

DEGREE PROGRAM (SCHOOL OF COMPUTER SCIENCE)

January 2025 SEMESTER
WEB APPLICATIONS PROGRAMMING
(ITS64504) Group
Assignment (40%)

DUE DATE: 11 February 2025 (11:59 pm)



STUDENT DECLARATION

1. *I confirm that I am aware of the University's Regulation Governing Cheating in a University Test and Assignment and of the guidance issued by the School of Computing and IT concerning plagiarism and proper academic practice, and that the assessed work now submitted is in accordance with this regulation and guidance.*
2. *I understand that, unless already agreed with the School of Computing and IT, assessed work may not be submitted that has previously been submitted, either in whole or in part, at this or any other institution.*
3. *I recognise that should evidence emerge that my work fails to comply with either of the above declarations, then I may be liable to proceedings under Regulation.*

Student Name	Student ID	Date	Signature	Score

Important Notes:

1. Module Learning Outcome: On completion of this alternative assessment, students should be able to:

MLO2: Apply the basic concepts and client-server web development technologies to evaluate and solve topic-specific problems and web systems.

MLO3: Develop a dynamic and interactive web-based application using client-side and server-side scripting languages, database, XML, AJAX, and JSON.

2. Form a group of 4-5 students.
3. **A user manual is required to be submitted (Softcopy in PDF). It must introduce your web application and guide the user how to use it. All the developed features and functions must be stated. Screenshots of your designs, features, and pages to be included.**
4. Cover page of the assignment should be included.
5. In the case of using any references (articles, web pages, etc.), you should cite the references in your writing and also add the references at the bottom of your report/user manual.
6. Report of similarity of the report must be submitted (maximum accepted similarity is 20%).
7. Only one member of each group is required to submit the assignment.
8. User manual report should be named as [YourName].pdf
9. All other related files to this assessment (all the files created during development, and a copy of developed database) must be compressed into one zip file, named it as [YourName].zip.
10. Submit the both (pdf and zip) files to respective portal on **MyTIMEs**.
11. Achieved marked will be capped to 40%.

Task description:

You are tasked with creating a dynamic and interactive web application utilizing client-side and server-side scripting languages, a database, XML, AJAX, and JSON. To proceed, you must propose an idea for the website and obtain approval from your lecturer. Once approved, you should develop the application based on your proposal. However, minor modifications to the initial design may be made during the development process, provided it aligns with the approved concept.

Your web application should at least contain the following functions and features:

- A SQL Database
- PDO is used to connect to the SQL Database
- HTML5 form is present
- Create (insert), read, update(modify) and delete can be performed from the browser to manipulate the information in the SQL database.

Additionally, you can also include the following function and features to enhance your web application:

- Usage of cookies and sessions
- Encryption technique has been used to store password in database
- Protection against SQL injection
- Protection against HTML injection
- Server-side form validation with PHP
- Client-side form validation with HTML5 or JavaScript
- Usage of CSS to make website visually appealing.
- You are required to demonstrate the usage of AJAX.
- You are required to demonstrate the usage of XML or JSON.

It is your **responsibility** in this assessment to make sure that the codes you submitted can be run from **any directory on the server**.

WEB APPLICATIONS PROGRAMMING ITS64504				
Criteria	Score			
	Excellent	Good	Average	Poor
	>= 80%	< 80% to >= 60%	< 60% to >= 30	< 30
Create (Add) Data to database through PHP (10 marks)	<ul style="list-style-type: none"> Able to add data successfully to the database without errors HTML5 forms are used to allow users to insert data Page display or forms is enhanced to make the interface more user-friendly Smooth navigation and redirection of pages before and after the process Fulfil all the additional and extra requirement 	<ul style="list-style-type: none"> Able to add data successfully to the database without errors HTML5 forms are used to allow users to insert data 	<ul style="list-style-type: none"> Able to add data successfully to the database without errors 	<ul style="list-style-type: none"> Able to add data successfully to the database with several errors

Read (Extract) Data from database through PHP (10 marks)	<ul style="list-style-type: none"> Able to retrieve data successfully from the database without errors HTML5 forms are used to allow users to insert data Data retrieved from the database is displayed neatly in the browser. Page display or forms is enhanced to make the interface more user-friendly Smooth navigation and redirection of pages before and after the process After extracting data, users have the options to modify the data and resubmit it back to the server Fulfil all the additional and extra requirement 	<ul style="list-style-type: none"> Able to retrieve data successfully from the database without errors HTML5 forms are used to allow users to insert data Data retrieved from the database is displayed neatly in the browser. 	<ul style="list-style-type: none"> Able to retrieve data successfully from the database without errors 	<ul style="list-style-type: none"> Able to retrieve data successfully from the database with several errors
Update (Modify) Data in database through PHP (10 marks)	<ul style="list-style-type: none"> Able to modify data successfully to the database without errors HTML5 forms are used to allow users to insert data Page display or forms is enhanced to make the interface more user-friendly Smooth navigation and redirection of pages before and after the process Fulfil all the additional and extra requirement 	<ul style="list-style-type: none"> Able to modify data successfully to the database without errors HTML5 forms are used to allow users to insert data 	<ul style="list-style-type: none"> Able to modify data successfully to the database without errors 	<ul style="list-style-type: none"> Able to modify data successfully to the database with several errors
Delete Data in database through PHP (10 marks)	<ul style="list-style-type: none"> Able to delete data successfully to the database without errors HTML5 forms are used to allow users to insert data Page display or forms is enhanced to make the interface more user-friendly Smooth navigation and redirection of pages before and after the process Fulfil all the additional and extra requirement 	<ul style="list-style-type: none"> Able to delete data successfully to the database without errors HTML5 forms are used to allow users to insert data 	<ul style="list-style-type: none"> Able to delete data successfully to the database without errors 	<ul style="list-style-type: none"> Able to delete data successfully to the database with several errors
MySQL Database	<ul style="list-style-type: none"> Properly created database, with correct selection of field types for 	<ul style="list-style-type: none"> Majority of database elements 	<ul style="list-style-type: none"> A small number of elements properly 	<ul style="list-style-type: none"> Minimal number of elements

(5 marks)	records. ID field used and set as primary key and auto incremented	properly selected.	selected.ID field is not used.	properly selected.ID field is not used.
Database connectivity (5 marks)	<ul style="list-style-type: none"> Secure database connection set up using PDO. Session handling is used Cookies are set for the user 	<ul style="list-style-type: none"> Secure database connection set up using PDO. Session handling is not used Cookies are not set for the user 	<ul style="list-style-type: none"> Secure database connection set up using PDO. Errors present. Session handling is not used Cookies are not set for the user. 	<ul style="list-style-type: none"> Insecure database connection set up using PDO.
PHP Authentication Security (5 marks)	<ul style="list-style-type: none"> Authentication, login, and registration features function properly. PDO used to connect to MySQL 128-bit encryption used on passwords stored in your database 	<ul style="list-style-type: none"> Majority of requirements for authentication and security are present. 	<ul style="list-style-type: none"> A considerable use of required authentication and security requirements. 	<ul style="list-style-type: none"> Minimal use of required authentication and security requirements.

	<ul style="list-style-type: none"> Form uses the \$_POST method 			
Overall Code Consistency and Readability (5 marks)	<ul style="list-style-type: none"> No errors, code is clean, understandable, and well-organized. Consistent Indentation Adding whitespace (blank lines, spaces) to improve readability of the code Variable has meaningful names Comments on code to improve readability 	<ul style="list-style-type: none"> Minor issues with consistent indentation, use of whitespace, variable naming. 	<ul style="list-style-type: none"> At least one major issue with indentation, whitespace, variable names, or organization 	<ul style="list-style-type: none"> Major problems with at three or four of the readability subcategories.
Completeness of Web Application (as per purpose stated in previous Assignment / Project / Task) (10 marks)	<ul style="list-style-type: none"> Web Application is complete and followed the purpose as stated in previous assignment/project/task. 	<ul style="list-style-type: none"> Web Application is complete but never meet some of the purposes as stated in previous assignment/project/task. 	<ul style="list-style-type: none"> Web Application is complete but never meet most of the purposes as stated in previous assignment/project/task. 	<ul style="list-style-type: none"> Web Application is partially complete and never meet some of the purpose as stated in previous assignment/project/task.
Theme and Consistency Does your project have a consistent font, color, and style theme? (10 marks)	<ul style="list-style-type: none"> Website uses a consistent color scheme, font, and style throughout the website Was extremely clever and presented with originality. Excellent layout/design work incorporating all required attributes, great variety of appropriate graphics that enhanced the pages. 	<ul style="list-style-type: none"> Website has a color scheme, but slightly inconsistent. Was well done and interesting to the audience; added a few original touches to enhance the project; used a good variety of appropriate graphics. 	<ul style="list-style-type: none"> Website uses a color scheme, but not all pages are the same. Used a limited variety of appropriate graphics. 	<ul style="list-style-type: none"> Website has randomly chosen elements throughout Minimal effort. Poor layout/design.
Overall Completeness and Readiness of Web Application (10 marks)	<ul style="list-style-type: none"> All the functionalities in the web application have been developed. Web application is ready to be deployed 	<ul style="list-style-type: none"> Most of the functionalities in the web application have been developed. Web application is mostly ready to be deployed 	<ul style="list-style-type: none"> Only a few of the functionalities in the web application have been developed. Web application is not ready to be deployed 	<ul style="list-style-type: none"> Most of the functionalities in the web application have not been developed Web application is not ready to be deployed
Use of AJAX (5 marks)	<ul style="list-style-type: none"> No errors, ajax code is correctly implemented with proper behavior. 	<ul style="list-style-type: none"> Ajax code is poorly implemented with inefficient coding 	<ul style="list-style-type: none"> Ajax is poorly implemented with inconsistent behaviour 	<ul style="list-style-type: none"> There is no AJAX presented

Use of XML or JSON (5 marks)	<ul style="list-style-type: none"> • XML or JSON is correctly implemented. • E.g., data extracted from MySQL using Php are converted to XML or JSON or • E.g., XML or JSON formatted data are successfully imported to MySQL using Php 	<ul style="list-style-type: none"> • XML or JSON is poorly implemented. 	<ul style="list-style-type: none"> • XML or JSON is poorly correctly implemented with inconsistent behaviour. 	<ul style="list-style-type: none"> • There is no XML or JSON implemented.
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