CSIT242 Autumn Session 2020
Assignment #1
Due: 11:55 pm Friday 1 May 2020
Marks: 20 marks (20%)

The purpose of this assignment is to create an interactive application using different views, multiple activities (scenes) and programmatically manipulate UI components.

For the purpose of this assignment, one application should be developed – by the student's choice – for the Android or iOS platform.

Aims

In this assignment, you will create an application "**Active and fit**". The application should calculate the charges of using gym facilities. The Gym is open every day (Monday-Sunday) from 6am to 10pm. Each session is one hour (starting every half-hour) and the user can have multiple sessions. For example:

Gym facility: Pool

Day: Monday, Start time: 9.30, hours: 2, End time: 11.30

Total amount: $40 (discount:$5) = $35

Your application should:

- Allow the user to choose the gym facility (Pool, Tennis court, Squash court, Yoga room, Functional fitness);
- Allow the user to choose the desired day and start time (starting at 6am / every half-hour – 6.00/6.30/7.00/7.30/…./20.30/21.00);
- Allow user to choose how many hours (sessions) will use the facility;
- Present the chosen *gym facility*, *day*, *start* and *end time*, *number of hours* and *calculated charges* (amount in AUD);
- Allow the user to insert new/change the preferences and make as many calculations as (s)he wants.

Your application must support all popular Android or iOS devices and screen sizes. You should record which one you have tested on in your report.

Requirements

1. Design Requirements

- The applications should have an icon and logo.
- A logo on the startup page and on the first page of the application.
- The gym facilities should be presented by name and logo/image (e.g. Pool ).

- The user should easily navigate thru application's layouts (scenes). The application may use a navigation menu and every layout (scene) should have a caption.
- If there is a need, the application may display additional Toasts, Snackbars or Alerts.

2. Functionalities

- The user should choose a gym facility (from the offered options).
- The user should choose a day (from the offered options: Monday to Sunday). Default day option should be the day of the week of the current system date/time.
- The user should choose the beginning time (the time slots should be on every half hour). The default starting time option should be the next half-hour based on the current system date/time (e.g. if the current time is 13.10, then the default starting time should be 13.30).
- The user should insert the number of hours/sessions (s)he will use the facility (the user can insert only integer number).

Note: The opening hours are 6am to 10pm. The user cannot start before 6am, or stay after 10pm.

- The application should display the user's choices and calculated charges (total amount in AUD) including the discount if applicable.
- The user can change any input information and recalculate the charges.
- The application should provide simple instructions for the user (in the form of tips or as a separate layout/scene).

The calculations for the charges are based on the:

- Type of the facility,
- Day and time in the week (peak or off-peak hours),
- Additional 10% discount if the user spends $100 and above.

Cost per hour	**Monday-Friday Peak hours: 18.00-22.00**	**Monday-Friday Off-Peak hours: 06.00-18.00**	**Saturday-Sunday Peak hours: 06.00-12.00**	**Saturday-Sunday Off-Peak hours: 12.00-22.00**
Pool	$25	$20	$25	$20
Tennis court	$35	$30	$35	$30
Squash court	$35	$30	$35	$30
Yoga room	$35	$30	$35	$30
Functional fitness	$45	$40	$45	$40

Examples:

(1)

Gym facility: Pool

Day: Monday, Start time: 09.30, hours: 2, End time: 11.30

Total amount: 2*$20 = $40

(2)

Gym facility: Functional fitness

Day: Sunday, Start time: 11.30, hours: 1, End time: 12.30

Total amount: 0.5*$45 + 0.5*$40 = $42.5

(3)

Gym facility: Squash court

Day: Friday, Start time: 16.00, hours: 4, End time: 20.00

Total amount: 2*$30 + 2*$35 = $130 – discount10%: $13 = $117

3. Testing and Deployment

- The applications should be tested using the emulators within the Android studio, Xcode or by physical devices.

4. Other Expectations

- Use appropriate view controls/objects to design the applications.
- Apply 'delightful' UI for the public to use.

Submission

1. Prepare a report that has a header

   My name:
   My student number:
   My email address:
   Assignment number:

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   any requirements, remarks or readme for your applications. The report also should include test results with screen captures of (virtual) devices of the applications (during run-time).
2. Submit a ZIP file containing project folder (Android or iOS) and your report (in .pdf) over Moodle submission link.
3. You are not required to submit a hardcopy of the report, nor copy out all the source code. Make sure your project folders are complete and ready to be open by any other Android Studio IDE or Xcode for code assessment.

NOTES:

1. Submit your assignment before the due date. Penalties apply to all late work, except if student academic consideration has been granted. Late submissions will attract a penalty of 20% of the assessment mark. This amount is per day including weekends. Work more than 5 days late will be awarded a mark of zero.
2. Submission via email is not acceptable.
3. Assignments without reports will not be marked.
4. Enquiries about the marks can only be made within a maximum of 1 week after the assignment results are published.
5. By submitting this assignment you declare that this assignment is **Your own work and you did not collaborate with or copy from others**.

Assessment Criteria		**Total Marks**	**Given Marks**
1.	Project structure (folders, layouts/scenes, class files)	1	
2.	UI interface	7	
3.	Functionality	12	
		Total	