Level 3 Requirements analysis and systems specification

(7266/7267-306)

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Assignment guide for Candidates
Assignment B

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Level 3 Requirements analysis and systems specification (7266/7267-306) Assignment B

Introduction – Information for Candidates

About this document

This assignment comprises all of the assessment for Level 3 Requirements analysis and systems specification (7266/7267-306).

Health and safety

You are asked to consider the importance of safe working practices at all times.

You are responsible for maintaining the safety of others as well as your own. Anyone behaving in an unsafe fashion will be stopped and a suitable warning given. You will **not** be allowed to continue with an assignment if you compromise any of the Health and Safety requirements. This may seem rather strict but, apart from the potentially unpleasant consequences, you must acquire the habits required for the workplace.

Time allowance

The recommended time allowance for this assignment is **8 hours**.

Level 3 Requirements analysis and systems specification (7266/7267-306)
Candidate instructions

Candidates are advised to read **all instructions** carefully before starting work and to check with your assessor, if necessary, to ensure that you have fully understood what is required.

Time allowance: 8 hours

Assignment set up: A scenario is provided for candidates in the form of a customer's project brief for a system they require.

This assignment is made up of **four** tasks

- **Task A** - requires candidates to plan for the identification of customer requirements.
- **Task B** - requires candidates to establish the customer's requirements.
- **Task C** - requires candidates to produce the logical design specification.
- **Task D** - requires candidates to produce the physical design specification.

Scenario

A systems development company, ABT IT Systems, provides complete IT systems solutions. As a contracted employee of ABT IT Systems, you have been asked to undertake an investigation of customer requirements and produce a requirements definition for the implementation of an IT solution for a customer.

Project brief

Lavernia is a small, newly independent state in a fast developing region. It has its own national airline called Inter Island Airlines (IIA).

Lavernia has one international airport and three small regional airports.

The country is rapidly building up a tourist industry and is encouraging the production of cash crops and flowers for sale in the major cities of Europe and North America. At this time some of the products are carried by international airlines not associated with IIA.

IIA have four twin-engined jets for internal passenger flights and three four-engined jets for passenger travel to foreign cities. They also own two cargo planes for transporting cargo off the islands.

All external flights travel from the international airport only.

A manual booking system exists for both passengers and cargo.

Approximately 500 administrative staff are employed at each of the local airports. Approximately 500 staff are employed at the international airport.

Bookings are only handled for internal flights at present.

Problems are occurring in reservations and ticket issue for those passengers using IIA for internal flights but wanting to continue their journey to a foreign destination not served by IIA.

500 travellers a day arrive at each of the local airports and about the same number depart.

There are about 5000 people arriving and 5000 departing daily at the international airport in the peak season. Airport costs per traveller are approximately 5.00. This covers booking, issuing and keeping records of one single or return ticket.

The freight charges are calculated as follows:

Customers pay according to weight. Cargoes over 10 kilos cost 3.00 a kilo, over 100 kilos 2.20 per kilo. Cargoes of 10 kilos or less pay a fixed rate of 35.00 in total. These charges do not apply if the customer has a fixed contract. Customers with fixed contracts pay a flat rate of 2.00 per kilo. If the cargo is of a perishable nature then all customers pay an additional 2% per kilo mandatory insurance premium.

Task A

You are strongly recommended to read the instructions and project brief carefully before you begin. An IT solution is required which will simplify and automate the procedures for booking and issuing tickets for passengers and booking and charging for freight. In particular the system should take advantage of new technology for example data communications to link with the booking systems of other airlines.

In this task you are required to plan for the identification of customer requirements.

1 Produce a report which clearly states:

   a. the present situation
   b. the major problems
   c. why a new system is required
   d. what further information is required to confirm and/or establish the details of the system data requirements
   e. two suitable methods of obtaining such information (e.g. record inspection, interviewing) and indicate how they would be used
   f. extra detail as necessary.

2 Draw either a PERT or GANTT chart showing the activities required to complete the investigation, analysis and requirements definition. Various layouts are acceptable but the chart should follow established practice, use recognised symbols and be as compact as possible.

   Before moving on to the next task, obtain approval from your assessor that the activities planned are defined correctly.

Task B

In this task you are required to establish the customer's requirements.

1 Carry out investigations to meet the agreed plan.

2 Use investigative methods to obtain information on inputs, outputs, processing, user interfaces and frequency.

3 Draw a document analysis grid inserting all relevant documents and data items.

4 Identify constraints.

5 Obtain approval from your assessor before moving on to the next task.

Task C

In this task you are required to produce the logical design specification.

1 Carry out analyses to meet the agreed plan.

2 Draw a decision table to cover the different options available for charging for freight.

3 Identify the main inputs and outputs (documents entering and leaving the system). These are the data flows.

4 Identify the external entities, i.e. the sources and recipients of the data inputs and outputs.

5 Identify the receiving and generating processes for each data flow. These are the logical functional requirements.

6 Identify the data stores associated with the processes. These are the logical data requirements.

7 Produce suitable diagrammatical representations for modelling the logical functional and data requirements.

8 Create a data dictionary with entries for all the data in the system.

9 Identify and specify the capacity requirements.

10 Check for and correct defects in the logical design specification.

11 Obtain approval from your assessor before moving on to the next task.

Task D

In this task you are required to produce the physical design specification.

1 Carry out analyses to meet the agreed plan.

2 Produce a hardware specification to include memory size, storage devices, printer specifications, any data capture equipment and communications equipment.

3 Produce a software specification to include the outline program specifications, file organization and access method, screen, file and print layouts, error conditions and associated error messages.

4 Produce input and output data specifications to include document description and layout,

input and output media, controls and validation.

5 Specify security measures to include backup and passwords.

Note

- Candidates should produce the following for their Assessor:
  - Report.
  - Planning chart.
  - Document analysis grid.
  - Constraints description.
  - Decision table.
  - Diagram for logical design.
  - Data dictionary.
  - Capacity requirements description.
  - Hardware specification.
  - Software specification.
  - Input and output data specification.
  - Security measures description.
- At the conclusion of this assignment, hand all paperwork and removable media to the test supervisor.
- Ensure that your name is on the removable media and all documentation.
- If the assignment is taken over more than one period, all removable media and paperwork must be returned to the test supervisor at the end of each sitting.

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