LaSalle College
Montréal

Final Evaluation: 40%

Course Identification

Name of program(s) – Code(s):	COMPUTER SCIENCE TECHNOLOGY - PROGAMMING (420.BP)
Course title:	**MULTIPLATFORM MOBILE DEVELOPMENT**
Course number:	420-MU6-AS
Group:	07448
Teacher's name:	Renan Cavalcanti
Duration:	120 minutes
Semester:	Winter 2022

Student Identification

Name: Mohammed Waseq Rahman Student number: 1913864

Date: 2022-April-25 Result: _____

☑ I declare that this is an original work, and that I credited all content sources of which I am not the author (online and printed, images, graphics, films, etc.), in the required quotation and citation style for this work.

Standard of the Evaluated Competency

Statement of the evaluated competency – Code

Develop data exchange services - 00SV

Evaluated elements of the competency

00SV

1. Analyze the application development project.
2. Prepare the database.
3. Program the application logic for the service.
4. Produce the documentation.

Competency: Develop data exchange services - 00SV

General ministerial and institutional performance criteria:

- Critical thinking.
- Methodical, analytic and synthetic mind.
- Programming efficiency.
- Autonomy.
- Initiative.

Elements of the competency ***For 420.BP (1,2,3 ad 4)***	***Performance criteria specific to each element***
1. Analyze the application development project.	1.1 Accurate analysis of design documents 1.2 Proper identification of the tasks to be carried out
2. Prepare the database.	2.1 Suitable creation or adaptation of the database 2.2 Proper insertion of initial or test data 2.3 Compliance with the data model
3. Program the application logic for the service.	3.1 Proper programming or integration of authentication, authorization, or secure connection establishment mechanisms 3.2 Proper programming of the reception of input data 3.3 Appropriate choice of clauses, operators, commands, or parameters in database queries 3.4 Correct handling of database data 3.5 Proper programming of the response of output data 3.6 Precise application of secure programming techniques 3.7 Compliance with communication protocols and data exchange formats
4. Produce the documentation.	4.1 Proper identification of the information to be written up 4.2 Clear record of the work carried out

Instructions

- Student must submit the exam by uploading Xamarin project via LEA by the deadline stipulated on Omnivox.
- It is the teacher's responsibility to identify language errors. If such errors are found, the teacher has the right to apply a penalty of up to 20% of the grade. (PIEA – Article 5.7)
- Plagiarism, any attempt at plagiarism or complicity in plagiarism during an evaluation representing 20% and more of the final grade, will result in a course failure. (PIEA – Article 5.16)
- Deadlines are shared on Omnivox in the assignment box and must be respected.

Mark Breakdown

This evaluation is on 100 points, distributed as follows:

- Question 1
  - 30 points
- Question 2
  - 30 points
- Question 3
  - 20 points
- Question 4
  - 20 points

TOTAL: 100 POINTS

I. Case Study

Directions:
Read the **Case Study** very carefully to make sure you understand the functional requirements correctly. Read each question carefully and follow the instructions as required.

MU6 Company Management App

MU6 Company is creating a new online system to manage the tasks inside the company

You have been assigned the job to design and implement a Mobile application called **MU6 Management App** using Visual Studio 2019, C# Xamarin.
Following are the excerpts from the functional requirements of the application and its assumptions:

1. The application allows each employee to login and create a new account
2. The new account mut use the Firebase Authorization email and password.
3. Once logged, the user will be redirected to the page where he/she can add a new Task, edit, delete, and view all the tasks.
4. The new task must be saved in a cloud database Firebase.

II. Data

Question 1 (Main Page):

- Login page with “Username” and “Password” fields
- 2 Buttons to login and signup
- When the user clicks “Signup” button, the Sign-Up page must be called.
- When the user clicks “Login” button, the User Page must be called if the login is good, if not an alert should be shown “Invalid Login or Password” The login must connect with the Firebase Authentication.

Question 2 (Sign Up Page):

- A field to type the email
- A field to type the password
- A button “Create Account”
- A back button to navigate to Main Page.

When user clicks on Create Account button

- Show an alert about the operation status, if it was good or show the error message from the firebase response.
- Close the Sign-Up page and return to Main Page to continue with login

Question 3 (User Page):

- A Scroll View with a list view must be shown and the buttons “Add New” to create a task, Edit and Delete. Edit and Delete button must start disabled and turn to enabled when an item is clicked on the list view.
- The task on the list view should show the ID which is the KEY from firebase, the description, and the priority.
- If the user clicks “Add New” the page to create a new task must be open
- If the user clicks “Edit” a page to edit the task should be called.
- If the user clicks “Delete” an alert to confirm should be shown before delete.

Question 4 (New Task Page):

- Field for task description
- Picker with the choices “Low, Medium, High and Critical”
- Button to save
- By clicking the button save, the task must be saved on Firebase.
- Page must be closed at the end of the operation.

III. Grading Rubric

Question 1 (30 points)

1. Element of competency Analyze the application. (00SV.1)	
Performance criteria	**weight**
1.1 Accurate analysis of design documents	/2
1.2 Proper identification of the tasks to be carried out	/2
Element of competency: Prepare the database. (00SV.2)	
Performance criteria	**weight**
2.1 Suitable creation or adaptation of the database	/2
2.2 Proper insertion of initial or test data	/2
2.3 Compliance with the data model	/2
Element of competency: Program the application logic for the service. (00SV.3)	
Performance criteria	**weight**
3.1 Proper programming or integration of authentication, authorization or secure connection establishment mechanisms	/3
3.2 Proper programming of the reception of input data	/3
3.3 Appropriate choice of clauses, operators, commands or parameters in database queries	/3
3.4 Correct handling of database data	/3
3.5 Proper programming of the response of output data	/3
3.6 Precise application of secure programming techniques	/3
Element of competency: Program the classes (00Q6.4)	
Performance criteria	**weight**
4.1 Proper identification of the information to be written up	/1

4.2 Clear record of the work carried out	/1

Question 2 (30 points)

Element of competency: Prepare the database. (00SV.2)	
Performance criteria	**weight**
2.1 Suitable creation or adaptation of the database	/4
2.2 Proper insertion of initial or test data	/4
2.3 Compliance with the data model	/4
Element of competency: Program the application logic for the service. (00SV.3)	
Performance criteria	**weight**
3.1 Proper programming or integration of authentication, authorization, or secure connection establishment mechanisms	/3
3.2 Proper programming of the reception of input data	/3
3.3 Appropriate choice of clauses, operators, commands, or parameters in database queries	/3
3.4 Correct handling of database data	/3
3.6 Proper programming of the response of output data	/2
3.6 Precise application of secure programming techniques	/2
Element of competency: Program the classes (00Q6.4)	
Performance criteria	**weight**
4.1 Proper identification of the information to be written up	/1
4.2 Clear record of the work carried out	/1

Question 3 (20 points)

Element of competency: Prepare the database. (00SV.2)	
Performance criteria	**weight**
2.1 Suitable creation or adaptation of the database	/3
2.2 Proper insertion of initial or test data	/3
2.3 Compliance with the data model	/2
Element of competency: Program the application logic for the service. (00SV.3)	
Performance criteria	**weight**
3.1 Proper programming or integration of authentication, authorization, or secure connection establishment mechanisms	/2
3.2 Proper programming of the reception of input data	/2
3.3 Appropriate choice of clauses, operators, commands, or parameters in database queries	/2
3.4 Correct handling of database data	/2

3.7 Proper programming of the response of output data	/2
3.6 Precise application of secure programming techniques	/2

Question 4 (20 points)

Element of competency: Prepare the database. (00SV.2)	
Performance criteria	**weight**
2.1 Suitable creation or adaptation of the database	/2
2.2 Proper insertion of initial or test data	/2
2.3 Compliance with the data model	/2
Element of competency: Program the application logic for the service. (00SV.3)	
Performance criteria	**weight**
3.1 Proper programming or integration of authentication, authorization, or secure connection establishment mechanisms	/2
3.2 Proper programming of the reception of input data	/2
3.4 Correct handling of database data	/2
3.5 Proper programming of the response of output data	/2
3.6 Precise application of secure programming techniques	/2
Element of competency: Program the classes (00Q6.4)	
Performance criteria	**weight**
4.1 Proper identification of the information to be written up	/2
4.2 Clear record of the work carried out	/2

Sub-total on 100 (before errors)	/100
Penalty for language errors (0.5 point each /maximum 5%)	/100
Evaluation total on 100	/100
Evaluation total on 40	/40

CORRECTION GRID FOR LANGUAGE

Clear Communication	Clear Communication, **most of the time**	Vague Communication	Unclear Communication
- 0	- 0,5	- 1,5	- 2
(Word Choice) Use of precise and rich vocabulary	(Word Choice) Use of precise vocabulary	(Word Choice) Use of imprecise vocabulary	(Word Choice) Use of inappropriate vocabulary
- 0	- 0,5	- 1,5	- 2
(Format/Type of work) Respect of norms	(Format/Type of work) Respect of **most of the** norms	(Format/Type of work) Non-respect of the norms	(Format/Type of work) Inappropriate in relation to the required norms
- 0	- 0,5	- 1,5	- 2
(Linguistic Code) (≤2 mistakes / page)	(Linguistic Code) (3-7 mistakes/page)	(Linguistic Code) (8-10 mistakes/ page)	(Linguistic Code) (>10 mistakes/ page)
- 0	- 0,5 - 2.5	- 2.5 - 3.5	- 4