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Atlantic Technological University

ATLANTIC TECHNOLOGICAL UNIVERSITY

AUGUST EXAMINATIONS 2023/2024

MODULE: COMP07105-46392 - Rich Application Development 301

PROGRAMME(S):

SG_KGADV_B07	Bachelor of Science in Computing in Games Development
SG_KSODV_B07	Bachelor of Science in Computing in Software Development
SG_KCMPU_H08	Bachelor of Science (Honours) in Computing
SG_KCMPU_B07	Bachelor of Science in Computing
SG_KSODV_H08	Bachelor of Science (Honours) in Computing in Software Development

YEAR OF STUDY: 3

EXAMINER(S):

Mr. Paul Powell	(Internal)
Ms. Eileen Jackson	(External)

TIME ALLOWED: 2 Hours

INSTRUCTIONS: **Answer all questions.**

This is an Open book exam. You may use any resources at your disposal, but you may not converse with any other person. Accept the starting project from the GitHub classroom link provided at https://classroom.github.com/a/sOfC06kf **After each part of question 1 is complete commit and push the changes resulting in that part as your ID followed by the Part name (E.G S99999999 Part 1a) before continuing onto the next part of the question. NOTE Marks allocated for code that is working and clearly explained using comments. Marks are allocated for using the Activity tracker package provided. You must Submit a supporting Video to the Moodle Assignment provided explaining your work submitted within 12 hours of finishing your exam.**

PLEASE DO NOT TURN OVER THIS PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

There are no additional requirements for this paper.

QUESTION 1 ***[TOTAL MARKS: 100]***

Q 1(a) **[15 Marks]**

Using the blank solution provided here https://classroom.github.com/a/sOfC06kf

1. Create a class Library project called **DataModel.Sxxxxxxx** where **Sxxxxxxx** is your student ID.
2. Create an MVC project **without authentication** called **AutumnExam.MVC.Sxxxxxxx** where **Sxxxxxxx** is you student ID.
3. Create a Console based project called **Console.Sxxxxxxx** where **Sxxxxxxx** is you student ID.
4. Add a project dependency to the class library project from the MVC and console app.
5. In the package manager window run the following command to install the Activity tracker in all 3 projects

    Install-Package Tracker -Version 1.0.7-beta

6. Add the following call to the Console Program.cs file and run the console app.

ActivityAPIClient.Track(StudentID: *[your ID]***, StudentName:** *[Your Name]***, activityName: "Rad301 Autumn 2024", Task: "Exam Start");**

7. ***Commit and Push changes to GitHub*** ***as your ID followed by the Part name (E.G S99999999 Part a)***

Q 1(b) **[30 Marks]**

In the DataModel class library and using Entity Framework Migrations

1. Add the necessary Entity Framework NuGet Packages
2. Add POCO classes and a DB context class called **DbContextSxxxxxxx** where **Sxxxxxxxx** is you student ID.
3. The Db Context should create a database called **Autumn-23-Sxxxxxxxx-DB** where **Sxxxxxxxx** is your student ID.
4. Using Migrations or otherwise create the database with the Data shown in Table 1 and Table 2.

Table 1 The Flight Entities (Flight Id is the Primary Key)

Flight ID	Flight Number	Departure Date	Origin	Destination	Country	Max Seats
1	IT-001	12/01/2021 22:00	Dublin	Rome	Italy	110
2	EN-002	23/01/2022 12:50	Dublin	London	England	110
3	FR-001	04/01/2022 06:60	Dublin	Paris	France	120
4	BE-001	05/01/2022 16:30	Dublin	Brussels	Belgium	88
5	DU-001	24/01/2022 11:00	London	Dublin	Ireland	110

Table 2 The Passenger Entities (Passenger ID is the Primary Key, Flight ID is a foreign key)

Passenger ID	Name	Ticket Type	Cost	Baggage Charge	Flight ID
1	Fred Farnell	Economy	€51.83	€30.00	2
2	Tom Mc Manus	First Class	€127.00	€10.00	2
3	Bill Trimble	First Class	€140.00	€10.00	3
4	Freda Mc Donald	Economy	€50.92	€15.00	4
5	Mary Malone	Economy	€66.22	€15.00	1
6	Tom Mc Manus	First Class	€127.00	€10.00	5

5. ***Commit and Push changes to GitHub*** ***as your ID followed by the Part name (E.G S99999999 Part b)***

Q 1(c) **[30 Marks]**

In the console App you have created

1. Change the Track Task to **Q1 Part c**
2. Write a method called **list_passengers(int FlightID)** that will create an instance of the flight Context and print out a list of all the passenger names, Ticket Types and Destinations of the flight indicated by the parameter FlightID that are in the Database. Include comments to explain your code.
3. Write a method called **list_flight_revenue(int FlightID)** that will create an instance of the Flight Context and print out the flight details, together the total revenue for the flight identified by the parameter **FlightID**. Include comments to explain your code.
4. Write a method with the signature **add_passenager(Pasanger p)** that will add the following passenger. Include comments to explain your code.
5. ***Commit and Push changes to GitHub*** ***as your ID followed by the Part name (E.G S99999999 Part c)***

Passenger ID	Name	Ticket Type	Cost	Baggage Charge	Flight ID
7	Monica Ward	First Class	€150	€30.00	1

Q 1(d) **[25 Marks]**

1. In the MVC App create a controller called **Checkedin** based on a Flight Data Context that will allow a user to view the Passenger details for a chosen flight. In the constructor for the **Checkedin** controller put the following tracker call.

ActivityAPIClient.Track(StudentID: *[your ID]***, StudentName:** *[Your Name]***, activityName: "Rad301 Autumn 2024", Task: "Creating check in controller");**

2. A menu option for the Controller should be provided to call the controller Index Action.

3. ***Commit and Push changes to GitHub*** ***as your ID followed by the Part name (E.G S99999999 Part 1d)***

[End of Question 1]

[END OF EXAM]