AQA

Information and Communication Technology INFO3/PM

Unit 3 The Use of ICT in the Digital World

Candidate Booklet for the January 2011 examination

To be given to candidates on or after 1 November 2010

INFO3/PM

Information and Guidance

1   On receipt of this booklet, you are advised to check carefully that it is complete and that no pages are missing or illegible. There should be eight pages. If there are any problems you should consult your teacher.

2   The material contained in this booklet is provided for you to use in preparing for Section A of the INFO3 examination.

3   Prior to the examination, your teacher may give you assistance and advice to help you understand the content of this material.

4   You should use the time between receiving this material and the examination to familiarise yourself with its contents.

5   You are allowed to make comments or annotations on this copy of the material but you are **not** allowed to take this copy, or any other materials, into the examination.

6   A clean copy of this booklet will be provided in the examination with the INFO3 question paper and therefore there is no benefit from learning the contents by rote.

7   The INFO3 examination is on **Wednesday 26 January 2011** (afternoon session).

Mulcastor Online Taxi System (MOTS)

Mulcastor Developments, an established software development company, is planning to develop and operate MOTS, which will incorporate a web-based Internet booking system for people requiring taxi travel to and from airports. As many taxis are empty on either the outward or return journey, MOTS is intended to match empty taxis with passengers requiring travel. It is expected that, by using the taxis for fare-paying passengers on both outward and return journeys, participating taxi companies can offer cheaper fares and also increase their income.

The development and provision of an operational Internet service is a change of direction for Mulcastor, as its previous business has been confined to systems development within the public sector. Using linear development methods, it has acquired a sound reputation for producing systems on time and to budget.

To determine possible future demand for MOTS, Mulcastor has sent a questionnaire to 1000 taxi companies. A summary of the results of the survey is attached. Encouraged by the positive response to this survey, Mulcastor intends to rent new premises for use as a data centre and charge the taxi companies 7.5% of each fare as commission for providing the service.

MOTS will contain a database of the details provided by participating taxi companies. The details provided by each taxi company will include:

Company details
      Contact details
      Bank account details

Vehicle details
      Type of vehicle
      Number of each type of vehicle (standard taxi, minibus or limousine)
      Maximum number of passengers each vehicle can hold
      Other information, such as the ability to accommodate wheelchairs

Customers requiring a taxi are to use the booking system to enter their taxi journey details. For each taxi journey the following information will be required:

Taxi journey
      Date of travel
      Airport being used
      Flight number
      Whether an outward or return journey is required
      Pickup or destination address
      Number of passengers requiring travel
      Type of vehicle required
      Any special requirements

Customers can book only one vehicle at each booking.

Once a customer has submitted a booking request, MOTS will contact the taxi companies to check whether a suitable vehicle is available. Once vehicle availability has been confirmed, MOTS will calculate the cost of the taxi journey and inform the customer of the cost.

MOTS will then request customer details and payment details as MOTS will accept payment from either a debit or credit card. MOTS will verify the card details and confirm the payment.

On completion of a booking, MOTS will send two automatic emails, one to the customer to confirm the booking and the other to the taxi company with details of the journey booked.

The MOTS website will include an extranet service for the taxi companies which will provide a log of their past journeys and a diary of all their future bookings.

At the end of each month, MOTS will transfer monies to each taxi company's account and provide a printed statement for the taxi company detailing all journeys made in the month. The bank will provide MOTS with electronic statements showing the payments made to each taxi company.

INTERNAL MEMORANDUM

To: Company Executive   **From: N Collas, CIO**

SUBJECT: POSSIBLE USE OF MOTS BY TAXI COMPANIES

SUMMARY

1. As requested, the information below is a summary of the results of our survey regarding the possible use of the proposed MOTS development by taxi companies. I am pleased to report that the large majority of those companies that responded were in favour of MOTS.

2. The survey questionnaire was sent to 1000 taxi companies and consisted of a list of questions with simple Yes/No response boxes. A section was allowed at the end of the questionnaire for taxi companies to raise any special issues or comment on the proposal to develop MOTS.

SURVEY RESPONSES

3. A total of 729 responses were received and a summary is shown in the table below:

Question	Yes	No
Would you be prepared to use the MOTS system?	523	206
Is the proposed 11 month development time too long?	628	101
Do you usually have empty taxis on one part of an airport journey?	576	153
Do you have minibuses?	403	326
Do you have limousines?	225	504
Do you have vehicles with wheelchair access?	502	227
Would you make all your vehicles available for MOTS?	600	129
Are you happy with the proposed 7.5% commission?	481	248
Do you have any other issues?	467	262

NEXT STEPS

4. The majority of the 467 "other issues" comments were generally concerned with security, training requirements and the length of time proposed for the development. Given this number of comments, these three issues must be addressed and I therefore recommend the Company Executive consider:

    ● engaging a security consultant to advise regarding a range of security options;
    ● how training might be provided for all users of MOTS;
    ● using iterative, rather than linear, development methods, to reduce the 11 month development period.

5. Please note that I have retained all the returned questionnaires, should any of you need to examine the detailed responses.

END OF CANDIDATE BOOKLET

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