

Coursework Report – 5COSC019C Object Oriented Programming

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Have you submitted the video with the demonstration of your system?

☒ Yes

☐ No

Link to the video:

https://drive.google.com/file/d/1G6_Ykx6ue2VLh2aqpDZDwadAFWMA4esm/view?usp=sharing

Phase 1 – Design and classes implementation

Task	Did you attempt the task?	Student's comments (To which extent you implemented the task? Have you encountered any problems or issue?)
Design a UML Use Case Diagram of your system (submitted in a separate file).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully completed according to the given description and submitted separately.
Design a UML Class Diagram of your system (submitted in a separate file).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Completed according to given descriptions and submitted separately. Some additional classes, and attributes were introduced during the implementation phase and are missing from the diagram, but all the core classes and attributes mentioned in the coursework description are present.
Implementation Class Person	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented and working as expected. No problems encountered. Additional gender attribute was introduced.
Implementation Class Doctor	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented and working as expected. No problems encountered.
Implementation Class Patient	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented and working as expected. No problems encountered.
Implementation Class Consultation	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented and working as expected. No problems encountered.
Implementation Interface WestminsterSkinConsultationManager	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented and working as expected. No problems encountered.

Phase 2 – Console menu implementation

Task	Did you attempt the task?	Student's comments (To which extent you implemented the task? Have you encountered any problems or issue?)
Add a doctor in the system with all the relative information (max 10 doctors)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented, errors and exceptions were handled and working as expected. No problems encountered.
Delete a doctor from the system selecting the medical licence number. Display a message to confirm he/she has been removed and the total number of doctors in the centres.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented, errors were handled and working as expected. No problems encountered.
Print on the screen the list the doctors in the centre with all the relative information. The list should be ordered alphabetically.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented, errors were handled and working as expected. The problems encountered were addressed and handled correctly. For example, the sorting method mutating the initial Doctors array was handled with the help of a temporary array and using this option does not change the initial order the doctors were entered.
Save in a file entered by the user so far. The user should be able to load back the information running a new instance of the application.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Saving and loading functions were fully implemented with errors and exception handling and working as expected. No problems encountered.

Phase 3 – GUI Implementation

Task	Did you attempt the task?	Student's comments (To which extent you implemented the task? Have you encountered any problems or issue?)
Doctor list visualisation. Sorting alphabetically.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented and working as expected. No problems encountered.
The user can select a doctor and add a consultation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented and working as expected. No problems encountered.
In the consultation the user can add all the patient details.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fully implemented and working as expected. No problems encountered.

The user can select the date/time of the consultation considering that a doctor cannot have more than one consultation at the time.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Fully implemented and working as expected. No problems encountered.</p> <p>(Note on implementation – The manager can add consultation times for doctors. Then, when a patient is booking a doctor, the availability of the doctor is checked from the consultation time entered by the manager as well checking if any existing consultations fall in the same time slot the user has selected. User is notified of each of the different availability/unavailability scenarios and when a doctor is unavailable a random doctor who has the consultation time at the same time and has no consultations booked is selected. If there aren't any doctors in a given timeslot user is notified to change date/time and/or the doctor.)</p>
The user can enter and save the cost for the consultation. (£25 per hour and only the first one £15).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Fully implemented and working as expected. No problems encountered.</p> <p>The duration of the consultation is calculated based on the cost the user enters. Instead of the duration, cost was taken as an input from the user due to entering cost being a core requirement according to the coursework description.</p>
The user can add some notes (text information or images). This information has been encrypted.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Fully implemented and working as expected. No problems encountered.</p> <p>User can add notes and/or multiple images or neither. Entered data is encrypted and then stored.</p>

Phase 4 – Testing and system validation

Task	Did you attempt the task?	Student's comments (To which extent you implemented the task? Have you encountered any problems or issue?)
Test plan. (Submitted in a separate file).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Fully completed and submitted separately. No problems encountered.</p> <p>Total of 42 test cases (for both console application and GUI application) were chosen based on various test case scenarios and the program was thoroughly tested for errors and unexpected crashes.</p>

Implementation of an automated unit test for each scenario in the console menu.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Fully implemented and working as expected. No problems encountered.</p> <p>JUnit testing for the main functionality, error and exception handling and additional functionality was implemented, tested, and has passed. Total of 17 test scenarios are present.</p>
Error Handling across all the code, input validation and code quality.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<p>Error and exception handling was implemented across the whole code. Coding conventions and practices such as using descriptive variable names, writing readable and maintainable code, and properly organizing the code was followed. Javadoc and inline comments were provided to explain methods, variables, parts of code, functionality and how some errors were handled.</p>