. Lastly, the **Login** **Form** will be closed, and **Main** **Form** will be displayed.
* If user failed to login then display Error message.
* If user click “**Register** **here**.” label, then program will close **Login** **Form** and open **Register** **Form**.

Graphical user interface, application

Description automatically generated

Figure 2. Failed Login Error

(**additional** **note**: **every** **error** occurrence will be shown on error message **Alert**).

1. **Register Form**

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

Graphical user interface

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Figure 3. Register Form

**Components**:

* **Label** for Title, ID, Username, Password, Confirmation Password, Gender, Address, Nationality, and Login.
* **TextField** for input ID (**read**-**only**), and Username.
* **TextArea** for input Address.
* **PasswordField** for input Password, and Confirmation Password.
* **RadioButton** for input Gender (“**Male**” or “**Female**”).
* **ComboBox** for choose user Nationality which has 7 options:
  + **~~Choose One~~ (Default Option)**
  + **America**
  + **Australia**
  + **Brazil**
  + **Indonesia**
  + **Malaysia**
  + **Singapore**
* **CheckBox** for Terms and Conditions.
* **Button** for Register.

**Description**:

* If user clicks **Register** button, then **validate**:
  + **ID is generated** when Register Form is opened with **format**:

**US-###%%**

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

% : Random Uppercase Character (A-Z)

Example: US-707FR, US-123CE, US-058LS

* + **Username** length must be between **5 - 15 characters**.
  + **Password** must **5 - 10 length of character** and **digit** (must at least contain 1 character and 1 digit).
  + **Password** and **Confirmation Password** must be the same.
  + **Gender** must be selected either “**Male**” or “**Female**”.
  + **Address** length must be between **10 - 30 characters**.
  + **Nationality** must be chosen either “**America**”, “**Australia**”, “**Brazil**”, “**Indonesia**”, “**Malaysia**”, or “**Singapore**”.
  + **Terms and Conditions** must be checked.

(**additional** **note**: **every** **error** occurrence will be shown on error message **Alert**).

* If user successfully register, **insert** new **user** data **to database**, and every user who successfully registers will automatically get a “**User**” Role, then program will display a success insert message. Lastly, program will close **Register** **Form** and open **Main** **Form**.

Graphical user interface, application

Description automatically generated

Figure 4. Register Success Message

1. **Main Form**

This is the main form for the program. At this form the user can select menu from the menu bar, such as **MyUser** **Menu** (**Sign Out**), **Transaction** **Menu** (**Buy T-Shirt** and **View Transaction History**), **MyAdmin Menu** (**Sign Out**), and **Manage** **Menu** (**Manage T-Shirt**). The menu that will show is determined by the user role. If the user role is “**User**”, then the menus that available are **MyUser** **Menu** and **Transaction** **Menu** only. If the user role is “**Admin**”, then the menus that available are **MyAdmin Menu** and **Manage** **Menu**.

A picture containing graphical user interface

Description automatically generated

Figure 5. User Main Form

A picture containing graphical user interface

Description automatically generated

Figure 6. Admin Main Form

**Components**:

* **User** Role:
  + **Menu** for Menu MyUser and Menu Transaction.
  + **MenuItem** for Sign Out, Buy T-Shirt, and View Transaction History.
* **Admin** Role:
  + **Menu** for Menu MyAdmin and Menu Manage.
  + **MenuItem** for Sign Out, and Manage T-Shirt.

**Description**:

There are some **MenuItem** that available (**to be clicked**):

* **Both** Role
  + If user clicks **Sign Out** Menu Item, then the program will close **Main Form** and open **Login Form**.
* **User** Role

There will be two **Menu** displayed:

* + - * **MyUser**

Graphical user interface

Description automatically generated

Figure 7. User: MyUser Menu

There are 1 **MenuItem** available **(to be clicked**) in My**User Menu** (**Sign Out**).

* + - * + If user clicks **Sign Out**, program will close **Main** **Form** and open **Login** **Form**.
      * **Transaction**

Graphical user interface, text, application

Description automatically generated

Figure 8. User: Transaction Menu

There are 2 **MenuItem** available (**to be clicked**) in **Transaction Menu** (**Buy T-Shirt** and **View Transactioin History**).

* + - * + If user click **Buy T-Shirt**, program will open **Buy T-Shirt Form** inside the **Main Form**.
        + If user click **View Transaction History**, program will open **View** **Transaction Form** inside the **Main** **Form**.
* **Admin** Role

There will be two **Menu** displayed:

* + - * **MyAdmin**

Graphical user interface, application

Description automatically generated

Figure 9. Admin: MyAdmin Menu

There are 1 **MenuItem** available (**to be clicked**) in **User** **Menu** (**Sign Out**).

* + - * + If user clicks **Sign Out**, program will close **Main** **Form** and open **Login** **Form**.
      * **Manage**

Graphical user interface

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Figure 10. Admin: Manage Menu

There are 1 **MenuItem** available (**to be clicked**) in **Manage** **Menu** (**Manage** **T-Shirt**).

* + - * + If user clicks **Manage** **T-Shirt**, program will open **Manage** **T-Shirt** **Form** inside the **Main** **Form**.

1. **Buy T-Shirt Form**

This form **displays all the currently available T-Shirt**. In this form, user can click any product to see the t-shirt detail and add it to cart. But if the T-Shirt **stock is 0**, the product can’t be added to cart. In this form, cart is also shown at the bottom view of the form. This form is made with **InternalFrame**. And don’t forget to add **close icon** at the top right of the **InternalFrame**. So if user click the Close Icon, then **InternalFrame** will closed and back to the Main Page.

Graphical user interface, application

Description automatically generated

Figure 11. Buy T-Shirt Form

**Components**:

* **Table** for T-Shirt Table and Cart Table.
* **ScrollPane** for T-Shirt Table and Cart Table.
* **Label** for T-Shirt ID, T-Shirt Name, T-Shirt Price, T-Shirt Quantity, and Cart Label.
* **TextField** (**read**-**only**) for T-Shirt ID, T-Shirt Name, T-Shirt Price.
* **Spinner** for input T-Shirt Quantity.
* **Button** for Add to Cart, Remove T-Shirt, Update T-Shirt, and Buy.

**Description**:

User can **only edit quantity field** and the **other fields can’t be edited**. If user clicks **Add to Cart** button, program will **validate** is there any **t-shirt chosen** or not. If the t-shirt already chosen, then program will **validate** the **quantity** that **can’t be less than 1** and **can’t be more than its t-shirt Stock**. If user choose a t-shirt that currently **stock is 0**, then program will **show error message**.

Graphical user interface, text, application, email

Description automatically generated

Figure 12. Choose T-Shirt Error

Graphical user interface, application

Description automatically generated

Figure 13. No Stock Error

If all conditions are fulfilled, then the t-shirt will be added to the user’s cart:

* If the t-shirt **hasn’t existed yet**, **insert** new **t-shirt** to user’s cart.
* If the t-shirt **has existed**, **update** t-shirt **quantity** **with the addition of quantity.**
* User can remove t-shirt form cart by using **Remove T-Shirt** button. **Validate** that the **t-shirt** from cart **must be chosen** first by click the cart table t-shirt row that want to be deleted.
* User can update t-shirt form cart by using **Update T-Shirt** button. **Validate** that the

**t-shirt** form cart **must be chosen** first by click the cart table t-shirt row that want to be updated.

Graphical user interface

Description automatically generated

Figure 14. Select Item In Product Table for Add to Cart Button

Graphical user interface

Description automatically generated

Figure 15. Select Item In Cart Table for Remove And Update Button

* If user clicks **Buy** button,then validate cart **cannot be empty**.If cart is **not empty**, then program will **clear the cart** and **insert all t-shirt** to **Transaction** (**Header** and **Detail**) and shows message.

Graphical user interface, application

Description automatically generated

Figure 16. Checkout Success Message

(**additional** **note**: **every** **error** occurrence will be shown on error message **Alert**).

1. **Transaction Form**

**Transaction** **Form** allows user to **view all the transaction history** or all transaction that user has made. This form is made with **InternalFrame**. And don’t forget to add **Close Icon** at the top right of the **InternalFrame**. So, if user click the close Icon, then **InternalFrame** will closed and back to the Main Page.

Graphical user interface

Description automatically generated

Figure 17. View Transaction Form

**Components**:

* **Table** for Header Transaction Table and Detail Transaction Table.
* **ScrollPane** for Header and Detail Transaction Table container.

**Description**:

If user **clicks** one of the **header transaction table**, it will **show** all the **detail** **transaction** that user bought on that transaction based on **TransactionDate** that user click in **header transaction table**, and **UserID** that active now.

Table

Description automatically generated with medium confidence

Figure 18. Detail Transaction View

1. **Manage T-Shirt Form**

**Manage** **T-Shirt** **Form** is made for admin to manage t-shirt. Admin can do **insert** new

t-shirt, **update** quantity t-shirt data, **remove**/**delete** t-shirt. This form is made with **InternalFrame**. And don’t forget to add **Close Icon** at the top right of the **InternalFrame**. So if user click the Close Icon, then **InternalFrame** will closed and back to the Main Page.

Graphical user interface

Description automatically generated

Figure 19. Manage T-Shirt Form

**Components**:

* **Label** T-Shirt Name, T-Shirt Price, T-Shirt Stock, T-Shirt Type.
* **Table** for T-Shirt Table.
* **ScrollPane** for T-Shirt Table container.
* **TextField** for input T-Shirt Name, T-Shirt Price.
* **ComboBox** for choose T-Shirt Type.
* **Spinner** for input T-Shirt Stock.
* **Button** for Delete T-Shirt, Update T-Shirt, Add T-Shirt.

**Description**:

* All the fields can be edited **except** for T-Shirt Stock.
* Admin can do **Add**, **Update**, **Delete** t-shirt from database.
  + If admin clicks Update T-Shirt button, then **validate**:
    - **T-Shirt** **Name, T-Shirt Price, T-Shirt Type** is **not** **empty** (by click a row in t-shirt table).

Graphical user interface

Description automatically generated

Figure 20. Select Item In Product Table Admin

Graphical user interface, text, application, email

Description automatically generated

Figure 21. Update T-Shirt Error

* + - **T-Shirt** **Stock** must greater than zero.
  + If all conditions for **Update** **T-Shirt** are fulfilled, then program will **update** **t-shirt’s** **data** **in** **database** and show information message.

Graphical user interface, application

Description automatically generated

Figure 22. Update Success Message

* + If admin clicks **Delete T-Shirt** button, then **validate**:
    - **T-Shirt** **Name, T-Shirt Price, T-Shirt Type** is **not** **empty** (by click a row in t-shirt table).

Graphical user interface, text, application, email

Description automatically generated

Figure 23. Delete T-Shirt Error

* + If all conditions for **Delete** **T-Shirt** are fulfilled, then program will **delete** **t-shirt** **from** **database** and show information message.

Graphical user interface, application

Description automatically generated

Figure 24. Delete Success Message

* + If admin clicks **Add** **T-Shirt** button, then **validate**:
    - **New T-Shirt ID** is generated when **Manage** **T-Shirt** **Form** open with format:

**TS-###%%**

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

%: Random Uppercase Character (A-Z)

Example: TS-148LS, TS-515CY, TS-110KW

* + - **New T-Shirt Name** must consist of **5 - 15 characters**.
    - **New T-Shirt Type** must be **chosen** either **Oversize**, **Turtleneck**, **O-Neck**, or

**V-Neck**.

* + - **New T-Shirt Price can’t** be zero, **can’t** minus, and **must numeric**.
    - **New T-Shirt Stock** must **greater than zero**.
  + If all conditions for **Add** **T-Shirt** are fulfilled, then program will **insert** **new** **t-shirt** **to** **database** and **show** information **success message**.

Graphical user interface

Description automatically generated

Figure 25. Insert New T-Shirt Confirmation

(**additional** **note**: **every** error occurrence will be shown on error message **Alert**).

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. Use the **techniques taught during practicum**
3. Collect **appropriate files** for this subject based on **Sistem Praktikum** that can be downloaded from Binusmaya.
4. 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.
   * \*.doc file (documentation of your project) that contains the reference links of additional files (image, audio, video, etc.) used in your project.

**If you do not understand, please ask your assistant! Do not make your own assumption!**