AMERICAN INTERNATIONAL UNIVERSITY–BANGLADESH (AIUB)

Dept. of Computer Science
Faculty of Science and Technology

CSC2210: OBJECT ORIENTED PROGRAMMING 2

Spring 2023-2024

Section: [H]

Group No: 11

Project Report On

Project Name [Sneaker Shop Management System]

Supervised By

Md. Hasibul Hasan

Submitted By:

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Obtained Marks for CO2 and CO3 (Description given in the following page)

Assessment Criteria	Not Attended/ Incorrect (0)	Inadequate (1-2)	Average (3)	Good (4)	Excellent (5)

Evaluation Criteria (CO2)	Total =	Evaluation Criteria (CO3)	Total =
Requirement fulfillment		Organization of the application	
Validation		Representation and Integration of Database	
Verification		Graphical User Interface	

CO2: Display and verify the mean of a real-life Project using the concepts of C# Graphical User Interface based environment with database integration to depict a desktop-based application.					
Assessment Criteria	**Not Attended/ Incorrect (0)**	**Inadequate (1-2)**	**Average (3)**	**Good (4)**	**Excellent (5)**
Evaluation Criteria	**Evaluation Definition**				
Requirement fulfillment	Fails to demonstrate any understanding of real-life scenariobased project development or functional requirement identification. There is no attempt to depict a project or identify functional requirements accurately.	Demonstrates limited understanding of real-life scenariobased project development and functional requirement identification. The project depicted lacks coherence or relevance to reallife scenarios, and functional requirements are inaccurately identified or insufficiently described.	Presents a basic depiction of a real-life scenariobased project and identifies some functional requirements. However, the project lacks depth or complexity, and some functional requirements may be vaguely defined or missing key details.	Effectively demonstrates a realistic scenariobased project and accurately identifies most functional requirements. The project is well-developed with appropriate complexity, and functional requirements are clearly articulated with relevant details.	Exhibits an exceptional understanding of real-life scenariobased project development and accurately identifies all functional requirements. The project is meticulously developed with thorough attention to detail, reflecting a comprehensive understanding of Object-Oriented Programming project development activities.
Validation	Fails to demonstrate any understanding or implementation of validation forms in their system. There is no attempt to deal with data validation, and validation requirements are completely ignored or incorrectly applied.	Demonstrates limited understanding of validation forms and data validation techniques. While some attempt may be made to implement validation, it is incomplete or poorly executed, leading to inadequate handling of data validation.	Shows a basic understanding of validation forms and data validation techniques. They attempt to implement validation, but some aspects may be missing or incorrectly implemented, resulting in partial or inconsistent handling of data validation.	Effectively demonstrates the use of validation forms and implements data validation techniques. Validation is mostly accurate and comprehensive, ensuring the proper handling of data input and verification in the system.	Exhibits an exceptional understanding and implementation of validation forms and data validation techniques. Validation is meticulously implemented with thorough attention to detail, ensuring robust data validation procedures and contributing to the overall reliability and integrity of the system.

Verification	Fails to demonstrate any attempt to verify the system data or functional requirements. There is no evidence of understanding or implementation of verification processes, and data flow is not considered.	Demonstrates limited understanding of verification processes and data flow in the system. Verification attempts are incomplete or inaccurate, and there is insufficient consideration given to ensuring data integrity and functionality.	Shows a basic understanding of verification processes and attempts to verify system data. However, verification efforts may be inconsistent or lack thoroughness, and there may be gaps in ensuring proper functional requirements and data flow.	Identifies and verifies system data, ensuring proper functional requirements are met. Verification efforts are mostly accurate and thorough, with attention to ensuring data integrity and appropriate data flow within the system.	Exhibits an exceptional understanding of verification processes and meticulously verifies system data. Verification efforts are comprehensive and precise, with a keen focus on ensuring all functional requirements are met and maintaining proper data flow throughout the system.

CO3: Prepare and Explain a real life desktop based application synthesizing several component of C# along with development tools to adhere the given requirements.

Assessment Criteria	Not Attended/ Incorrect (0)	Inadequate (1-2)	Average (3)	Good (4)	Excellent (5)
Evaluation Criteria	**Evaluation Definition**				
Organization of the application	Fails to identify any suitable real time application or requirements for project development activities related to OOP.	Limited understanding about the project scopes and scenarios or identification of functional requirements.	Lacks depth or relevance to OOP project development activities and may contain inaccuracies. Real-life scenarios are mentioned, but the discussion lacks depth or clarity.	Consider and integrate the idea of several core aspects of the project along with relevance to real-life scenarios. Demonstrating a solid understanding of the application presentation.	Generalize and exhibits an exceptional understanding of project preparation according to a to real-life scenarios. Also contains proper and insightful identification of the system which is comprehensive and precise.
Representation and Integration of Database	Fails to identify and present any understanding or implementation of database. Also failed to integrate the data with the project itself.	Limited understanding of the database concepts or their proper way of using in a real time project. While some attempt may be made to implement but it is incomplete or poorly executed, leading to inadequate design.	Lacks depth or relevance to database integration with the application. Shows a basic understanding but some aspects may be missing or incorrectly implemented, resulting in partial or inconsistency. May lack proper normalization.	Integrate the database with the forms properly and implements it with proper validation which is mostly accurate and comprehensive, ensuring the proper handling of data input and verification along with general normalization.	Exhibits an exceptional understanding and implementation of database ensuring attention to detail, and robust data manipulation procedures and contributing to the overall clarity.

Graphical User Interface	Fails to present or prepare GUI based application interfaces. There is no evidence of creating or integrating such things according to their usefulness.	Limited understanding of graphical user interfaces. Lack of design knowledge. Very poor attempt to make such things which are currently obsolete or can't be identified as coherent.	Shows a basic understanding of creating user interfaces. Most of them are interconnected but maybe some of them lack it. However, most of it can be described as user friendly.	Effectively identifies and meet the consider the simplicity. Design related works are mostly accurate and taken proper attention to ensuring a userfriendly coherent system.	Exhibits an exceptional work design following a high standard of simple and elegant work. Several controls and mechanism has been organized in a preferred way according to the coherent usage .

1. Introduction:

The SneakerShop Management System is a comprehensive software solution designed to streamline the operations of a sneaker store. In today's dynamic retail environment, managing inventory, sales, customer data, and employee activities can be challenging. This system aims to simplify these tasks, providing an efficient and user-friendly platform for managing all aspects of a sneaker shop.

Efficient Employee Management is crucial for the smooth operation of any business, and the SneakerShop Management System provides the tools needed for effective staff management. The system distinguishes between Admin and Employee access levels, ensuring appropriate permissions and security.

Admins have full access to all features of the system. They can manage inventory, process sales, handle customer information, and oversee employee activities. Admins can configure system settings, such as adding or removing users, setting access permissions, and customizing reports. This level of access is typically reserved for store owners or managers.

Employees have restricted access tailored to their specific roles. They can perform tasks related to their job responsibilities, such as processing sales transactions, managing inventory, or assisting customers. Employees may have limited access to sensitive information and system settings, ensuring data security and integrity. Employee access is designed to optimize productivity while maintaining data confidentiality.

In conclusion, the SneakerShop Management System is more than just a software solution; it's a strategic tool that empowers sneaker store owners and managers to thrive in today's competitive retail environment. By centralizing key functions, optimizing processes, and enhancing customer satisfaction, the system enables businesses to operate efficiently, increase profitability, and stay ahead of the curve. With its customizable, scalable, and cost-effective features, the SneakerShop Management System is the definitive choice for any sneaker store looking to elevate its operations and achieve sustained success.

2. User Story:

Admin User Story

As an admin of the SneakerShop Management System, my primary goal is to efficiently oversee all aspects of the software to ensure smooth operations and maximize business performance. To achieve this, I need to navigate through various administrative tasks seamlessly.

First and foremost, I need to securely log in to the system. Upon opening the SneakerShop Management System, I'm prompted to enter my username and password. Once authenticated, I gain access to the system's administrative functionalities.

One of my key responsibilities is managing user accounts. Within the system, I can view a list of all users, including their roles and permissions. I have the authority to add new users, update existing user details, and deactivate user accounts when necessary. This ensures that access to the system is controlled and maintained securely.

Furthermore, I have the ability to configure system settings according to the store's requirements. Additionally, I can define access permissions for different user roles, specifying which features and data each role can access along with current stock data and sneaker rates.

Once my administrative tasks are complete, I can securely log out of the system, terminating my session to maintain security.

Employee User Story

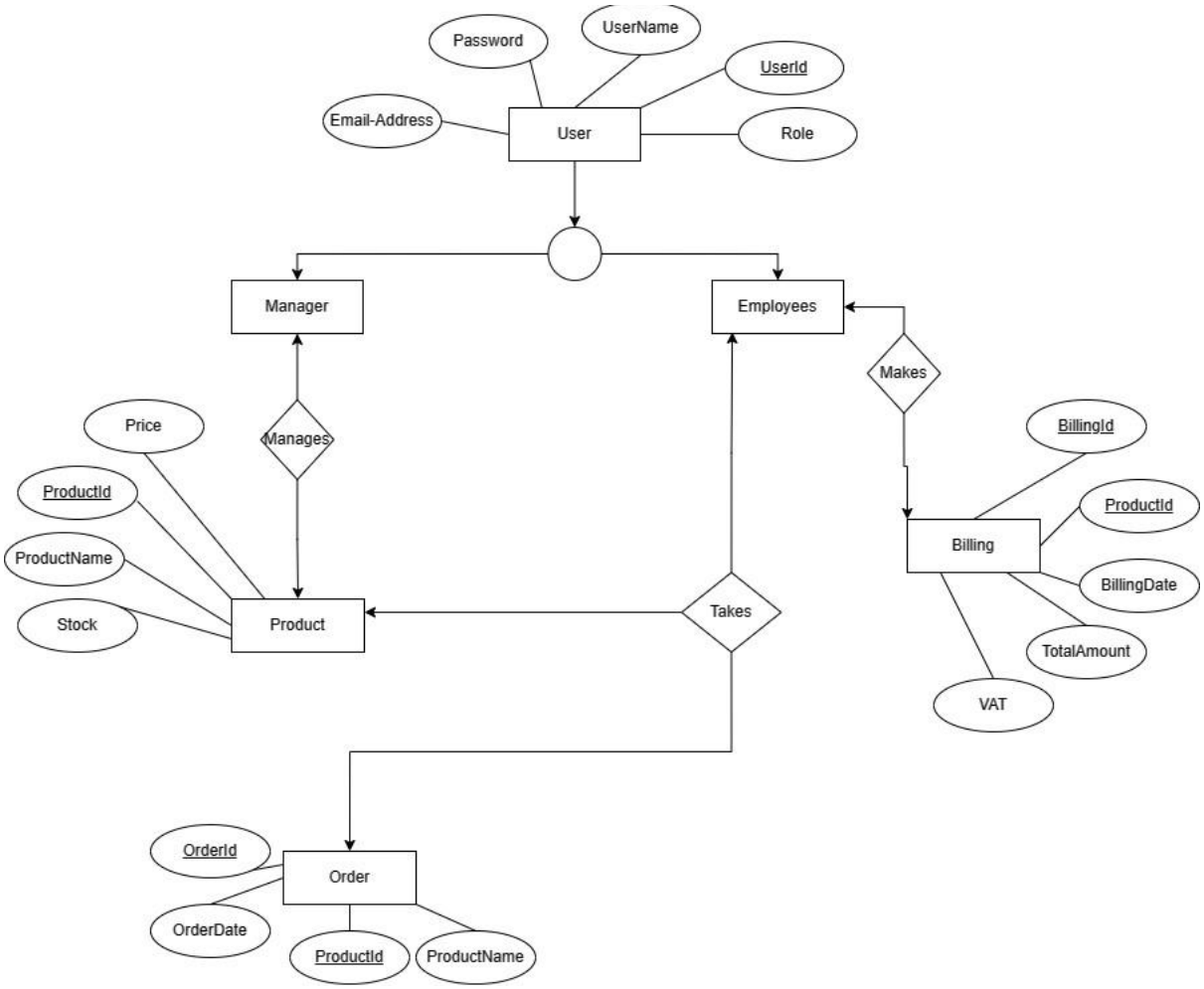
As an employee of the SneakerShop Management System, my main objective is to efficiently carry out my assigned tasks to contribute to the smooth operation of the store.

Upon logging into the system with my credentials, I gain access to the features and functionalities relevant to my role. My primary responsibility revolves around assisting customers and processing sales transactions. When a customer approaches me, I can use the system to check the inventory for available sneakers, provide product information, and facilitate the purchase process. Using the system's interface, I can quickly search for specific products, check their availability to process the transaction.

In addition to processing sales, I also play a role in managing inventory. Using the system, I can update stock levels after each sale, ensuring that the inventory is always up to date. If an item is running low, I can notify the appropriate personnel to restock it promptly.

Throughout my interactions with the system, I prioritize data accuracy and customer satisfaction. By efficiently utilizing the features provided, I contribute to the overall success of the sneaker store and help maintain its reputation for excellent service and product availability.

3. ER Diagram:



4. Normalization: Manager manages Product 1nf: No Multivalued attribute 2nf:
1.UserId, UserName, Passsword,EmailAddress, Role,ProductId(Foreign key)
2. , ProdcutId,ProductName,Price, Stock, UserId,
Employee makes Billing 1nf:
No Multivalued attribute 2nf:
1.UserId, UserName, Passsword,EmailAddress, Role,ProductId(Foreign key)
2. ,BillingId,ProductId,BillingDate,TotalAmount,UserId

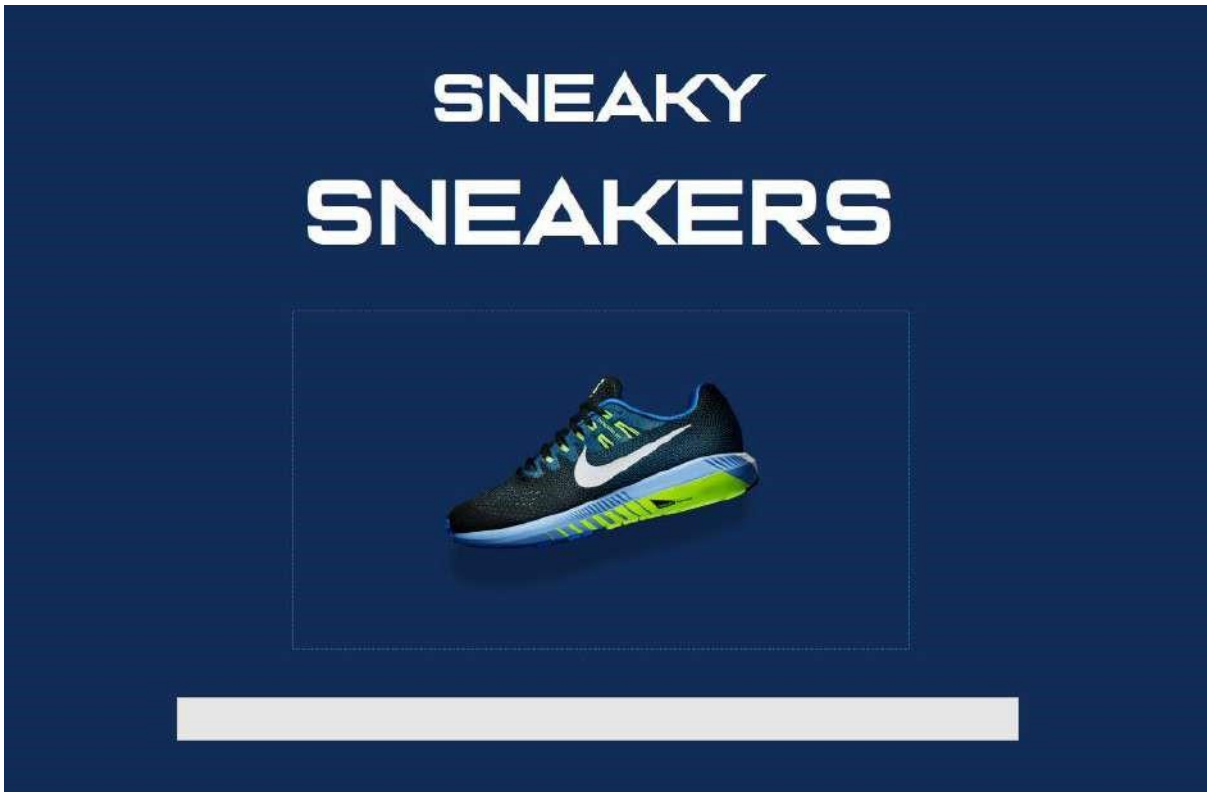
5. SQL Queries:

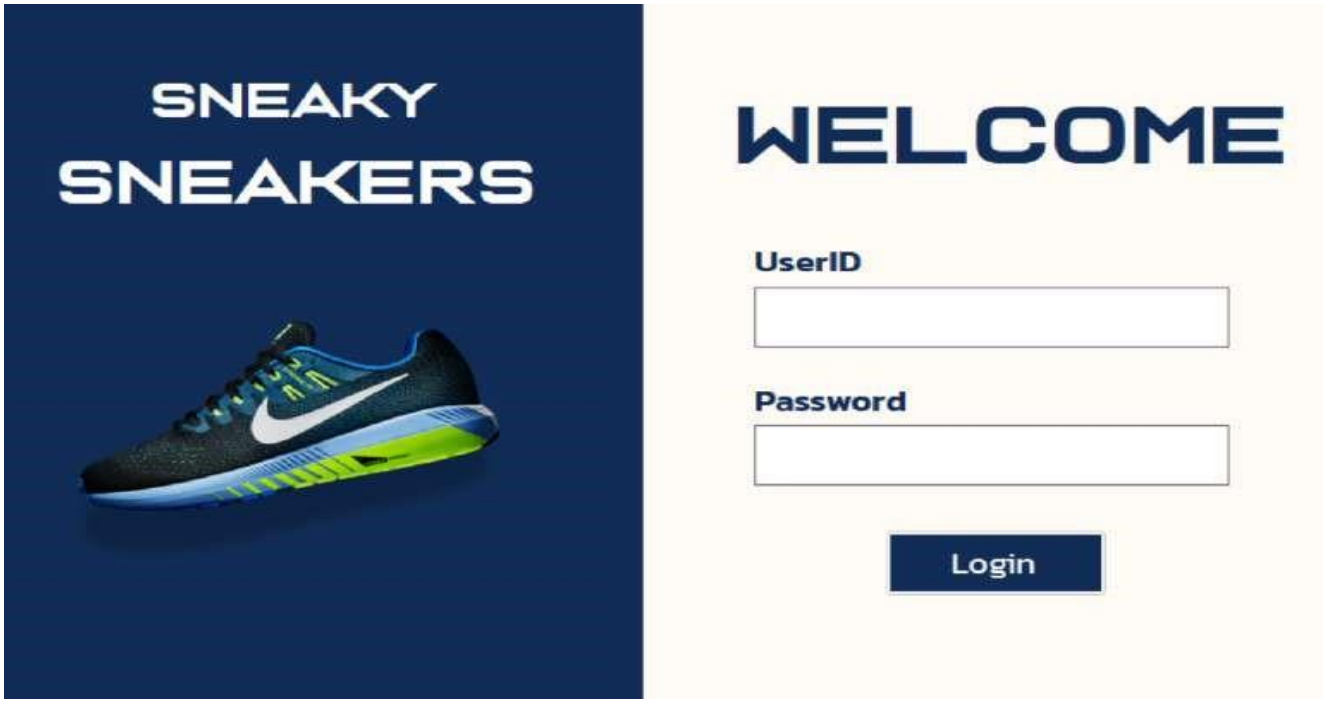
```
/****** Object:  Database [SneakersDb]    Script Date: 5/14/2024 12:10:07 PM ******/
CREATE DATABASE [SneakersDb]
CONTAINMENT = NONE
ON  PRIMARY
( NAME = N'SneakersDb', FILENAME = N'G:\AIUB\7th Semester\OOP2\Sneaky
Sneakers\Database\SneakersDb.mdf' , SIZE = 8192KB , MAXSIZE = UNLIMITED, FILEGROWTH =
1024KB )
LOG ON
( NAME = N'SneakersDb_log', FILENAME = N'G:\AIUB\7th Semester\OOP2\Sneaky
Sneakers\Database\SneakersDb_log.ldf' , SIZE = 8192KB , MAXSIZE = 2048GB , FILEGROWTH =
10%)
WITH CATALOG_COLLATION = DATABASE_DEFAULT, LEDGER = OFF
GO

IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled')) begin
EXEC [SneakersDb].[dbo].[sp_fulltext_database] @action = 'enable' end
GO

ALTER DATABASE [SneakersDb] SET ANSI_NULL_DEFAULT OFF
GO

ALTER DATABASE [SneakersDb] SET ANSI_NULLS OFF
GO

ALTER DATABASE [SneakersDb] SET ANSI_PADDING OFF
GO

ALTER DATABASE [SneakersDb] SET ANSI_WARNINGS OFF
GO

ALTER DATABASE [SneakersDb] SET ARITHABORT OFF
GO

ALTER DATABASE [SneakersDb] SET AUTO_CLOSE ON
GO

ALTER DATABASE [SneakersDb] SET AUTO_SHRINK OFF
GO

ALTER DATABASE [SneakersDb] SET AUTO_UPDATE_STATISTICS ON
GO

ALTER DATABASE [SneakersDb] SET CURSOR_CLOSE_ON_COMMIT OFF
GO

ALTER DATABASE [SneakersDb] SET CURSOR_DEFAULT  GLOBAL
GO

ALTER DATABASE [SneakersDb] SET CONCAT_NULL_YIELDS_NULL OFF
GO
```

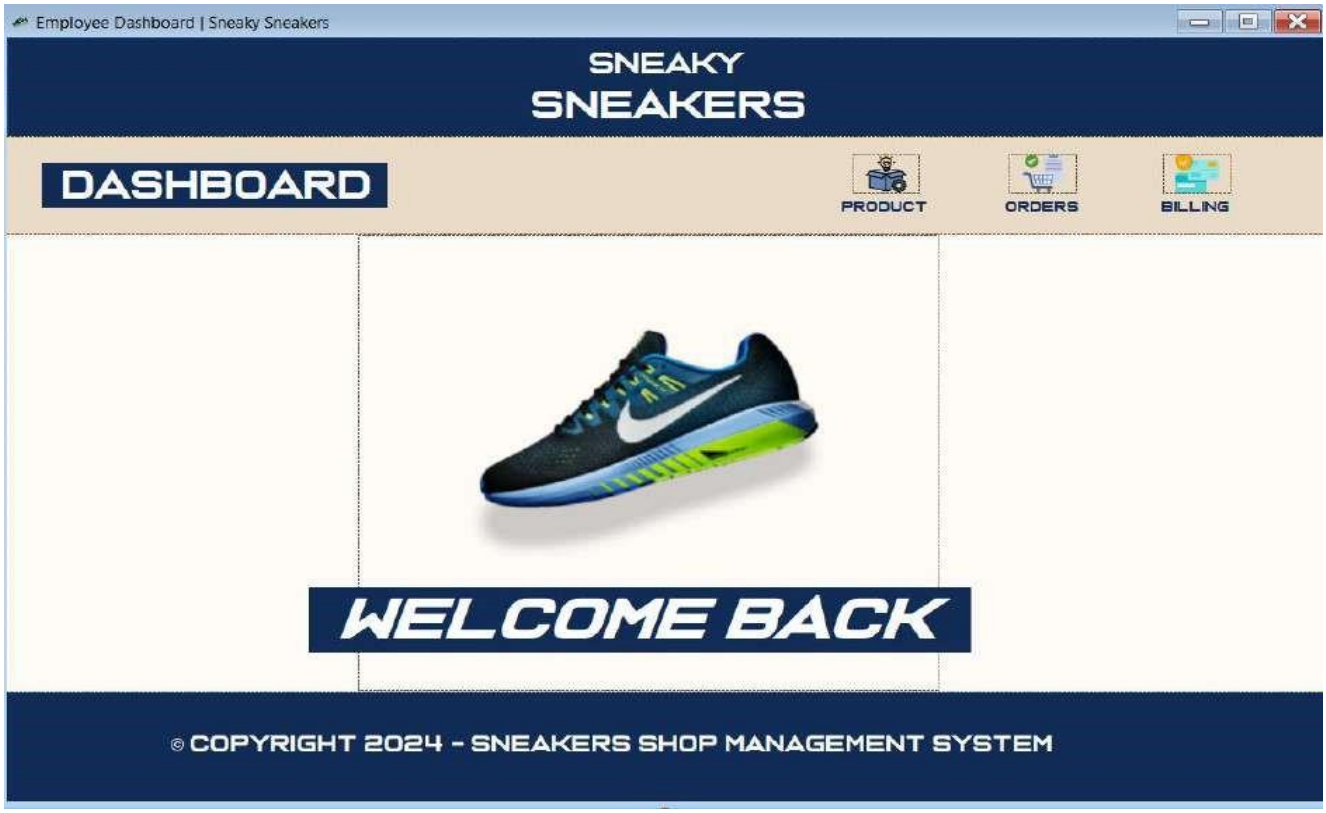
```
ALTER DATABASE [SneakersDb] SET NUMERIC_ROUNDABORT OFF
GO

ALTER DATABASE [SneakersDb] SET QUOTED_IDENTIFIER OFF
GO

ALTER DATABASE [SneakersDb] SET RECURSIVE_TRIGGERS OFF
GO

ALTER DATABASE [SneakersDb] SET  DISABLE_BROKER
GO

ALTER DATABASE [SneakersDb] SET AUTO_UPDATE_STATISTICS_ASYNC OFF  GO

ALTER DATABASE [SneakersDb] SET DATE_CORRELATION_OPTIMIZATION OFF
GO

ALTER DATABASE [SneakersDb] SET TRUSTWORTHY OFF
GO

ALTER DATABASE [SneakersDb] SET ALLOW_SNAPSHOT_ISOLATION OFF
GO

ALTER DATABASE [SneakersDb] SET PARAMETERIZATION SIMPLE
GO

ALTER DATABASE [SneakersDb] SET READ_COMMITTED_SNAPSHOT OFF
GO

ALTER DATABASE [SneakersDb] SET HONOR_BROKER_PRIORITY OFF
GO

ALTER DATABASE [SneakersDb] SET RECOVERY SIMPLE
GO

ALTER DATABASE [SneakersDb] SET  MULTI_USER
GO

ALTER DATABASE [SneakersDb] SET PAGE_VERIFY CHECKSUM
GO

ALTER DATABASE [SneakersDb] SET DB_CHAINING OFF
GO

ALTER DATABASE [SneakersDb] SET FILESTREAM( NON_TRANSACTED_ACCESS = OFF )
GO

ALTER DATABASE [SneakersDb] SET TARGET_RECOVERY_TIME = 60 SECONDS
GO

ALTER DATABASE [SneakersDb] SET DELAYED_DURABILITY = DISABLED
GO

ALTER DATABASE [SneakersDb] SET ACCELERATED_DATABASE_RECOVERY = OFF
```

```
GO

ALTER DATABASE [SneakersDb] SET QUERY_STORE = ON
GO

ALTER DATABASE [SneakersDb] SET QUERY_STORE (OPERATION_MODE = READ_WRITE,
CLEANUP_POLICY = (STALE_QUERY_THRESHOLD_DAYS = 30),
DATA_FLUSH_INTERVAL_SECONDS = 900, INTERVAL_LENGTH_MINUTES = 60,
MAX_STORAGE_SIZE_MB = 1000, QUERY_CAPTURE_MODE = AUTO,
SIZE_BASED_CLEANUP_MODE = AUTO, MAX_PLANS_PER_QUERY = 200,
WAIT_STATS_CAPTURE_MODE = ON)
GO

ALTER DATABASE [SneakersDb] SET  READ_WRITE
GO
```

6. Screenshots:




SNEAKY
SNEAKERS
WELCOME
UserID
Password
Login


Employee Dashboard | Sneaky Sneakers
SNEAKY
SNEAKERS
DASHBOARD
PRODUCT
ORDERS
BILLING
WELCOME BACK
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Admin Dashboard | Sneaky Sneakers

SNEAKY
SNEAKERS

DASHBOARD

PRODUCT ORDERS BILLING USERS

WELCOME BACK

SNEAKY
SNEAKERS

DASHBOARD

PRODUCT ORDERS BILLING USERS

Product Id	Product Name	Price	Stock
SNK001	Air Jordan 8	500	50
SNK002	Air Jordan 1	200	30
SNK003	Air Jordan Chicago	700	40
SNK004	Puma Booster 1	250	35
SNK005	Yeezy Boost V2	350	40
SNK006	Yeezy Boost V3	400	15
SNK007	Travis Scott Golf	360	20
SNK008	Air Jordan Jacktus	400	50
SNK009	Air Jordan 5	320	30
SNK010	Air Jordan 1 V4	350	40
SNK011	Nike	350	25

Search

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SNEAKY
SNEAKERS

DASHBOARD

PRODUCT ORDERS BILLING USERS

Order Id	Employee Id	Product Id	Stock	Order Date
o-342	e-002	SNK003	2	5/4/2024
o-343	e-001	SNK008	5	4/3/2024
o-347	e-002	SNK012	23	5/2/2024
o-444	e-003	SNK003	43	4/12/2024
o-560	e-001	SNK007	4	2/13/2024
o-565	e-002	SNK007	8	3/6/2024
o-666	e-001	SNK009	10	2/21/2024

Search

SNEAKY
SNEAKERS

DASHBOARD

PRODUCT ORDERS BILLING USERS

Billing Id	Order Id	Total Amount	Discount
b001	o888	700	0
b002	o65	900	0
b003	o-003	300	100
b004	o-003	400	100

Search

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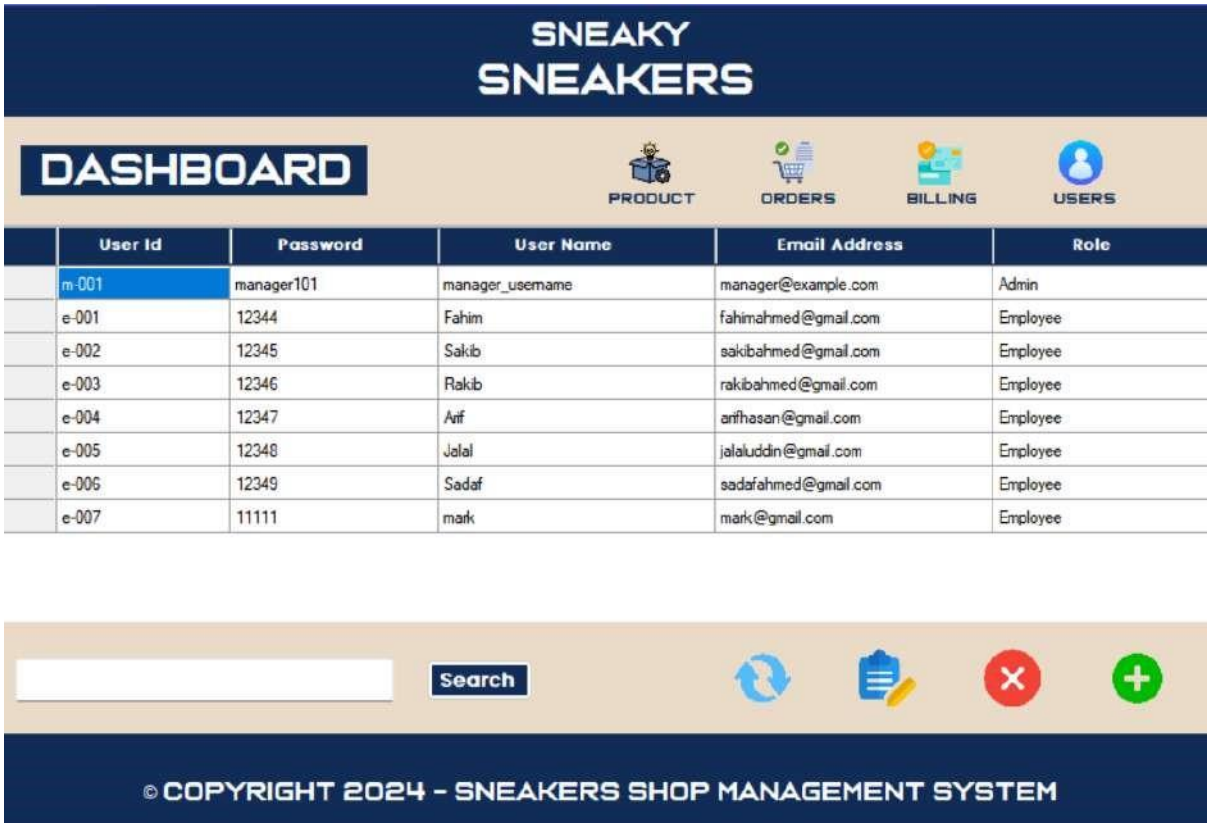
SNEAKY
SNEAKERS
DASHBOARD
PRODUCT
ORDERS
BILLING
USERS
User Id
Password
User Name
Email Address
Role
m-001
manager101
manager_username
manager@example.com
Admin
e-001
12344
Fahim
fahimahmed@gmail.com
Employee
e-002
12345
Sakib
sakibahmed@gmail.com
Employee
e-003
12346
Rakib
rakibahmed@gmail.com
Employee
e-004
12347
Arif
arifhasan@gmail.com
Employee
e-005
12348
Jalal
jalaluddin@gmail.com
Employee
e-006
12349
Sadaf
sadafahmed@gmail.com
Employee
e-007
11111
mark
mark@gmail.com
Employee
Search
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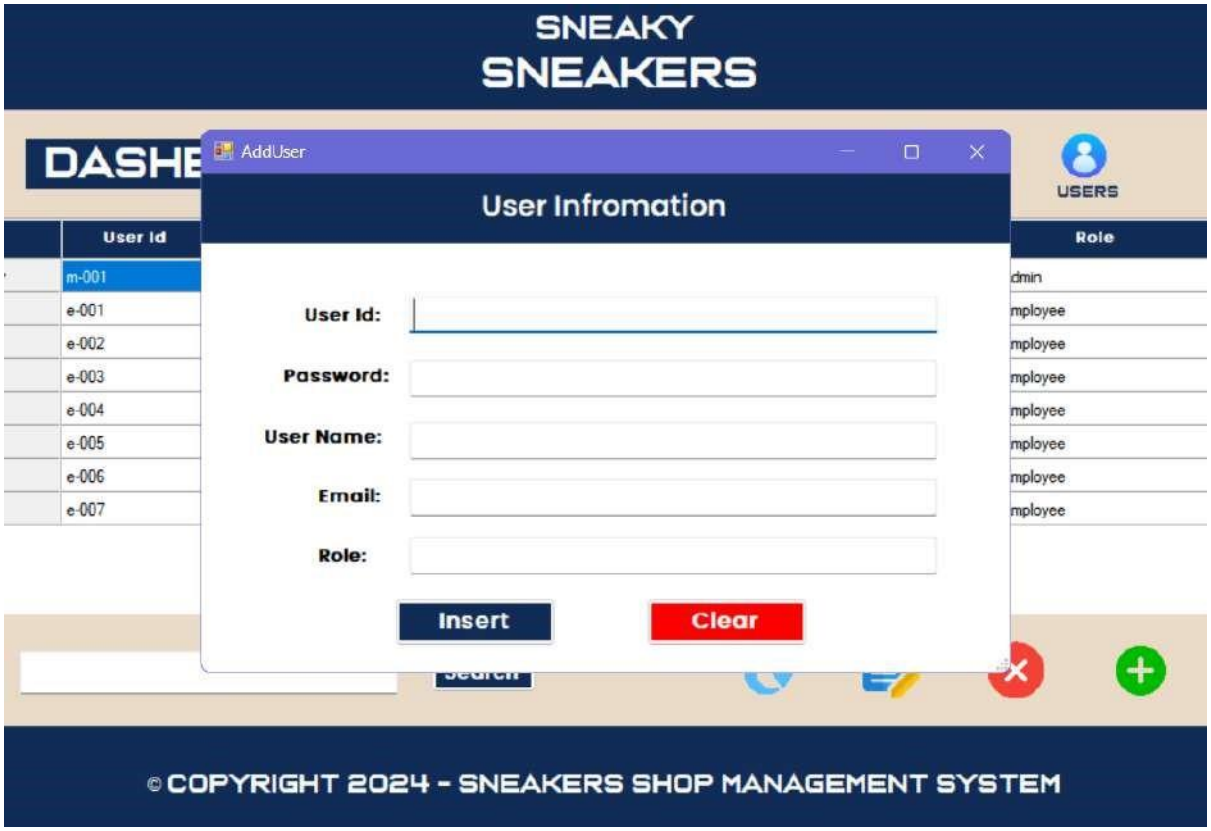
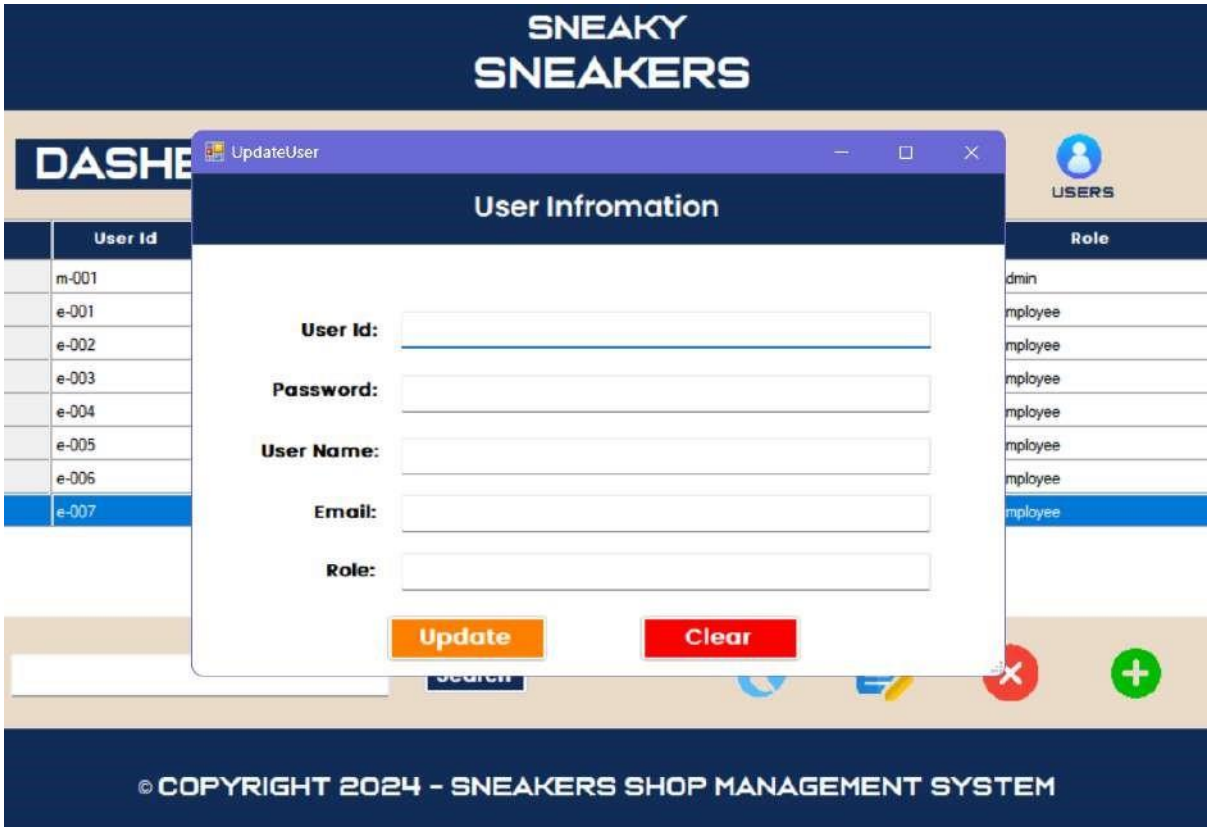

SNEAKY
SNEAKERS
AddUser
User Infromation
User Id:
Password:
User Name:
Email:
Role:
Insert
Clear
USERS
© COPYRIGHT 2024 - SNEAKERS SHOP MANAGEMENT SYSTEM


SNEAKY
SNEAKERS
DASHE
USERS
UpdateUser
User Infromation
User Id:
Password:
User Name:
Email:
Role:
Update
Clear
User Id
Role
m-001
e-001
e-002
e-003
e-004
e-005
e-006
e-007
dmin
mployee
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