Report

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## 1. Instruction

The instruction is demonstrated in the ReadMe.txt

TASK 1:

1: Run Shan120LibraryDB.php at your local server to create the database depending on your system operation.

ex: localhost/projectFinal/Shan120LibraryDB.php

2: Run any PHP files in the folder "website" at your local server to. lead you to the homepage of the website

ex: localhost/projectFinal/website/homepage.php

3: Login or register a new account then use the information to login.

4: login details:

Librarian:

user id: 12346

password: jenny123

Borrower:

user id: 12345

password: anh123

or

user id: 12347

password: tonny123

TASK 2:

Demonstration video link and please choose 1080p for the best quality:
https://uowmailedu-my.sharepoint.com/:v:/g/personal/shan120_uowmail_edu_au/EXuFlAOuFaxJuRnjZoATZywBY7keOHOnWSnkizTAPp26nQ?e=eXmLDc

## 2. List of website's files

The "website" folder contains multiple files to facilitate the website's functionalities. The files' names and descriptions are listed based on specific categories as below:

### 2.1.Homepage

Homepage displays the information of the library along with basic contact details. The navigation bar contains "Home", "Register", and "Login".

- **homepage.php**

### 2.2.Registration

Register page allows people to fill a form following certain specific information such as the requirements of user ID, email address, and phone number to match specific patterns. After that, if registration shows "Congratulation! Register successfully.", the user can use the registration information to login.

- **registration.php**

### 2.3.Login and Logout

Login function contains 2 files:

- **login.php** -> allows users to enter user ID and password to login.
- **verifyLogin.php** -> verify information that the user has entered, if the record is found in the database, a relevant dashboard will be showed depending on whether the user type is librarian or borrower.

Logout function contains 1 file

- **logout.php** -> logout of the session and lead users to the homepage

### 2.4.Librarian portal

To address functionalities for the librarian, there are 7 files for the librarian portal

- **dashboard_librarian.php** -> contains basic information about functionalities for a librarian
- **listResource.php** -> lists all resources from the database
- **insertResource.php** -> allows a librarian to insert new resources into the database

- **searchResource.php** -> provides a search for librarian to search by entering ISBN, title, author, or status
- **changeStatus.php** -> allows the librarian to change status of resources by entering the resource ID and the status to be.
- **borrowList.php** -> lists borrowed resources by all users
- **availableList.php** -> lists all available resources

2.5.Borrower portal

To address functionalities for the borrower, there are 5 files for the borrower portal

- **dashboard_borrower.php** -> contains welcome information
- **availableList1.php** -> lists all available resources
- **borrowByMe.php** -> lists all borrowed resources by the user account only
- **searchResource1.php** -> provides a search for borrower to search by entering ISBN, title, author, or status
- **borrowResource.php** -> allow the borrower to borrow a resource by entering the resource ID and the duration that he or she wants to borrow. The constraints are the resource must be available, the duration is less than the maximum duration allowance by the system.

2.6.Decorative files

There 2 folders that contain decorative files to provide the seamless look for the website.

The “includes” folder:

- **footer.html** -> provides a footer with real date display
- **header.html** -> provides a header with the name of the library

The “style” folder:

- **pageStyle.css** -> facilitates the navigation bar for the website’s pages, division, and colours

## 3. Object oriented programming

```
<?php

  // create a class to display user information
  class displayUser {
    private string $firstName;
    public function __construct(string $firstName, private string $lastName
= "", private float $userID){
```

```
10.         $this->firstName = $firstName;
11.     }
12.
13.     public function getInfo():string {
14.             return $this->firstName . " " . $this-
   >lastName . ", ID: " . $this->userID;
15.         }
16.     }
17.     $firstName = $_SESSION['firstName'];
18.     $lastName= $_SESSION['lastName'];
19.     $userID = $_SESSION['userID'];
20.     $display = new displayUser($firstName, $lastName, $userID);
21.     echo "<p>", $display->getInfo(), "</p>";
22.
23.     ?>
```

The class has 2 public functions as __construct and getInfo. The class allows to construct a string to display user first name, last name, and ID from the session variables as above.

## 4. Database tables

The database for the library contains 3 tables with the structures as below.

```
$sql= "CREATE TABLE user (
    userID INT PRIMARY KEY,
    firstName VARCHAR(30) NOT NULL,
    lastName VARCHAR(30) NOT NULL,
    email VARCHAR(30) NOT NULL,
    phone VARCHAR(10) NOT NULL,
    userType VARCHAR(20) NOT NULL,
    userPassword VARCHAR(100) NOT NULL)";
```

Table “user” contains user information such as user ID, first name, last name, email address, phone number, user type (librarian/borrower), and password under md5 encryption. The primary key is userID to make sure the uniqueness of the userID variable. Later on, userID and password will be use to login the website.

```
$sql= "CREATE TABLE resources (
    resourceID INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    ISBN INT NOT NULL,
    resourceName VARCHAR(200) NOT NULL,
    author VARCHAR(100) NOT NULL,
    resourceStatus VARCHAR(30) NOT NULL,
    resourceType VARCHAR(30) NOT NULl,
    maxTimeBorrow INT NOT NULL,
    costPerDay INT NOT NULL)";
```

The “resources” table is created to contain information about resources such as ID of a resource, ISBN, resource name, autor, status, type, maximum time to borrow, and cost per day. The resource ID is the primary key with unsigned auto-increment so when librarians can add more resources to the database from the website interface without worrying about creating new IDs. The system will create new ID by itself.

```
$sql= "CREATE TABLE borrowing (
    borrowID INT UNSIGNED AUTO_INCREMENT PRIMARY KEY,
    resourceName VARCHAR(200) NOT NULL,
    author VARCHAR(100) NOT NULL,
    borrowedTime timestamp NULL DEFAULT current_timestamp(),
    duration INT NOT NULL,
    userID INT NOT NULL,
    resourceID INT NOT NULL)";
```

The “borrowing” table contains information about borrowed resources such as borrow ID, resource name, author, borrowed time, duration, user ID, and resource ID. Borrowed time is set as the current_timepstamp as the real time and the default time zone is Sydney/Australia. Later on, the time will be an input to calculate the time to return the resource as well as the cost of borrowing. The information will be displayed to both librarian and borrower interfaces.