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AS GCE

APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

G041/01/IC How Organisations use ICT

INSTRUCTIONS FOR CANDIDATES

JUNE 2016



INFORMATION FOR CANDIDATES

- This document consists of **16** pages. Any blank pages are indicated.

NOTICE TO CANDIDATES

The work you submit for these pre-release tasks **must** be your own.

- If you copy from someone else or allow another candidate to copy from you, or if you cheat in any other way, you may be **disqualified** from at least the subject concerned.
 - You **must** always keep your work secure and confidential while you are preparing it. **If it is stored on a computer network, keep your password secure. When printing work, collect all copies from the printer and destroy the copies you don't need.**
 - Any materials (e.g. books, information from the internet, etc) that you have used to help complete this work **must** be clearly acknowledged in the work itself.
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- All work **must** be submitted to your teacher once completed. Ensure you include your name, candidate number and centre number on all pages and that each page is hole-punched in the top left hand corner and secured with a treasury tag.
 - **You must not submit any materials other than your response to the pre-release tasks.**
 - When you hand in your completed tasks, you will be required to sign that you have understood and followed the regulations by completing a Candidate Authentication Statement.
 - Your work will be returned to you at the start of the exam, in the exam room. At the end of the exam you **must** attach **all** tasks to your question paper using the treasury tag.

ALWAYS REMEMBER:

YOUR WORK MUST BE YOUR OWN

PRE-RELEASE TASKS – INSTRUCTIONS FOR CANDIDATES

Read the attached case study and these instructions carefully, then do the tasks detailed below. There are two types of task.

In Task 1 you will produce notes that will help you to answer questions in the examination for this unit. The other tasks will be marked and will contribute up to 30 of the 100 marks available for this unit.

You will need your completed tasks when you take the examination for this unit.

The work produced in response to the pre-release tasks **must** be submitted to your teacher when it is completed. The work **must** be presented as a hard copy.

It is not acceptable for you to copy large parts of material from other sources as the tasks require you to apply your knowledge to the case study. Any books, information leaflets or other material (e.g. videos, software packages or information from the internet) which you have used to help you complete this work **must** be clearly acknowledged in the work itself. To present material copied from books or other sources without acknowledgement will be regarded as deliberate deception.

You **must not** submit any material other than your response to the pre-release tasks.

The work **must** be collated so that it is presented in task order.

Each page of the work **must** be marked clearly with your name, centre number and task number.

When you have completed the tasks you **must** sign and date a Candidate Authentication Statement. You **must** then ask your teacher to sign to confirm that the work is your own.

Task 1

Do your own research and make notes which:

- describe the job functions/departments in Progress Vinyl Music Stores (PVMS);
- describe the roles of the personnel in PVMS;
- describe the main processes carried out by PVMS, including the inputs, the processing, the calculations and the outputs involved;
- describe the ICT systems used in PVMS;
- investigate the issues with the current system identified by the directors and managers of PVMS and recommend improvements that could be made.

Task 2

At the end of each week, each store manager must decide which items in their store need to be re-stocked.

Draw a diagram to explain how information moves, within PVMS and with outsiders, during the process of re-stocking a store. The process starts when the Store Manager has decided what items are needed. The process finishes when the orders are reconciled in head office.

Your diagram should show:

- who sends the information;
- who receives the information;
- the types of information communicated;
- the method by which the information is communicated.

[15]

Task 3

The Managing Director of PVMS wants to improve network communications between the stores and head office, and centralise procedures for recording stock.

Do some research and produce a word-processed report for the Managing Director of PVMS. Your report must explain how these improvements could be made and evaluate their impacts on PVMS and its staff.

Briefly evaluate the method(s) you used to complete this report.

The work you produce for Task 3 **must not** exceed 500 words, including the evaluation of the methods you used.

You **must** include a word count.

Marks will be awarded for the quality of written communication in your answer.

You **must** acknowledge all information sources you used. This is not included in the 500 words.

[15]

Progress Vinyl Music Stores (PVMS) case study

Introduction

PVMS is a company that operates a chain of specialist music stores across the UK. The company specialises in selling vinyl records and the hi-fi equipment needed to play them. The company's head office is in the same building as their Newtown store.

Goods supplied

The company sells newly released vinyl singles, extended play recordings (EPs) and albums when they are released by record companies. PVMS also buys and re-sells pre-owned vinyl singles, EPs and albums. These include some rare recordings that are much sought after by collectors. The hi-fi equipment sold includes separate record turntables, amplifiers and loudspeakers, as well as complete systems. These range from budget through to top-of-the-range models. PVMS also sell pick-up cartridges and replacement styluses, so that customers can get the best sound from their records. Each store has one or more sound-proofed rooms where customers can listen to records played on different hi-fi equipment to help them decide what to buy. There are also record players with headphones for customers to listen to pre-owned records, so they can judge the quality before they buy. The company does not have a warehouse. All stock is held in the individual stores.

Staffing and job functions (see Appendix 1 – Organisational structure)

The Managing Director, who owns the company, oversees its day-to-day running. Two assistant directors report to the Managing Director. These are the Retail Services Director and the Office Services Director. Each director is responsible for several job functions. The Retail Services Director is responsible for the marketing and purchasing functions. The Office Services Director is responsible for the finance, human resources (HR) and administration functions. All of these functions are based in the company's head office. The Retail Services Director is also responsible for the sales function in the stores. The company does not have its own ICT support function but has a contract with an external ICT support company.

Retail services

The Marketing Manager is in charge of the marketing department. Two marketing assistants report to the Marketing Manager. It is this department's responsibility to promote and advertise the company to increase sales, and to make customers aware that the company also buys pre-owned vinyl records. The marketing assistants write 'wanted' advertisements to be included in the classified advertisement columns of newspapers that are local to each of the stores. They also produce advertisements for the products that the company sells to be included in specialist magazines. The Marketing Manager negotiates the purchase of advertising space in these magazines. The department collects sales data from the stores and analyses it to find out whether particular stores or products are not performing as well as others to help focus future advertising. The marketing assistants keep the company's website up-to-date.

The Purchasing Manager is responsible for ordering all new records and hi-fi equipment for all the company's stores. The purchasing clerks create purchase orders and send them to the relevant supplier. They also reconcile delivery notes, received with the goods, against the purchase orders to make sure that all goods ordered have been received.

Each store is run by a store manager. An Equipment Sales Manager and a Records Sales Manager report to the Store Manager. Equipment sales assistants and records sales assistants report to the relevant sales manager. Their main role is to sell goods to customers. Each store also has a sales cashier who reports directly to the Store Manager. The role of the sales cashier is to take and record customer payments.

Part of the Store Manager's role is to purchase pre-owned vinyl records to sell and to make sure that these are correctly priced. The Store Manager must also keep track of all new records and equipment sold and the money received.

Office services

Finance clerks keep records of the money coming into and going out of the business. Money coming into the business will be the money received from sales in each store. Money going out of the business will include payments to suppliers, staff wages and overheads, such as energy bills and rent.

A small team of HR assistants is responsible for all aspects of staff recruitment, welfare and training. Administration assistants deal with all correspondence and other general office tasks such as ordering office supplies. They will also contact the ICT support company if there is a problem with the computer systems in the head office or the stores.

Finance clerks, HR assistants and administration assistants report directly to the Office Services Director.

ICT systems in head office

All the computers in head office are connected in a local area network (LAN) with a single server. A router provides a broadband connection to the internet that can be used from all computers. Each member of the head office staff has a computer on their desk. There is at least one networked black and white laser printer in each department. The marketing department has a high-quality colour laser printer. This is connected to one of the department's computers and set up as a local printer. All the standard office software is stored on the server. The server also stores the desktop publishing software that is used by the marketing department, and a bespoke accounting package that is used by the finance clerks. All data is also stored on the server and can be accessed from all computers, but only by staff who are authorised to do so. For example, only staff in the HR department can access personnel records.

ICT systems in stores

Each store has four computers connected in a wireless LAN with a single server. One computer is in the Store Manager's office, one is on the sales cashier's desk and there is one computer in each of the record sales and equipment sales departments. The computers in the sales departments each have a barcode reader connected to them. Each computer has a black-and-white laser printer connected to it, which is set up as a local printer. A wireless router provides a broadband connection to the internet that can be used from all workstations. The sales cashier has a chip-and-pin card reader that uses the wireless router to connect to the banking system via the internet. All software and data is stored on the server. This includes:

- spreadsheet software for recording payment details;
- separate stock databases for new vinyl records, pre-owned vinyl records and hi-fi equipment;
- standard office software.

Each store maintains its own stock databases.

Sales procedures in stores

As there are separate databases for new vinyl records, pre-owned vinyl records and hi-fi equipment, each type of goods must be processed separately and separate invoices are produced for each.

For hi-fi equipment sales, an equipment sales assistant enters their user ID and password to log on to the department's computer. This opens the data input screen for the equipment stock database. The sales assistant's name plus the current date and time are displayed on the screen. The sales assistant then scans the barcode of each item being purchased. The product code is used to look up the description and price of each item, which are displayed on the data input screen. When all the items have been scanned, the sales assistant clicks the on-screen Total button. This causes the prices to be added together and the total to be displayed. The VAT element of the total is also calculated and displayed. The sales assistant then clicks the on-screen Print button. A unique invoice number is generated and two copies of an invoice are printed (**see Appendix 2**). Both copies are given to the customer.

The procedures for sales of new vinyl records are similar to those for sales of hi-fi equipment but a records sales assistant uses the new vinyl records stock database.

If the customer is buying pre-owned vinyl records, the procedure is slightly different. Pre-owned vinyl records do not have barcodes. Instead, each is given a unique accession number, which is handwritten on a label that is stuck onto the record cover. When they have logged on, the records sales assistant opens the data input screen for the pre-owned vinyl records stock database and enters each accession number using the keyboard. The accession number is used to look up the title, type (single, EP, album), condition and price for each pre-owned vinyl record. These details are displayed on screen. When all the accession numbers have been entered, the sales assistant follows the same procedure as for other goods to produce an invoice and print two copies. Clicking the Print button causes a 'sold' flag to be set in the database against each accession number included on the invoice.

If a customer is buying more than one type of goods, separate invoices are printed for each type. When the customer has invoices for all the goods they want to buy, they take all the invoices to the sales cashier. The sales cashier uses spreadsheet software to record payment details. The data entry form for the spreadsheet is shown below in **Fig. 1**.

Sales Input Screen			
Date	<input type="text"/>		
Invoice 1 No.	<input type="text"/>	Type <input type="text" value="v"/>	Value <input type="text"/>
Invoice 2 No.	<input type="text"/>	Type <input type="text" value="v"/>	Value <input type="text"/>
Invoice 3 No.	<input type="text"/>	Type <input type="text" value="v"/>	Value <input type="text"/>
Customer Total	<input type="text"/>		
Card	<input checked="" type="radio"/>	Card No.	<input type="text"/>
Cash	<input type="radio"/>	Amount tendered	<input type="text"/>
		Change due	<input type="text"/>
<input type="button" value="Submit"/>			

Fig. 1

A function is used to look up and display the current date. The sales cashier keys in each invoice number and its value and uses the drop-down list to enter the type. This can be NVR (new vinyl records), P-OVR (pre-owned vinyl records) or EQ (equipment). A formula in the Customer Total box adds the invoice values as they are entered. When all the invoice details have been entered, the sales cashier tells the customer how much is displayed in the Customer Total box. Most customers pay by credit or debit card. They hand their card to the sales cashier who selects the Card radio button and enters the card number. The sales cashier then inserts the card into the card reader, which processes the payment and prints two copies of a card receipt. The customer copy of the card receipt is stapled to one copy of the invoice(s) and handed to the customer. The store copy is stapled to the remaining copy of the invoice(s) and put in a tray beside the sales cashier's computer.

On the rare occasions that a customer pays by cash, the sales cashier selects the Cash radio button and enters the amount of cash the customer has tendered. A formula subtracts the Customer Total from the Amount tendered and displays the result in the Change due box. This amount of change is given to the customer. The sales cashier stamps both copies of each invoice as paid and adds their initials. One copy of each invoice is given to the customer, while the second copy is put in the tray. When the transaction is complete, the sales cashier clicks the Submit button. All the data except the Amount tendered and Change due is copied into a separate summary sheet and the form is cleared ready for the next customer.

Procedures for stocking store

For new vinyl records and hi-fi equipment, when the sales assistant scans the barcode, the number-in-stock field for that item in the relevant stock database is reduced by one. At the end of each week, the Store Manager checks both stock databases and identifies any items which have low stock levels. The Store Manager then decides how many of each item to order or, if sales of a particular item have been slow, not to order any more. A word-processed template is used to list all the required items and quantities. The Store Manager emails this requirements list to the Purchasing Manager in head office. The Purchasing Manager collates the requirements lists from all the store managers and creates a requirements list for each supplier. Each list includes all the items required from that supplier and the total quantity of each. The Purchasing Manager also creates distribution instructions. These instructions detail how many of each item is required by each store. It includes items from all suppliers. The Purchasing Manager emails the distribution instructions to the company's distributor. The supplier requirements lists are saved on the head office server.

One of the purchasing clerks accesses a supplier requirements list via the LAN and uses it to create a purchase order. The purchase order is passed to the supplier using EDI (electronic data interchange). The supplier sends the goods and a delivery note to the distributor by lorry. The distributor checks the items received from each supplier against the delivery note, which is then posted to the purchasing clerks. The distributor then uses the distribution instruction to gather together the items required by a particular store from all the company's suppliers and creates a new delivery note for each store. The goods and new delivery note are delivered to the store by courier and received by the Store Manager. A purchasing clerk reconciles the delivery notes received from the distributors with stored copies of the purchase orders. The Store Manager files the new delivery note for future reference.

The Purchasing Manager's email address is on the mailing lists of the record companies. When a record company releases a new vinyl record, the Purchasing Manager is notified. The Purchasing Manager decides how many copies each store is likely to sell and orders the number required.

Buying pre-owned vinyl records

Store Managers buy pre-owned vinyl records from members of the public who bring them to the store, and from auctions. When a member of the public brings in a vinyl record they want to sell, the Store Manager must first look at the condition of both the record and its cover and will reject the record if it is badly worn or if it has a badly damaged cover. The Store Manager next considers the rarity of the record title. There are a number of sites on the internet that contain details of old vinyl records and their possible value. The Store Manager searches the World Wide Web (WWW) for these sites to confirm decisions made from personal experience. The Store Manager decides how much the record can be sold for in the store and offers the owner a price that takes account of the store's profit margin and the VAT the store will need to charge.

The Store Manager uses the WWW to find out about local auctions that have vinyl records for sale. The auction house websites allow the Store Manager to look at the lots available to decide whether any are worth bidding for. Although bids can be placed online, the company policy is for the Store Manager to visit the auction in person, so that they can personally determine the condition of the records before bidding.

The Store Manager attaches a sticker with a unique accession number on the cover of each vinyl record acquired and enters its details in the pre-owned vinyl records stock database. The details will include the title, type, condition, date acquired, price paid and selling price.

Procedures for keeping accounts

At the end of each day the sales cashier in each store gives the store copies of all the paid invoices to the Store Manager. The Store Manager checks the invoices against the summary sheet of the sales cashier's spreadsheet. At the end of each week the Store Manager uses the summary sheet to calculate the total income generated from sales of each type of goods for that week. The pre-owned vinyl records stock database is used to calculate the total paid out to buy pre-owned records in that week. The Store Manager emails these figures to the finance clerks in head office.

A finance clerk enters the sales figures from all the stores into the sales ledger section of the bespoke accounting package. As all sales are subject to VAT, the VAT element of each sales figure is calculated and subtracted. The net (without VAT) sales figures and VAT charged are displayed separately. The figures for buying pre-owned records are entered in the purchase ledger section of the accounting package. The finance clerks receive invoices from suppliers. These show the net cost of the goods or services supplied and the VAT charged. The finance clerks arrange payment of the invoices and enter the net cost and VAT into the purchase ledger. The accounts package is linked to the payroll system. Each month the accounting package uses the data from the sales and purchase ledgers and the amount of wages paid from the payroll system to update the company's cash flow forecast. Every three months, the accounting package produces a statement of the VAT owed to Her Majesty's Revenue and Customs (HMRC). The total VAT charged to customers is calculated by adding all the VAT values in the sales ledger. The total VAT paid to suppliers is calculated by adding all the VAT values in the purchase ledger. The VAT paid is subtracted from the VAT charged. The result is the amount of VAT that the company must pay to HMRC. At the end of each financial year, the accounting package produces a balance sheet and an income statement. These show the financial health of the company and are required by HMRC to determine how much the company must pay in taxes.

Issues with the current systems

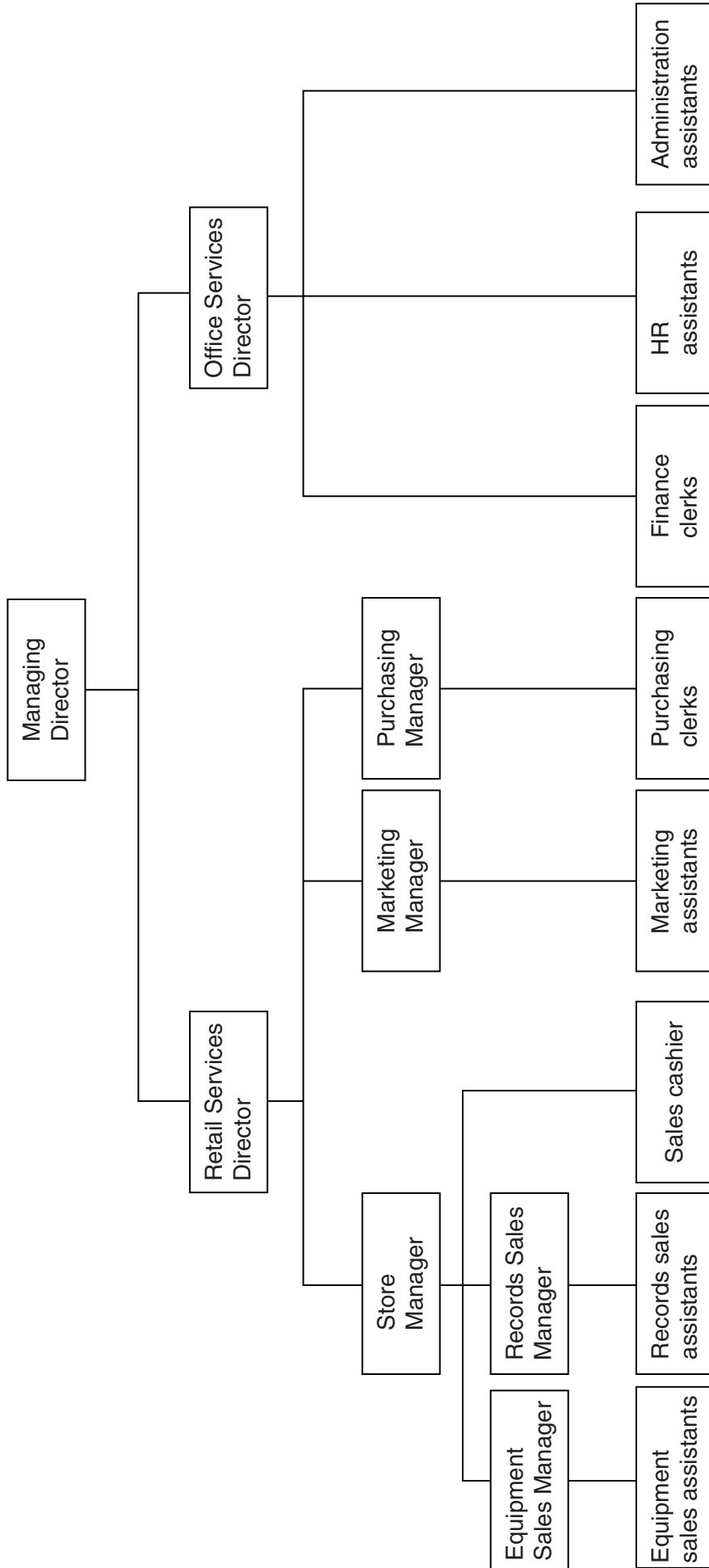
The company started with just one store, which operated in a very specialist market. Over recent years there has been a resurgence in the demand for vinyl records, with many artists and recording companies choosing to release titles on vinyl as well as digital media. This resulted in the company opening a number of stores in different parts of the country and setting up a head office above the original Newtown store. The company's ICT systems have not kept pace with the expansion of the business and systems have remained very store-focused, with no central storage of stock details. This

means that, if a customer wants a particular vinyl record or piece of hi-fi equipment that is out of stock in their local store, all the other stores have to be contacted to try to locate the item. While many customers like to use the stores rather than buying online because they can listen before they buy, such delays may make them buy elsewhere. The Managing Director is worried that sales are being lost to online retailers and wants to improve the company's network communications in order to centralise procedures for recording stock and speed up locating items for customers.

When store managers check invoices against the values recorded by the store's sales cashier, they often find discrepancies. Stores are losing money because of this, either because customers are being undercharged or because they are losing customers who find they have been overcharged. The current system for recording sales was manageable when there was only a small specialist market but has become more and more unmanageable as the number of customers has grown. The store managers want a more streamlined system for recording sales that removes the need to re-enter data.

The Managing Director is aware that many of the company's competitors sell online but has made a conscious decision not to do so. Instead, the company promotes its unique selling point that customers can listen before they buy. The company does have a website that promotes this message and displays contact details of all the stores, with interactive maps to locate them. The website also includes details of all the hi-fi equipment stocked and the most recent new vinyl records. The marketing assistants update these details regularly. It is hoped that centralising stock-recording procedures will improve the information that the website can provide. While the Managing Director does not want to offer e-commerce, other services that the internet could offer are being considered.

Appendix 1 – Organisational structure





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