

Subject Name	TCS3294 Windows Programming
Topic	Windows Programming Assignment
Semester	Sept - Dec 2024
Release Date	Wednesday, 9 th October 2024
Due Dates	Friday, 1 st November 2024 @ 11.59pm (Stage 1) Tuesday, 3 rd December 2024 @ 11.59pm (Stage 2)
Total Marks	100

PLEASE READ ALL INSTRUCTIONS AND INFORMATION CAREFULLY.

This assignment contributes **100%** to your final course mark.

1. This is a **GROUP** assignment (*maximum of TWO (2) members per group*).
2. You are required to compile all your work into one folder (ZIP file) and upload the softcopy on blackboard.

IMPORTANT INFORMATION

You are required to submit your work within the bounds of the University Infringement of Assessment Regulations. Plagiarism, paraphrasing and downloading large amounts of information from external sources will not be tolerated and will be dealt with severely. However, you should make full use of any source material, which would normally be an occasional sentence and/or paragraph (duly referenced) followed by your own critical analysis/evaluation.

The work must be entirely your own. You will receive ZERO (0) mark for work that is not your own. The safety of your assessments is your responsibility. You must not permit another student access to your work. Where referencing is required, APA referencing system must be used.

1. Assignment Aims:

The aim of the assignment is to expose students to analyse a variety of problem solutions in terms of the design concepts and programming constructs. This assignment will allow the students to produce appropriate system development documentation with complete program using C#.NET Framework programming language and SQL Server. The students should be able to apply their knowledge and skills, creativity, and critical thinking in completing the assignment.

2. Assignment Instructions:

This is a **group** assignment which carries 100% coursework. Submit your final documentation on Blackboard (BB) before/by the **DUE DATE**.

- **MS Word Formatting**

1. Font size: 14 points for title/heading, 12 points for contents and 8-9 point for headers/footers.
2. Font type: Arial
3. Line spacing: 1.5
4. Proper alignment of your paragraphs, and necessary page set-up.
5. Number all pages sequentially.
6. Number all Figures and Tables sequentially and refer to them in the text.

- **Report submission should include:**

1. Coursework cover page
2. Table of contents
3. Introduction
4. System design (refer to Stage 1 on page 4)
5. User manual
6. Justifications for changes made to the system design (if any)
7. Test plan
8. Source code
9. Reference list – APA Style (if necessary)

3. Case Study

Design and implement a *Gym Management System*. The system includes two modules: MANAGER and RECEPTIONIST.

The Manager is responsible for maintaining the overall database containing data regarding the gym. The Manager can add, delete, update, and search details of receptionists, trainers, members, training session, products, and appointments. The Manager can also generate reports on receptionists, trainers, members, training session, products, and appointments at any given time.

To register a receptionist, the following information is required: Receptionist ID, password, name, phone number, email address, home address, and employment status (part-time or full-time). The receptionist can log in and view or update their personal details. Receptionists can also add, delete, update, and search details of trainers, members, training session, products, and appointments.

Trainer details include Trainer ID, name, phone number, email address, home address, and employment status (part-time or full-time). Trainers are assigned to conduct personal training sessions.

Member details include Member ID, name, phone number, email address, and home address, etc.

Training session details include Training ID, name, price, category, etc.

Product details include Product ID, product name, product category, number of units ordered from the supplier, number of units currently in stock, number of units sold, and the selling price. Products may include protein shakes, protein bars, supplements, etc.

When an appointment is made for a personal training session, the system must verify the trainer's availability. If the trainer is unavailable, the system should display an error message and prompt the receptionist to either reschedule the appointment for a different date and/or time or assign the appointment to another available trainer.

The system should be menu-driven, offering users various functions based on their roles. These functions may include checking and updating trainer and member details, booking appointments for personal training sessions, ordering and selling products, verifying product availability, and

generating reports. When a product is sold, the system and database should be updated to reflect the change in product inventory.

You are required to model your design based on the scenario above. The quality of your system will be evaluated based on the detail and completeness of your design.

Program requirements:

- The system should have the following:
 - Insert and modify data as necessary to demonstrate the functionality of the system.
 - Save data to the database.
 - Capable of handling invalid input and null values from users by displaying error messages and prompting users to re-enter the correct input.
- You must follow the naming convention for your forms, controls, and attribute names.
- The program should be compiled and executed using Visual Studio and SQL Server.

4. Tasks

PART A – STAGE 1 DESIGN [20%]

- Your DESIGN should include:
 - ✓ **Functional and Non-Functional Requirements** – with descriptions
 - ✓ **Use Case Diagram**
 - ✓ **Database Design (Table Description & ERD)** – your database's tables should have primary keys and foreign keys wherever required.
 - ✓ **Wireframe / Prototype** – your system's initial interface.
- NOTE: You should describe the design process with reasonable justification(s) to support your design approach. You will get very low marks if you simply dump the entire system design (tables & diagrams) with no justifications provided.

PART B – STAGE 2 DEVELOPMENT [60%]

- The deliverables of this stage would be IMPLEMENTATION and TESTING of your system. You are required to implement ALL functionalities proposed in Stage 1, as well as input validations.
- You are also required to submit a REPORT detailing the system's development. The report should contain:
 - ✓ **User Manual** to guide the user on how to use your system.
 - ✓ **Reasonable justifications** for the changes made to the design – if there are any changes made to the initial design of your system (which was proposed in Stage 1).

- ✓ **Test Plan** to test your system. Your test plan should include a set of possible inputs along with the expected outputs and the results produced by the tests in the test plan.
- ✓ **Source Code**
- NOTE: All files must contain the following information: your name, student id, course, and date within comments (in the header) in the source code and the report document.

PART C – STAGE 3 DEMONSTRATION [20%]

The DEMONSTRATION session enables the lecturer to access the originality of your work and test on your understanding of the assignment.

5. Assignment Timeline

The following is a guideline for completing your assignment

Task	What to do	Duration	Mode of Submission
1	Document the design rationale. (Stage 1)	Week 4 to week 6 *Submit on 1st November 2024	Softcopy
2	Develop a complete system. (Stage 2)	Week 7 to week 12 *Submit on 3rd December 2024	Softcopy
3	Prepare documentation of system's development. (Stage 2)	Week 7 to week 12 *Submit on 3rd December 2024	Softcopy
4	Demonstration of the complete system. (Stage 3)	Week 12	Demonstration during class sessions

IMPORTANT NOTE:

- Please submit your assignment by or before the deadline.
- **LATE SUBMISSION** will be **DEDUCTED 5% penalty** A DAY up to a **maximum of FIVE (5) days**, where subsequently, the assignment will be awarded **ZERO (0)** mark.
- **ZERO (0)** mark will be given if there is any form of copying/plagiarism.
- **ZERO (0)** mark will be given if you fail to submit your work or fail to submit all the necessary files.

Assignment Project Quiz Exam Essay Help
WeChat: cestbon_688
Email: accoder_overseas@163.com

**TCS3294 Windows Programming
Marking Rubric**

Stage 1: Design (20%)

Exemplary (81-100%)	Good (61-80%)	Needs Improvement (41-60%)	Unsatisfactory (0-40%)	Marks
<ul style="list-style-type: none"> Complete 90% and above functional requirements and use case diagrams. Excellent showing of all the program design of the system. Excellent justifications provided. 	<ul style="list-style-type: none"> Complete 75% and above functional requirements and use case diagrams. Good showing of the program design in the system but some parts were omitted. Reasonable justifications provided 	<ul style="list-style-type: none"> Complete 50% and above functional requirements and use case diagrams. Average showing of the program design in the system, but some parts were omitted. Justifications are provided but not well justified 	<ul style="list-style-type: none"> Poor or below 50% functional requirements and use case diagrams. Average presentation of the program design with majority of the parts omitted. No justifications provided 	

Stage 2: Development (60%)

Exemplary (81-100%)	Good (61-80%)	Needs Improvement (41-60%)	Unsatisfactory (0-40%)	Marks
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SYSTEM (30%)

<ul style="list-style-type: none"> The application works well and meets all the requirements specifications. No errors, program always works correctly and produces desired output Executes perfectly without errors System interface is visually appealing. Components are laid out sensibly on the screen. 	<ul style="list-style-type: none"> Minor details of the program specification are violated, program functions incorrectly for some inputs. Executes with one or two minor errors. System interface is pleasant looking, clean, well organized. 	<ul style="list-style-type: none"> Significant details of the specification are violated, program often exhibits incorrect behaviour. Overly cluttered interface. The workings of the features are unclear. 	<ul style="list-style-type: none"> The program performs tasks that it was not supposed to perform. Program only functions correctly in very limited cases or not at all System interface seems inappropriate for problem area. 	
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Assignment Project Overview
 WeChat: cestoon163.com
 Email: accoder163.com

Exemplary (81-100%)		Good (61-80%)		Needs Improvement (41-60%)		Unsatisfactory (0-40%)		Marks
CODE (10%)								
<ul style="list-style-type: none">The code is extremely efficient without sacrificing readability and understanding.Excellent implementation of sub-units.Validations are implemented correctly.Comments for code segments make the code easy to follow.		<ul style="list-style-type: none">The code is fairly efficient without sacrificing readability and understanding.Contain some level of subunits with sufficient documentation.Most of the validations are implemented correctly.Comments provide some assistance with understanding of the code.		<ul style="list-style-type: none">The code is not that efficient and unnecessarily long.Insufficient implementations of sub-units.Some validations are implemented correctly.Some parts of the code are commented.		<ul style="list-style-type: none">The code is huge and appears to be patched together.None or very weak implementation of sub-units.Validations are not implemented / implemented incorrectly.No comments included or other documentation provided.		
REPORT (20%)								
<ul style="list-style-type: none">Excellent justifications provided (if needed)Testing was carried out extensively. Thorough and organized testing has been completed and output from test cases is included.Complete user manual provided with clear explanation.		<ul style="list-style-type: none">Reasonable justifications provided (if needed)Testing was carried out.Complete user manual provided, but some explanation can be quite confusing.		<ul style="list-style-type: none">Justifications are provided but not well justified (if needed)Testing was carried out, but not complete.User manual provided but not complete / not clear.		<ul style="list-style-type: none">Justifications are provided but not well justified (if needed)Testing was not done.User manual is not provided.		
Stage 3: Demonstration (20%)								
Exemplary (81-100%)		Good (61-80%)		Needs Improvement (41-60%)		Unsatisfactory (0-40%)		Marks
<ul style="list-style-type: none">Excellent effort in planning and communicating the project idea effectively.		<ul style="list-style-type: none">Good effort in planning and communicating the project idea.		<ul style="list-style-type: none">Average effort in planning and communicating the project idea.		<ul style="list-style-type: none">Very little or no effort in planning and communicating the project idea.		
TOTAL								