

COSC2276/2277 Assignment 2 Specifications

Deadline:	03rd February 2019, Sunday (11:59 pm)
Compulsory Face2Face demo:	04th and 05th February 2019
Marks allocated to this assignment:	90 (worth 30% of the total marks)
To be attempted:	Individually OR in a group of 2
To be submitted via:	Canvas

2.1 Introduction:

The school committee is pleased with what your team has produced for the ASR Console system and now they are offering your firm a chance to create its web equivalent.

Most of the specifications will remain the same from previous ASR system, except a few new ones defined in the scope section of this document.

The Project Manager briefs you with a set of requirements and makes it very clear that the Web ASR system is to be created using ASP.NET Core 2.1/2.2 written in C# with a Microsoft SQL Server backend.

2.2 Scope:

ASR console-based prototype performs the following basic functions-

- a) Login-logout and Registration system required for Staff and Student(s)
- b) Allows both the Staff and the Students to use the system.
- c) Staff can check the room availability, create & delete booking slots and list their booking schedule.
- d) A student can view the available slots (for each of the staff members), book a slot and cancel the booking.
- e) Admin dashboard is a brand-new requirement and,
- f) WebAPI is also a brand-new requirement

2.2 Description:

Here is the detailed description of the system-

A local login-logout and registration system is required for the Web ASR system.

Data Validation Rules-

1. The Staff ID always starts with a letter 'e' followed by 5 numbers.
2. The Student ID always starts with a letter 's' followed by 7 numbers.
3. Email for a staff always ends with rmit.edu.au
4. Email for a student always ends with student.rmit.edu.au
5. Each ID (Staff and Student) is unique.

The staff can book any of the 4 available venues for a 1-hour student consultation session. The venues are- Room A, B, C and D.

A staff member can check for the availability of a room.

A staff member can create a slot (which will be made available to the student), they can also delete the slot.

A staff member can also produce a list of their booked slots.

Similarly, a student can view a staff's free (available) slots, make a booking or cancel it.

Business Rules-

1. Each slot must be of 1-hour duration.
2. A staff member can book a maximum of 4 slots per day.
3. The slots must be booked between the school working hours of 9am to 2pm and will always be booked at the start of the hour, e.g., 10:00am, 1:00pm, etc...
4. Each room can be booked for a maximum of 2 slots per day.
5. A staff member cannot delete a slot once it has been booked by a student.
6. A student can only make 1 booking per day.
7. A slot can have a maximum of 1 student booked into it.

Admin dashboard and Web API requirements have been explained in the tasks section:

2.3 Tasks and Marks allocation:

Part A

- a. (5 marks) From the SQL scripts provided for assignment 1, create an Entity-Relationship (ER) diagram for the database. You may add more tables if need be. Add the diagram to the visual studio project.

Now create a model for the database that will be used by EF Core (Entity framework) to create tables in the database.

You are not to use SQL for data fetching for this assignment until and unless it is absolutely necessary. All data fetching must be implemented via EF Core syntax. You are only to use SQL if EF Core does not provide syntax to implement the data fetching required by you.

- b. (2 marks) Create a home page for the Web ASR. You may use the template provided by Visual Studio but you will need to edit it for the appropriate content and images. Use of *Lorem ipsum* is not allowed.
- c. (3 marks) Add FAQ and Sitemap to the website. The FAQ (frequently asked questions) page must contain some basic questions and answers for staff and student(s). The questions will pertain to the use of this website.
- d. (5 marks) Each of the staff and student members must register for an account before they can use Web ASR. Create a registration form with complete data validation. Upon successful registration, the user credentials must be stored in the database. Add the registration link to home page.
- e. (5 marks) Implement login and logout features for staff and students. You must perform data validation on login page. Add the links to home page.
- f. (10 marks) The staff member must login prior to using the system. Implement all of the staff features. Please make sure that the appropriate business rules have been applied.

Part B

- g. (10 marks) The student must login prior to using the system. Implement all of the student features. Please make sure that the appropriate business rules have been applied.

Part C

h. (10 marks = 5 + 5) Admin dashboard: Create a separate dashboard/page for the use of admin only. Admin must login before making use of the dashboard. Admin dashboard to provide features such as:

1. Summary of all the booked slots for a staff
2. Ability to edit the booked in student and delete slot for a staff
3. Summary of all the booked slots for a student
4. Ability to cancel bookings for a student
5. Ability to add and edit rooms (*venues that can be booked*) to the system. These are additional rooms i.e., apart from A, B, C and D

You must use **Angular** to create the above dashboard. Do not use AngularJS 1.0

All the database calls in this section must be made via a **WebAPI**, i.e., selecting, updating, deleting and inserting the data.

You will also need to provide an analytical justification of the advantages offered using Angular and WebAPI for this part in README file.

Part D

i. (10 marks) The school may want to completely revert to the use of social media login in the future. They want you to implement a test social media login for staff and student(s). You may choose the provider. This is a self-research part. No help will be provided.

You will also need to provide an analytical justification of the advantages offered by a social media login instead of the local login in README file.

j. (30 marks = 10 + 10 + 10) Code elegance and Website UI. You will be strictly using professional standards for the following features:

1. Code quality- comments, consistent indentation, code elegance, code repetition & Object-orientation- encapsulation, coupling, cohesion and C# coding standard from the following website: <https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/inside-a-program/coding-conventions>
2. Effective use of a code repository (GitHub/BitBucket etc)
3. Professional and pleasant UI (user interface) of the website and appropriate content.

Submission Procedure:

Each submission must include a README.txt file containing your full name, your Student ID, and any other relevant information (if you are working in a group, then please mention the details of your partner).

Zip the entire solution project folder (with README.txt file included) and submit it via Canvas as a single zipped archive.

Late submissions and Extension-related information:

A penalty of 10% per day of the total marks for each assignment will apply for each day a submission is late, including both weekdays and the weekend. After 5 days, you will receive zero marks for that assignment. Email your lecturer (shekhar.kalra@rmit.edu.au) for extension related queries.

Plagiarism:

All assignments will be checked with plagiarism-detection software; any student found to have plagiarised would be subject to disciplinary action. Plagiarism includes

- submitting work that is not your own or submitting text that is not your own
- allowing others to copy your work via email, printouts, social media etc.
- posting assignment questions (in full or partial) on external technical forums
- copying work from/of previous/current semester students
- sending or passing your work to your friends
- posting assignment questions on technical forums to get them solved

A disciplinary action can lead to

- a meeting with the disciplinary committee
- a score of zero for the assignment
- a permanent record of copying in your personal university records and/or
- expulsion from the university, in some severe cases

All plagiarism will be penalised. There are no exceptions and no excuses. You have been warned.

Assignment-related doubts and consultation, workshops:

Please post your queries in the Discussion Board. Talk to your tutors during tutorial/lab session or during HEAD TUTOR's consultation session- there are two consultation sessions available every week.

We are going to run Assignment 2 assistance workshops; a schedule will be posted on the Canvas. Stay tuned!