Assignment Cover Sheet

Qualification		**Module Number and Title**
HD in Computing and Software Engineering		CSE5013 Service Oriented Computing
Student Name & No.		**Assessor**
Hand out date		**Submission Date**
		/
Assessment type Coursework	**Duration/Length of Assessment Type** Practical project/report	**Weighting of Assessment** **100%**

Learner declaration
I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.

Marks Awarded			
First assessor			
IV marks			
Agreed grade			
Signature of the assessor		Date	

FEEDBACK FORM
INTERNATIONAL COLLEGE OF BUSINESS & TECHNOLOGY

Module: Service Oriented Computing

Student:

Assessor :

Assignment:

Feedback:

Marks Awarded:

Learning outcomes covered

- Understand Service oriented architecture and patterns.
- Design service application solution by applying SO concepts
- Develop service oriented application
- Critically evaluate the suitable delivery environment and deploy service application.

Scenario and the Task

The Sri Lankan Railway department is looking for expanding the current train ticket booking process. To book a ticket, a passenger should be able to search for a train by selecting the date, start, and destination stations. From the search result, passengers must select a train and the available seats will be displayed. For one NIC number maximum number of seats that can be booked is limited to five. Must enter the seat numbers and confirm the booking. This booking facility must be available on the railway website and at every train station. Furthermore, the Railway department is expecting to expand this service to external parties like travel agents with an assistance of an API. Raliway's main controlling center is only authorized, to add and update train, and time schedules to the system.

The above features can be accessed from the company and the system should also be integrated with partners existing systems. Based on the above mention requirement you need to develop a SOC-based solution. Need to implement needed requirements as services and also need to build client applications and consume via API.

Tasks

1. Explain how Monolithic architecture and Service-oriented architecture model can be used for this case study. Compare and contrast both architectures and justify the best architecture base on maintainability and scalability. (20 marks)
2. Design and develop a suitable application based on SOC. Need to implement the services and also must create a client application to consume the services. Should be able to demonstrate and provide all source codes with suitable design diagrams. Need to use proper coding standards and must focus on the reusability and maintainability of the application. (60 marks)
3. Properly test, the developed application should be able to demonstrate debugging process and demonstrate testing results. (10 marks)
4. Explain deployment techniques that are suitable for the developed application (Server, Docker, Kubernetes, etc..). (10 marks)

Submission Guidelines

- Submission format Report
- Paper Size: A4
- Words: 3000 words
- Printing Margins: LHS; RHS: 1 Inch
- Binding Margin: ½ Inch
- Header and Footer: 1 Inch
- Basic Font Size: 12
- Line Spacing: 1.5
- Font Style: Times New Roman
- Alignment Justified
- **Referencing should be done strictly using the Harvard system**

Source code, database backup, and installation packages should be submitted in a single zip file.

Assessment Criteria

Task 1 contains 20 marks

Criteria	Marks Out of 20	Marks obtained by the student for the answer provided
Excellent Excellent level of understanding of development architectures, critical comparison technically and also focusing other environment factors, Higher level of depth and breadth of study with extensive reading and integration of information from a wide range of sources.	**14-20**	
Good Reasonable level of understanding of development architectures and critical comparison technically, Good level of depth and breadth of study,	**12-14**	
Satisfactory Reasonable level of understanding of development architectures and comparison, satisfactory level of depth and breadth of study	**8-12**	
Poor Limited understanding of development architectures and poor comparison. Limited reading, lack of depth and breadth of study	**0-8**	

Task 2 contains 60 marks

Criteria	Marks Out of 60	Marks obtained by the student for the answer provided
Excellent Exceptional solution focus on reuse, maintainability, use of proper architecture, error free and innovative features, demonstration with proper planning, proper flow and good presentation skills with clear explanations.	**42-60**	
Good Good solution complete application satisfying all user requirements, Proper error handling, Proper demonstration planed and well structured	**36-42**	
Satisfactory Basic application that can run without any build errors, fulfil the basic requirements. Presentation and demonstration is reasonable but flawed in structure or in some other way	**24-36**	
Poor Develop solution run with build errors, lack of error handling and validation, the presentation and demonstration is incoherent, incomplete or seriously weak in other ways	**0-24**	

Task 3 contains 10 marks

Criteria	Marks Out of 10	Marks obtained by the student for the answer provided
Excellent Excellent justification for the selected test techniques. Proper set of test cases to conduct a comprehensive test for the develop solution with proper test data. Selection of appropriate test data. Conduct test and critically analysis test results.	**7-10**	
Good Good justification for the selected test technique. Test cases to cover testing of entire applications with meaningful data. Conduct tests and a critical analysis of test results.	**6-7**	
Satisfactory Reasonable justification of test techniques and test cases to test the basic functionalities successfully. Analysis of test results.	**4-6**	
Poor Limited justification for test technique selection and incomplete set of test cases, improper set of test data. Poor analysis of test results.	**0-4**	

Task 4 contains 10 marks

Criteria	Marks Out of 10	Marks obtained by the student for the answer provided
Excellent Excellent justification for the selected deployment techniques, by critically comparing with other available deployment options. Excellent explanation on selected technique.	**7-10**	
Good Good justification for the selected deployment techniques, by critically comparing with other available deployment options. Proper explanation on selected technique.	**6-7**	
Satisfactory Reasonable justification for the selected deployment techniques, by comparing with other available deployment options. Satisfactory explanation on selected technique.	**4-6**	
Poor Limited justification, limited comparison with poor explanation	**0-4**	
Total Marks	**Out of 100**	