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| colored transparent rectangle    MEMBERS OF TOPIC 12 GROUP 8:  Nguyễn Minh Toàn - ITDSIU20114  Chung Hữu Tín - ITDSIU20087  Nguyễn Đoàn Minh Khoa – ITIITIU20231  Mai Văn Hưng – ITITIU20209  Đào Anh Minh- ITDSIU20036 |

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| colored rectangle  Course by Assoc. Prof. Nguyen Thi Thuy Loan  **E-commerce portal for used furniture sales report** |

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VIETNAM NATIONAL UNIVERSITY OF HO CHI MINH CITY

THE INTERNATIONAL UNIVERSITY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

PRINCIPLES OF DATABASE MANAGEMENT

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| TOPIC REQUIREMENTSDATABASE MANAGEMENT SYSTEM As an integral part of any e-commerce business, a database management system (DBMS) plays a crucial role in managing and organizing data. For furniture e-commerce, the role of a DBMS is even more important as it helps in managing a large amount of product information, orders, customer data, and inventory in real-time. Here are some ways a DBMS can benefit furniture e-commerce:   * Efficient management of product information: A DBMS can help in efficient management of product information like product descriptions, images, prices, and specifications. This helps in providing accurate and up-to-date information to customers, which in turn enhances their shopping experience. * Streamlined order management: With a DBMS, order management becomes streamlined, and orders can be easily tracked, updated, and fulfilled. This helps in reducing errors, increasing efficiency, and improving customer satisfaction. * Real-time inventory management: A DBMS can help in real-time inventory management, which is crucial for furniture e-commerce as it involves managing a large number of SKUs. With a DBMS, businesses can avoid stockouts, overstocking, and reduce the risk of lost sales. * Personalized customer experience: A DBMS can help in tracking customer data and providing personalized recommendations based on their shopping history, preferences, and behavior. This helps in enhancing their shopping experience and increasing customer loyalty.   In summary, a DBMS is an essential tool for furniture e-commerce as it helps in managing data efficiently, reducing errors, improving efficiency, and enhancing the overall customer experience. USER GOALS In the e-commerce portals, the visualization of the items so that they are attractive and simple to use can only be utilized on the website and promoted on the application information websites nowadays in order to see the products that reach the user in the best way for online commercials.  To effectively manage an e-commerce database, understanding the user goals is crucial. Here are some common user goals for an e-commerce database management system:   * Efficiently manage and organize product information, including descriptions, prices, and images. * Streamline the ordering process for customers, including tracking and fulfillment. * Monitor and analyze sales data to make informed business decisions. * Easily manage customer information, including contact details and purchase history. * Securely store sensitive information, such as payment and personal data. * Customize and personalize the shopping experience for customers. * Easily manage and update website content, such as product pages and promotional banners. * Implement effective marketing strategies, such as email campaigns and social media integration. * Provide excellent customer service and support through the database management system.   By keeping these user goals in mind, you can ensure that your e-commerce database management system meets the needs of both your business and your customers.   REPORT IMPLEMENTATION PLANINTRODUCTION OF DATA MODELRELATIONAL DATABASE: It's great to have a clear understanding of the relationships between the tables in your database, as this can help with data analysis and management. Here are a few additional points to consider:   * Understanding the relationships between tables can also help with query optimization. By knowing which tables are related and how, you can structure your queries to be more efficient and avoid unnecessary joins. * It's important to keep your database structure organized and consistent. Inconsistent naming conventions or data types can lead to confusion and errors down the line. * Consider implementing referential integrity constraints to ensure that data is accurately maintained across related tables. This can help prevent orphaned records or other data inconsistencies. * Remember to regularly backup your database to prevent data loss in the event of a hardware failure or other issue. It's also a good idea to test your backup and disaster recovery procedures periodically to ensure they're working as expected.     Picture : Relational Database: ENTITY-RELATIONSHIP DIAGRAM: An Entity-Relationship Diagram, or ERD, is a visual representation of entities, attributes, and the relationships between them. By creating an ERD, we can better understand the relationships between different data points and design a more efficient database structure. Some additional context according to Boyce-Cood Normal Form  that might be relevant to include when building an ERD could include:   * Identifying the primary key(s) for each entity, which is a unique identifier for each record * Indicating the cardinality of each relationship, such as whether it is a one-to-one, one-to-many, or many-to-many relationship * Including any relevant business rules or constraints that impact the database design * Considering the potential need for data normalization to eliminate data redundancy and improve data integrity   By taking these factors into account, we can create a more accurate and effective representation of our project's data model using an ERD.    Picture : Entity-Relationship Diagram DATABASE IMPLEMENTATION PROCESSCREATE FURNITURE-SHOP DATABASE: Now we implement the database query following from data model, storing at the Furniture\_Shop database with 6 tables Account\_Login, Cart, Categories, Customer, Furniture\_Product, TransReport. Besides, create Trigger to execute automatically about the dateDeliver, Status, and Total\_Price. Many constrants Primary Keys, Foreign Keys between relations must be followed to relational database.   |  |  | | --- | --- | | CREATE DATABASE IF BD\_ID IS NULL | Furniture\_Shop | | DROP TABLE…..  CREATE TABLE …. IF OBJECT\_ID IS NULL  TRUNCATE TABLE …… | Account\_Login  Customer  Categories  Furniture\_Product  Cart  TransReport | | INSERT INTO …. VALUES | Account\_Login: Dao Minh  Customer: Van Hung  Furniture\_Product: Giuong doi  Categories: giuong  Cart: 1 chiec giuong  TransReport: 08/08/2023 | | CREATE TRIGGER:  Inser\_Update\_Total\_Price\_Cart  trg\_TransReport\_UpdateTimeDeliver | UPDATE TransReport DateAdd  UPDATE Cart Total.Price |   Table Database Creation Summary Q&A QUERY:  |  |  | | --- | --- | | Find all the accounts registered. | SELECT CName, Email FROM Customer accountdadangky  GO  SELECT \* FROM Customer\_Account  GO | | Find the number of products in selected categories. | SELECT Category\_name,COUNT(Pname)AS N'Số Lượng Sản Phẩm' FROM Furniture\_Product fp  JOIN Categories c ON fp.Category\_id= c.Category\_id  GROUP BY Category\_name; | | Find the information about the order from exact customer. | Use Furniture\_Shop;  SELECT Pid,Quantity,Time\_Deliver FROM Cart c  JOIN TransReport tp ON tp.cart\_id = c.Cart\_id  WHERE c.Cid  IN (SELECT Cid FROM Customer cr Where Email = 'aminh.dao@gmail.com') | | Find all the information ordered. | use Furniture\_Shop;  SELECT CName,Email, Category\_name, Quantity, Total\_price,Status, Time\_Deliver From Customer c  JOIN Cart cc ON c.Cid = cc.Cid  JOIN Furniture\_Product fp ON cc.Pid = fp.Pid  JOIN Categories cs ON fp.Category\_id = cs.Category\_id  JOIN TransReport tr ON cc.Cart\_id = tr.Cart\_id  ORDER BY Cname DESC; | | Find the customer list bought bed set | SELECT Email,Phone, Quantity, Total\_Price FROM customer c  INNER JOIN Cart ct ON ct.Cid = c.cid  WHERE ct.Pid = 1; | | Sort the account that have more than one payment\_method | use Furniture\_Shop  SELECT ap.email  FROM Account\_Payment ap  JOIN Customer c ON ap.Email = c.Email  GROUP BY ap.Email  HAVING COUNT(type) >1 |   Table : Query Q & A DATA VIEWS: Data View allows for observation of uploaded data and creation of data bindings (Relationships).    Picture : Views Implementation JAVA DATABASE CONNECTIVITY(JDBC) QUERYINTRODUCTION OF ECLIPSE IDE 2022-06: Eclipse is an open-source platform of extensible software development application frameworks, tools and run times that was initially created as a Java-based integrated development environment (IDE). WindowBuilder Extensions: WindowBuilder is composed of SWT Designer and Swing Designer and makes it very easy to create Java GUI applications without spending a lot of time writing code. Now we extends this extension to use automatically design JPanel.   Picture : WindowBuilder Extensions Design Form by JPanel:   Picture JFrame- SWING Designer    Picture : Demo Query Java    Picture : Demo Resuilt Database Connections: import java.sql.Connection;  import java.sql.DriverManager;  public static Connection getConnection() // connection to database  {  Connection connection = null;  try {  connection = DriverManager.getConnection("jdbc:sqlserver://localhost:1433;databaseName=Furniture\_Shop;user=Furniture;password=123456");  }  catch( Exception ex)  {  ex.printStackTrace();      }  return connection;    Picture : Code Connection  Hình : Code Connection  } WEBSITE VISUALIZATION(EXTENDED)INTRODUCTION OF 000WEBHOSTAPP: - 000WebHostApp Is a free hosting provider, managed by Hostinger.  - A hosting package of 000webhost includes: Capacity: 1000 MB; Bandwidth: 10 GB; Number of websites: 2; The default domain name is: tenwebsite.000webhostapp.com; Supports WordPress but doesn't support email and SSL. PHPMyAdMIN: phpMyAdmin is a free web application that provides a GUI to be used in conjunction with the MySQL database management system. It is the most popular MySQL administration tool used by millions of users worldwide and has won many awards. LANGUAGE PROGRAMMINGFront-end: PHP, JS, HTML: As program our website, the core language using is HTML, CSS and JS.  HTML determines the structure of web pages. This structure alone is not enough to make a web page look good and interactive. So you'll use assisted technologies such as CSS and JavaScript to make your HTML beautiful and add interactivity, respectively.    Picture : Import needed Class from BootStrap 4 into Front-End Programming  By using Bootstrap framework, we can easily manipulate the styling of any web page, like font style, text color, background color, flex, grid system, etc. Bootstrap is the most popular versions. There are lots of other CSS frameworks but among them, this framework is the most popular because of below mentioned features:   * It is Faster and Easier way for Web-Development. * It creates Platform-independent web-pages. * It creates Responsive Web-pages. * It designs responsive web pages for mobile devices too. * It is a free and open-source framework available on [www.getbootstrap.com](http://www.getbootstrap.com)     Picture : Implement Boostrap 4.0  To community with our database system, PHP is the recursive acronym for Hypertext Preprocessor, an open source programming language. It is fundamental for the experience of the users the speed in the navigation, we want everything immediate, has this give a great weight the search engines and that is why it is important a fast load that does not give PHP, but not only has this benefit:   * It has a very large community of developers who are constantly updating and improving the language. * It is one of the simplest languages you can find in the world of programming. * You can use it on any type of server and different virtual operating systems. * PHP can be combined with other programming languages such as HTML, CSS or Java. * It supports a large number of different databases, for this reason it is ideal for the creation of web and database-based applications.     Picture : Usage of PHP session for E-mail  The database schema below provides a comprehensive representation of the various properties of the database used in our e-commerce portal for used furniture sales. It also show the link between tables via the primary keys and foregins keys. Back-end: Connecting to WAMP to create your localhost website for programming Front-End, it help us to visualize demo in the link: <http://localhost/f-shopms/>  By using SQL Server effectively, you can streamline your database management tasks and focus on developing your applications. Because of the 000WebHostApp extended by PHPMyAdmin so if we want to transfer use PHP access to SQL server, we have to install Microsoft Drivers. After that, creating the 000WebHostApp account to transfer protocol(FileZilla) the source of your local website with SQL database server into the Host Server to create DNS website.    Picture : Sign-up webhost account    Picture : File Transfer Protocol    Picture : PHPMyAdmin extensions  *WEBSITE RESULT:* <https://usedfurnituregroup8.000webhostapp.com/>    Picture : Website Customer Views    Picture : Admin account REFERENCES: References**:**  <https://www.youtube.com/watch?v=RZTYqTGqtjI>  References: <https://www.youtube.com/watch?v=oPPcrD5j-5Q>  References: <https://www.mydomain.com/help/article/ftp-how-to-connect-using-an-ftp-client>  References: <https://www.techtarget.com/searchdatamanagement/definition/Microsoft-SQL-Server-Management-Studio-SSMS>  References: <https://blog.hsnyc.co/development/how-to-host-your-own-website-using-wamp-server/>  References: <https://www.upwork.com/resources/ecommerce-website-examples>  References: <https://www.wikihow.com/Create-a-Free-Hosting-Account-with-000WebHost.com>  References: <https://www.infoworld.com/article/3388036/what-is-jdbc-introduction-to-java-database-connectivity.html>  References: <https://www.youtube.com/watch?v=ndhFmgzi6io>  References: <https://www.youtube.com/watch?v=VZpzQLqm8Uw> CONCLUSIONTHE OUTCOME OF TOPIC PROJECT When it comes to e-commerce, database management is crucial to the success of any platform. In the case of a used furniture e-commerce site, there are a number of ways that effective database management can positively impact the outcome of the platform. Here are a few potential benefits:   * Improved search functionality: By effectively managing the database of available furniture items, users will be able to more easily find what they are looking for when they search the site. This can lead to increased sales and customer satisfaction. * Better pricing: With a large database of furniture items, it can be difficult to determine the optimal pricing for each piece. However, by analyzing data on past sales and market trends, a well-managed database can help sellers make informed decisions about pricing their items. * Increased efficiency: By streamlining the process of adding new items to the database and updating information on existing items, database management can help save time and resources for both sellers and platform administrators.   Overall, the outcome of a used furniture e-commerce platform can be greatly improved through effective database management. FURTHER WORKS |
| The e-commerce portal for used furniture sales has been developed and implemented successfully, providing a venue for buyers and sellers to connect and transact. The website provides a user-friendly and efficient marketplace that caters to the needs of both buyers and sellers, with options for searching and filtering, payment processing, and shipping.  The DBMS project has the potential to have a significant impact on the used furniture sales market by promoting sustainable shopping practices and providing a platform for small businesses and individuals to sell their products. Nonetheless, the project's implementation was not without obstacles, including the selection of suitable technologies and the resolution of security issues.  Overall, the DBMS project to develop an e-commerce portal for the sale of used furniture has accomplished its primary goals, and the report provides a thorough overview of its development and implementation. The recommendations for future improvements and enhancements will help to ensure the website's continued success and growth, allowing it to have a positive impact on the used furniture sales market. |

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