



LaSalle College
Montréal

Final Evaluation: 40%

Course Identification

Name of program(s) – Code(s):	INFORMATION TECHNOLOGY PROGRAMMER ANALYST (LEA.3Q)
Course title:	IOS MOBILE DEVELOPMENT
Course number:	420-DM3-AS
Group:	07294
Teacher's name:	Daniel de Rezende Barbosa Carvalho
Duration:	3 hours
Semester:	Fall 2023

Student Identification

Name: _____

Student number : _____

Date : 2023-12-18

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 Competencies

Statement of the evaluated competency – 00SR

Develop native applications without a database -00SR

Evaluated elements of the competencies

1. Analyze the application development project.
2. Generate or program the graphical interface.
3. Program the application logic.

Statement of the evaluated competency – 00SX

Develop applications for connected objects -00SX

Evaluated elements of the competencies

1. Analyze the application development project.
2. Generate or program the graphical interface.
3. Program the object's application logic and the control or monitoring application logic.

Instructions

- Your exam must be submitted by uploading your project via Omnivox. Deadlines are shared on Omnivox in the assignment box and must be respected.
- It is the teacher's responsibility to identify language errors. If such errors are found, teachers may deduct up to 5% of the final grade (IPEL – Article 5.7).
- Plagiarism attempts at plagiarism or complicity in plagiarism during a summative evaluation results in a mark of zero (0). In the case of recidivism, in the same course or in another course, the student will be given a grade of '0' for the course in question. (IPEL – Article 5.16).

Mark Breakdown

This evaluation is on 100 points, distributed as follows:

- | | | |
|------------------------------|---|--------------------------|
| • Question 1 – part 1 | Database design and implementation | For a total of 10 points |
| • Question 1 – part 2 | Application design and navigation | For a total of 20 points |
| • Question 1 – part 3 | Form validation and communication between views | For a total of 20 points |
| • Question 1 – part 4 | Coding view for data visualization | For a total of 20 points |
| • Question 1 – part 5 | Implementation of CRUD operations using Core-Data framework | For a total of 30 points |

TOTAL : 100 points

Question 1

A hotel is developing an application to manage its guests. The goal for this first version is to develop the user interface including the capability to list, insert, update, and delete guests. Information should be saved as permanent data using Core-Data.

Your task is to build this IOS Application, following the documentation and layouts given below.

IMPORTANT

- Respect the MVC (model-view-controller) design pattern.
 - Build a clean and readable code. Use well-defined variables, UI objects and function/method names.
 - Present clear messages to the user.
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Question 1 – Part 1	10 pts	Core-data entity definition, subclass extension, and implementation
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☐ Entity name: **Guest**

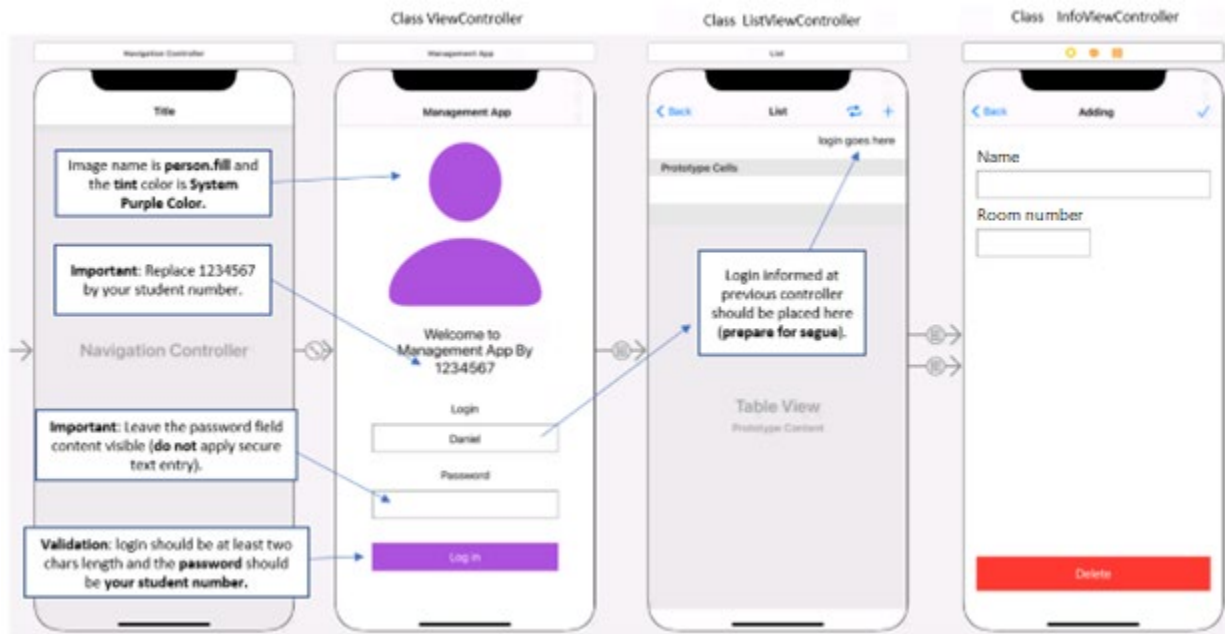
☐ Attributes: ☐ **name** String?

☐ **roomNumber** Int?

☐ Implement CoreDataProvider methods to fetch all, find one, save and delete objects from your context.

Question 1 – Part 2 | 20 pts | User interface design and navigation

- Design the application using **main.storyboard** and following **exactly** the given layout:



- Create the cocoa-touch class file named **InfoViewController** and assign to the new viewController.
- Use Segue enumeration (**enumSegue.swift file**) to define the values for your Segues.

Question 1 – Part 3 | 20 pts | Coding ViewController

- Implement the code to validate the user entry (login and password). Make sure you are following the validation instructions written inside the boxes (image above).
- You should send the username to **ListViewController** and replace the label text “**login goes here**” with its value.

Question 1 – Part 4	20 pts	Coding ListViewController
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- ☐ Implement the protocols **UITableViewDelegate** and **UITableViewDataSource**.
- ☐ Each **tableView** row should present only the **guest name**.
- ☐ Implement the bar button “+”, sending the user to **InfoViewController** to add new guest. The **delete button** should be **hidden** at this time.
- ☐ Implement the bar button “↺”, **refreshing** the **tableView** data. Optionally you can implement a protocol, replacing this refresh button.
- ☐ If the user selects a row, you should show **InfoViewController** presenting the guest information.

Question 1 – Part 5	30 pts	Coding InfoViewController CRUD (create, read, update, delete)
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- ☐ Implement the code to handle the two operation modes available inside this activity - **insert** or **edit/delete**.
 - ☐ Show the correct title for this controller depending on the operation (**adding** or **showing**)
 - ☐ Before saving, check if:
 - ☐ The guest name length must have between 5 to 25 characters.
 - ☐ The room number is between 1000 and 1999.
- Remember to give the user an informative message specifying the error (name or room number).
- ☐ Implement the button “✓” to save/update information.
 - ☐ If the user is on **EditMode**, the **delete button** will be available. Implement this action, sending the user back to the previous view controller if the operation succeeds.

Evaluation Grid

Question 1 – Part 1 (20 points)

Element of competency: - Program the object's application logic and the control or monitoring application logic (00SX.4)					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
4.1 Proper programming of data gathering processing and transmission instructions	5 Completely correct	3 - 4 Almost correct	1 - 2 Incomplete implementation	0 Completely wrong	/ 20
4.2 Proper programming of interactions between the interface and the user	5 Completely correct	3 - 4 Almost correct	1 - 2 Incomplete implementation	0 Completely wrong	
4.4 Proper application of internationalization techniques	5 Completely correct	3 - 4 Almost correct	1 - 2 Incomplete implementation	0 Completely wrong	
4.5 Precise application of secure programming techniques	5 Completely correct	3 - 4 Almost correct	1 - 2 Incomplete implementation	0 Completely wrong	

Question 1 – Part 2 (20 points)

Element of competency: Analyze the application development project (00SX.1).					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
1.2 Proper identification of tasks to be carried out.	5 Completely correct	3 - 4 Almost correct	1 - 2 Incomplete implementation	0 Completely wrong	/ 5
Element of competency: Generate or program the user interface (00SX.3)					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
3.1 Appropriate choice and use of graphic elements for display and input	6 Completely correct	4 - 5 Almost correct	1 - 3 Incomplete implementation	0 Completely wrong	/ 10
3.2 Proper integration of images	2 Completely correct	1 - 1.9 Almost correct	0.1 – 0.9 Incomplete implementation	0 Completely wrong	
3.3 Adaptation of the interface based on the display format and resolution.	2 Completely correct	1 - 1.9 Almost correct	0.1 – 0.9 Incomplete implementation	0 Completely wrong	
Element of competency: Program the application logic (00SR.4)					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
4.1 Proper programming of interactions between the graphical user interface and the user	5 Completely correct	3 - 4 Almost correct	1 - 2 Incomplete implementation	0 Completely wrong	/ 5

Question 1 – Part 3 (10 points)

Element of competency: Analyze the application development project (00SX.4).					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
4.2 Proper programming of interactions between the interface and the user	10 Completely correct	9 - 6 Almost correct	1 - 5 Incomplete implementation	0 Completely wrong	/ 10

Question 1 – Part 4 (20 points)

Element of competency: Analyze the application development project (00SX.1).					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
1.2 Proper identification of tasks to be carried out.	5 Completely correct	3 - 4 Almost correct	1 - 2 Incomplete implementation	0 Completely wrong	/ 5
Element of competency: Program the application logic (00SX.4)					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
4.1 Proper programming of data gathering processing and transmission instructions	7 Completely correct	4 - 6 Almost correct	1 - 3 Incomplete implementation	0 Completely wrong	/ 7
4.2 Proper programming of interactions between the interface and the user	8 Completely correct	5 - 7 Almost correct	1 - 4 Incomplete implementation	0 Completely wrong	/ 8

Question 1 – Part 5 (30 points)

Element of competency: Analyze the application development project (00SX.1).					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
1.2 Proper identification of tasks to be carried out.	5 Completely correct	3 - 4 Almost correct	1 - 2 Incomplete implementation	0 Completely wrong	/ 5
Element of competency: Program the application logic (00SX.4)					
Performance criteria	Highly satisfactory	Satisfactory	Unsatisfactory	Highly unsatisfactory	Total
4.2 Proper programming of interactions between the interface and the user	10 Completely correct	6 - 9 Almost correct	1 - 5 Incomplete implementation	0 Completely wrong	/ 10
4.3 Appropriate use of data exchange services	7 Completely correct	4 - 6 Almost correct	1 - 3 Incomplete implementation	0 Completely wrong	/ 7
4.6 Proper transfer of the application onto the connected object	8 Completely correct	5 - 7 Almost correct	1 - 4 Incomplete implementation	0 Completely wrong	/ 8

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