



QUEENSLAND ACADEMIES

Science Mathematics
& Technology Campus

11 Computer Science

Term 2 & 3

Practice IA

Hotel

Reservations

Stage 1 Due: 11th June (End of week 8, Term 2)

Stage 2 Due: End of week 6, Term 3

Tasks

_____ a well-known local Tourist Resort has requested you develop a **booking reservation application** that will cater for their business needs.

Currently the resort has been logging bookings and reservations in an **excel spreadsheet**. Initially this system appeared to be adequate; however, with the **growing number of people visiting the resort** the operators have realised that this **system is inadequate** and now is a **source of errors** and **inefficiency** within the business's operations.

The operators of the resort have requested that the application include a **staff area** in which staff can **manage bookings** and a **self-registration section where customers can register** and **make their own bookings**. Similar to that of airlines, etc.

The operators of the resort believe that the new system will improve their current business processes by making them **run more efficiently**. The operators have **nominated your teacher as the point of contact** (UoD expert) for the system and have directed you to forward any questions regarding the functionality of the new system to him directly.

The operators have requested that **all data be serialized** and **stored in data files** and that you **include user details appropriate to the project** and have a **username / password pair for each user**.

Extension

You are encouraged to extend this system in any way you would like. Before you do, however, ensure you discuss your extensions with your teacher to determine feasibility and suitability. Any extension MUST be defined through UML diagrams and discussed.

Stage 1 Requirements (Criteria A & B) Due End of Week 8, Term 2

Criteria A (6 marks)

1. **Defining the Problem** – explain the problem, outline who the client is? What they do? Why they have contacted you and the issues with the current system.
2. **Rationale for Development** – Justify the need for the project to be developed. Identify how the system will benefit the user in comparison to the current system. Identify outcomes and benefits of the new system and what effects this will have on the client.
3. **Criteria for success**- using bullet points list of goals/objectives of the functionality the new system must provide if the program is to be considered a success.

Criteria B (6 marks)

1. **System Storyboard** - A navigation flowchart outlining how menu interface will function. The purpose is to outline the navigation structure of the program which includes names of forms.
2. **User Interface Design** -You are required to draw screen designs for all screens/forms in your application. Make sure you make annotated comments explaining features of your design and justification of design controls and elements
3. **UML Class Diagrams** –You are required to design class diagrams for all classes that will make up the Hotel Reservation project.
4. **Justification of Data Structures**- You should also include a short discussion on why the various data structures were chosen.

Total marks Stage 1: 12 marks

Stage 2 Requirements Criteria C, D & E) (Due End of Week 6, Term 3)

1. **Record of tasks** – Task Schedule/Journal see table below. Only required for stage 2 tasks. (In year 12 IA required for all tasks from commencement of project).

Task number	Planned action	Planned outcome	Time estimated	Target completion date	Criterion
1.	Login Screen	Complete login section	3 hours		C

2. **Test Plans** - evidence of a testing plan that addresses the main areas of functionality of the product.

Criteria C (12 marks)

3. **Developing the product**- Extended writing with screenshot evidence

The information in the development documentation must provide a detailed account, using extended writing and other appropriate information, to explain the following.

- The structure of the product and why it is appropriate
- The algorithmic thinking used in the development of the product
- The techniques used in the development of the product and reasons why they are appropriate to it (may include screenshots, exemplar data, reference to information in the appendix)
- Any existing tools that are used in the development of the product, such as code libraries, software packages, web hosting, security information or infrastructure issues

Any reference material such as templates, program code, applets or other materials that have been used or modified must be acknowledged in this criterion. The code used in the product can be included in the appendix.

Criteria D (4 marks)

This criterion should be completed as two parts and does not require any additional written documentation.

4. **Functionality of the product** -The student must use the video to demonstrate the product functioning. This evidence will be supported, where possible, by the product on the CD-ROM/DVD or USB.
5. **Extensibility of product** -The student should design the product so that it can be maintained by another party and/or be further developed. Therefore the design of the product should include appropriate folder and data structures, intuitive file and/or class naming conventions and, where appropriate, comments in the code.

Criteria E (6 marks)

This criterion should be completed as two parts.

6. **Evaluation of the product** - The evaluation of the product should refer directly to the success criteria in criterion A, feedback from the client/adviser, as well as any other appropriate feedback obtained.
7. **Recommendations for the future development of the product** -The student will use the feedback and the evaluation of the specific performance criteria to recommend possible future developments to the product. These recommendations should explain the benefits of these developments.

Additional requirements – all design documents submitted in stage 1 should be resubmitted reflecting any changes made to final product in stage 2.

Total Marks Stage: 24 marks

Criteria for Assessment

The criteria are taken from the criteria used to assess your final IA. Your class diagrams and discussion will be part of criterion B whilst your implementation is part of criterion C.

Criterion A Planning

0	The response does not reach a standard described by the descriptors below.
1-2	The design overview is limited. From this information it is difficult to see how the product was developed.
3-4	An appropriate scenario for investigation for an identified client is stated. The rationale for choosing the proposed product is identified. The criteria for evaluating the success of the product are generally inappropriate.
5-6	An appropriate scenario for investigation for an identified client, providing evidence of consultation, is described. The rationale for choosing the proposed product is justified and includes a range of appropriate criteria for evaluating the success of the product.

Criterion B Solution overview

0	The response does not reach a standard described by the descriptors below.
1-2	The design overview is limited. From this information it is difficult to see how the product was developed.
3-4	The design overview is partially complete. They provide a basic understanding of how the product was developed.
5-6	The design overview is detailed and complete. From this information it is clear how the product was developed.

Criterion C Development

0	The response does not reach a standard described by the descriptors below.
1-4	The use of techniques demonstrates a low level of complexity and ingenuity or does not address the scenario identified in the task sheet. It is characterized by limited use of existing tools. Sources are used but are not identified.
5-8	The use of techniques demonstrates a moderate level of complexity and ingenuity in addressing the scenario identified in the task sheet. It is characterized by some appropriate use of existing tools. All sources are identified.
9-12	The use of techniques demonstrates a high level of complexity and ingenuity in addressing the scenario identified in the task sheet. It is characterized by the appropriate use of existing tools. All sources are identified.

Criterion D Functionality and extensibility of Product

0	The response does not reach a standard described by the descriptors below.
1-2	The video shows that the product functions partially. Some expansion and modification of the product is possible but difficult.
3-4	The video shows that the product functions well. Some expansion and modifications of the product are straightforward.

Criterion E: Evaluation

0	The response does not reach a standard described by the descriptors below.
1-2	The use of techniques demonstrates a low level of complexity and ingenuity or does not address the scenario identified in the task sheet. It is characterized by limited use of existing tools. Sources are used but are not identified.
3-4	The use of techniques demonstrates a moderate level of complexity and ingenuity in addressing the scenario identified in the task sheet. It is characterized by some appropriate use of existing tools. All sources are identified.
5-6	The use of techniques demonstrates a high level of complexity and ingenuity in addressing the scenario identified in the task sheet. It is characterized by the appropriate use of existing tools. All sources are identified.

Total marks: 34

Submission

You will submit to "I:\Group 4\Computer Science\Year 11 Practice IA" a zip file named...

YourName_CS_IA.zip

Your file must be in place by.