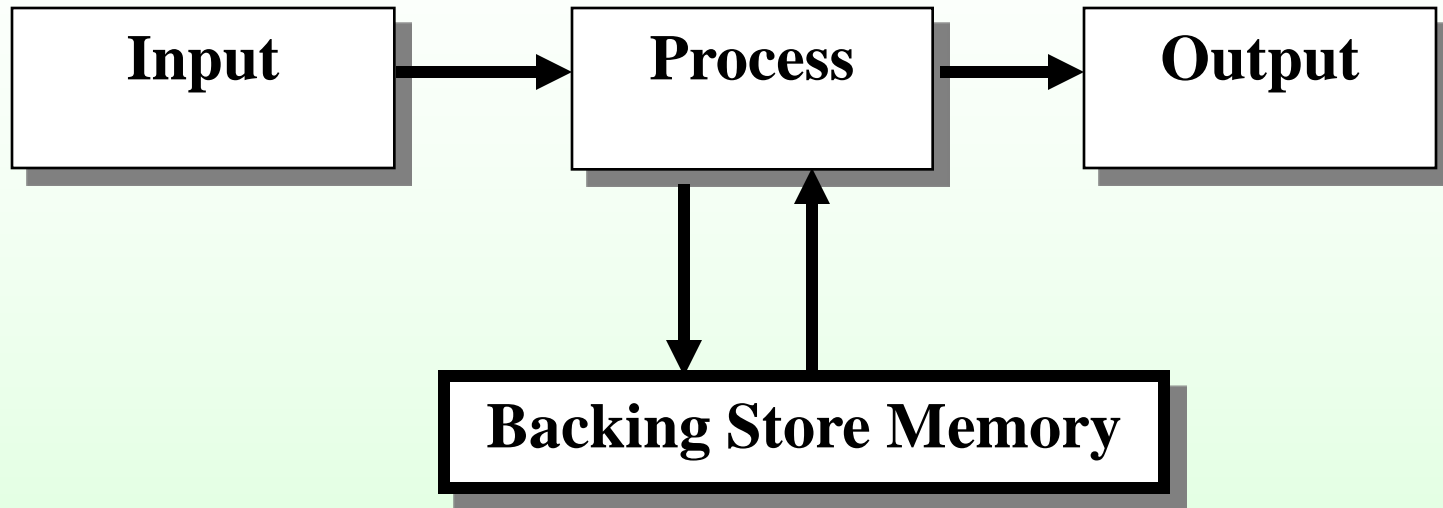


Paper 2
2004

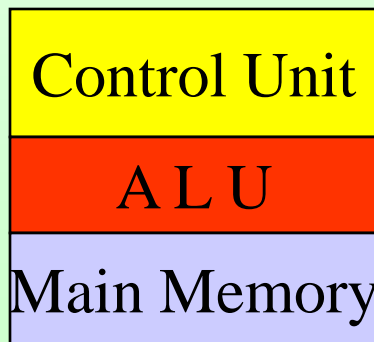
ICT GCSE

Higher Tier

THE C.P.U.



Inside the processor



Control Unit controls the step by step running of the program

Arithmetic and logic unit

Stores users programs when executing them

[Back to files](#)

Embedded



Palmtop



Laptop



Microcomputer



Mainframe



Which is bigger?

Bit

Bit

Binary digit 0 1

Byte

Byte

8 bits

Kilobyte

Kilobyte

1024 bytes in a kilobyte

Megabyte

Megabyte

Megabyte is $=2^{20} = 1048576$
bytes = 1024 K (million bytes)

Gigabyte

Gigabyte

Gigabyte is $=2^{30} = 1024$ Mb
(thousand million bytes)

RAM

Random Access Memory

is temporary memory

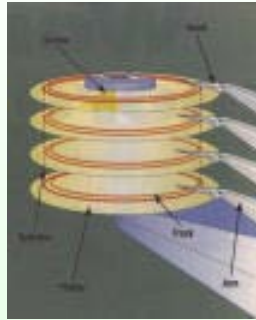
ROM

Read Only Memory

is a permanent memory

Memory

Magnetic



Backing Store

Optical CD ROM

Disk cache



Software

Operating system

IS A PROGRAM

What does it do?

- **Controls Input and output devices**
- **Controls users program** ; *step by step running of them*
- **Handles interrupts** *e.g. pressing the reset key*
- **Allocates memory**

Types of operating system

Batch processing

Have to wait until all user jobs are there before they are run



Realtime Process Control

Inputs immediate affect the outputs.
Time **IS** critical

e.g air traffic control Nuclear power stations

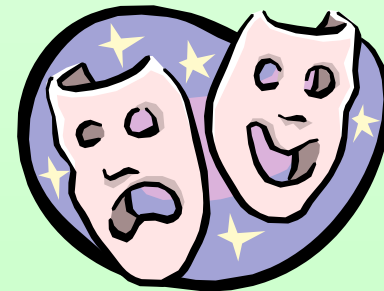


Realtime transaction

Inputs immediate affect the outputs

Time is **NOT** critical

e.g Booking systems Theatre, concerts



Graphical User Interfaces

- **W**indows
- **I**cons
- **M**enus
- **P**ointers

- **O**n screen assistants
- **O**n line Tutorial
- **F**avourite settings

Advantages

Don't have to remember commands

Intuitive easy to learn

Disadvantages

Takes up memory

Slow down machine

Others types

DOS

Menu drive

Voice driven



Databases and Files

- **A database** is an **organised** collection of **related files** of data
- **A file** is an **organised** collection of **related records**
- **A record** is a collection of **related fields**
- **A field** is a collection of **related data**

Keyfield is the field that uniquely identify a record

[More on files](#)

[Go to example database](#)

Data types

ID Number	Integer number
Name	String
Postcode	String
Date of Birth	Date
Cost	Real or Currency
Y/N	Boolean

Checking Data for Errors

Verification

‘Process of checking that data has been copied over correctly from one medium to another’

TRANSCRIPTION ERRORS Typing errors Typing in the wrong character by accident eg 2 instead of a 7

TRANSPOSITION ERRORS Swapping i.e. keying in in wrong order e.g. 56789 instead of 57689

These can only be checked by

Double entry keying in and cross checking

a careful visual check

Scanned in data e.g. barcode

Parity checks

Validation

Process of checking data is LEGAL and VALID

Range checks Between 1 and 999

Input masks ##00 0##

Format checks 99/99/99

Batch total

Hash totals

Automatic Stock Control

Barcode reader

Verification

Validation

Sort into order of master file

Sorted Transaction File

Master file

- Look up prices
- Calculate No Sold
- Reorder new goods

Updated master file

Sales reports
Orders

Verification Parity check on barcode

Validation

-
-

Format checks

Range checks

Check digit

Transaction files

Temporary file

It contains detail of all transactions that have occurred in the last period of processing;

Master file

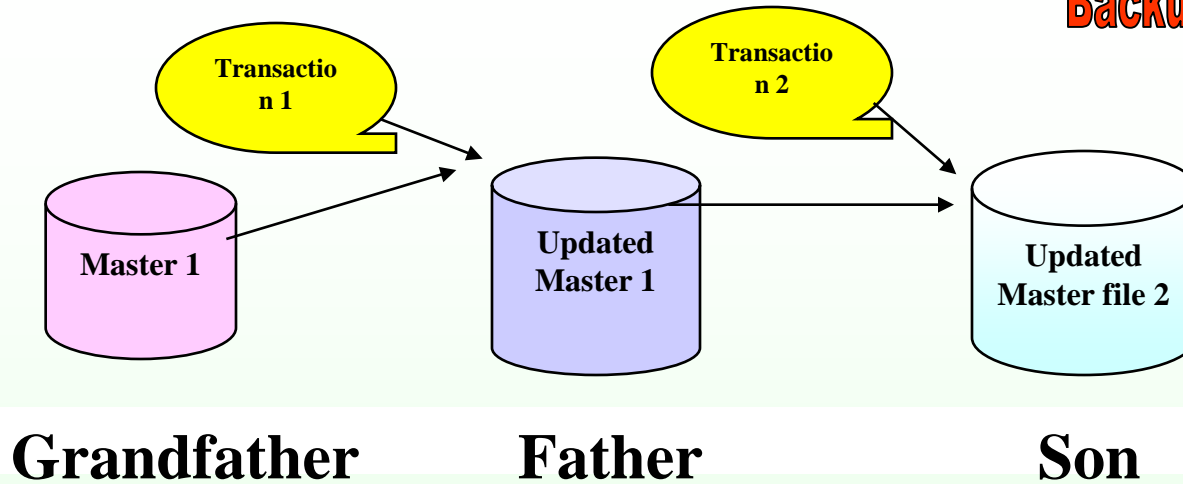
Permanent file

kept up to date by applying the transaction file

Operating system

Realtime transaction

Backup for stock control



Physical Protection of the data.

- keep BACKUP copies in a safe place
- put the write protect notch on your disc
- keep copies in fireproof boxes or computer discs in fireproof rooms.
- Lock computers to desks

Software protection for data

- Passwords
- Virus scanning
- Encryption

Computers **linked** together

Networks

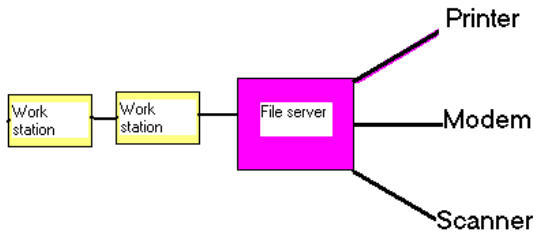
LAN Local area networks

WAN Wide Area networks

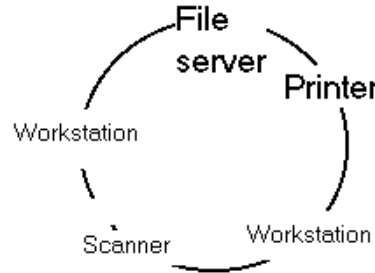
Contained on one site

across many sites or cities

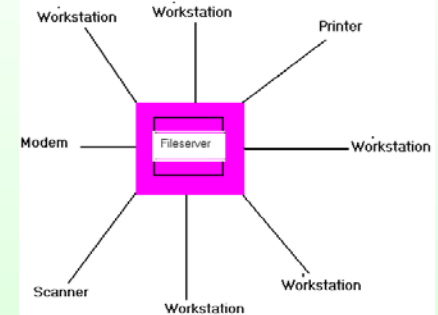
BUS



RING



STAR



Shared files

Share programs

Share printers and disc

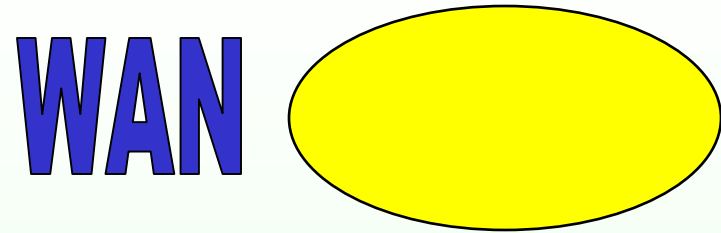
Peer to Peer

Peer to Peer

Client server

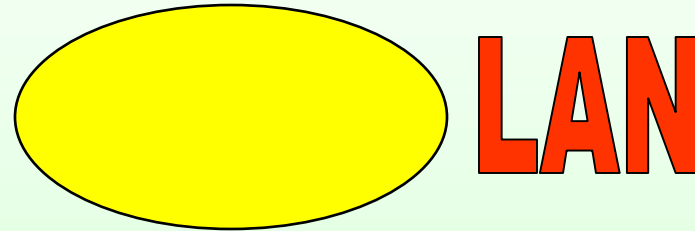
Intranet

A network of networks connected by *gateways*



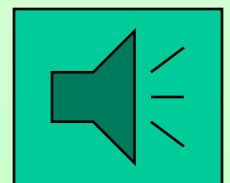
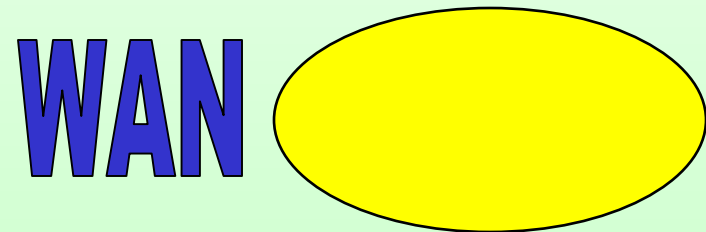
Intranet

An internal network.



Extranet

If a company allows access to its intranet from outside. Access from outside would be through a *firewall*.



Data Transmission

- Post



- Fax



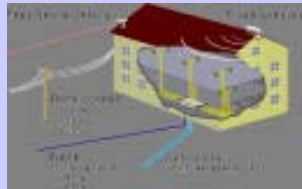
- Radio



- Satellite



- Cable



- Microwave



- Infra red



- Video conferencing



- Email



Computers and The Law

The Computer Misuse Act 1990

- Hacking



- Blackmail using
•computer



- Spreading a virus

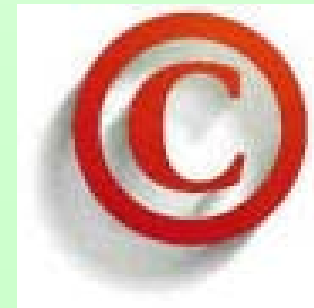


The Copyright Act

Illegal to copy software

Types of copyright crime

- **Illegal copying : -software piracy**
- **Purchasing one legal copy and loading it into several computers memory**
- **Downloading software over the Internet creating a copy.**



The Data Protection Act

Data was wrong

Hacking into personal data

Being asked for data which was irrelevant to the purpose
e.g. What is your religion ?

Length of time data was held on computer about them

Data given for one purpose e.g. medical data was being sold on to companies who produce mailing lists for junk mail.

Computers and The Law



What can we do?

Demand to see data and have it corrected

Must have good security passwords etc.

Justify and register why they need that data

Get rid of any unused data when finished with

Not allowed to sell data on.

Principles of the Data Protection Act

- 1. Personal data shall be kept up to date and accurate .**
- 2. Personal data obtained only for one purposes must not used for another**
- 3. The data must be relevant to the purpose for which it is given**
- 4. Personal data shall not be kept for longer than is necessary**
- 5. It should be kept secure against unauthorised access and loss**
- 6. Personal data shall not be transferred to a country outside the EEC**

Exemptions on data

1. **Personal data** required by the **Inland revenue**
2. **Personal data used by national security or a solicitor** in a legal case
3. **Personal data** kept by the user on himself or family e.g. files on birthdays, addresses etc.



Systems Analysis and Design

Analysis

Questionnaires; Interviews; Observation; Existing doc.

Feasibility study

Cost Lost Jobs

Cost New hardware and programs running costs

Benefits Savings in wages

Benefits Faster processing = more customers = more profit

Systems design

Data capture form; Files; Output forms and reports

Hardware and software ; Staff training manuals

Implementation

- Install hardware and software

- Train staff

Direct changeover or **Parallel running**

Maintenance

- User and technical documentation

- Correct any future errors

Other applications

Datalogging

e.g. Weather data collection

Sensors

Temperature

Rainfall

Pressure

Wind speed

Store data

CD

Floppy disc

Hard disc

Advantages

24 hours a day 7 days a week

Accurate readings

Accurate recordings

No humans need to be there

Disadvantages

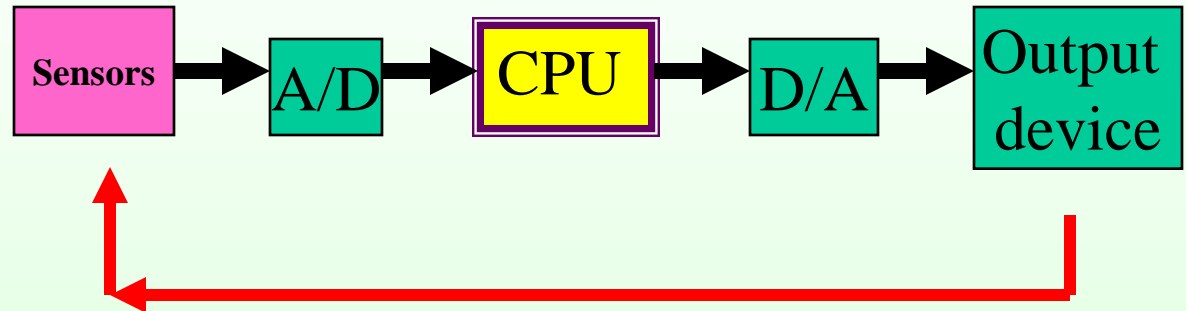
Over reliance

Program errors or sensor errors could

cause errors in data

Cost of equipment

Control Feedback Loop

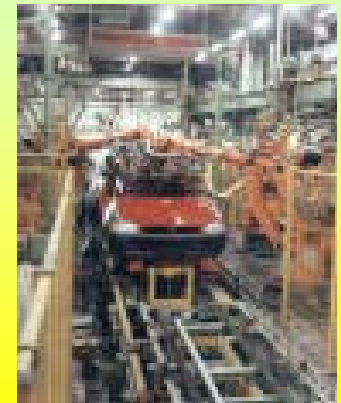


Robots are basically microprocessor-based computer control systems.

E.g. in a car manufacturing process robots might

- manufacturing components
- assembling / welding parts
- 'fetching and carrying' parts.

paint-spraying



Advantages of using robots?

- they can work in dangerous or unhealthy environments
- they can be reprogrammed quickly to do new jobs

Writing new program.

Teaching physical movement.

Observation- (pattern recognition)

- they can tirelessly perform repetitive and monotonous tasks
- labour costs can be reduced
- quality of work is consistent
- robots can work 24 hours a day so - increased productivity

Online booking systems



Travel agents now use remote online databases for their customer enquiry and booking system e.g .British Airways Booking System, (BABS) or Thompson's booking system called TOPS, via **gateways**. The travel agents form a **closed user group**

i.e. they subscribe a certain amount each year and in return they get a password and identity code which allows them access to certain holiday databases.

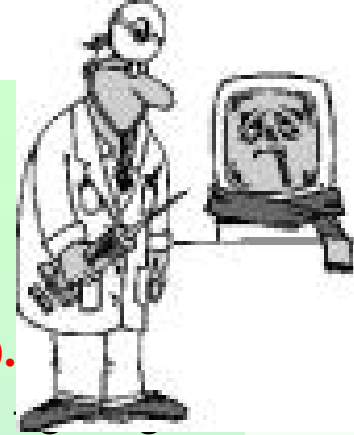
Advantages to the travel agents.

- The database is available 24 hours a day
- Agents do not have to spend hours on the phone contacting different tour companies so reduces telephone charges and time taken to find a suitable holiday.
- Fewer agents are required so lower payroll bill
- Access to data on a wide range of holidays including special offers.

Advantages to Customers

- Bookings are instantaneous in real time transaction so little possibility of overbooking because once a seat or holiday is provisionally booked this will appear on the database.
- Other choices can be offered if 1st choice not available.

Computers and Doctors



Hospital Administration.

Databases are kept of patients and their medical records.

Hospital staff can access these from terminals around the hospital (**LAN**).

Also hospital computers are linked to a **WAN** connecting many hospitals information about bed availability, transplants etc

Computers are also used to monitor patients in the Intensive Care unit and in Expert systems.

In addition to the patient records file the doctor uses other files

To help manage the surgery

Spreadsheets

To keep accounts

DTP

To produce letters and posters

Communications

To link into the local hospitals

WAN

Diary software

To record appointments

Control software

To run burglar alarms

Expert Systems

A **knowledge-based system** which attempts to replace a human 'expert' in a particular field.

It diagnoses problems and gives advice on that the cause of those problems are. They can also give advice on solutions.

The system will consist of;

- **Knowledge database** – large database
- **Inference Engine** a set of rules for making **deductions** from the data (inference engine)
- **User Interface** with facilities for **searching** the knowledge database

There are special high level languages used to program expert systems eg **PROLOG**

Examples

A **medical diagnosis** expert system (eg MYCIN) would have information about diseases and their symptoms, the drugs used in treatments etc.

A patient is asked by a doctor about symptoms and the replies are input to the expert system. The computer searches its database, uses its rules and makes suggestions about the disease and its treatments. Sometimes probabilities are assigned to diagnoses.

The computer does not take the place of the doctor but can be used to help the doctor make decisions.

- Medical screening for cancer and brain tumors
- Matching people to jobs
- Training on oil rigs
- Diagnosing faults in car engines
- Legal advisory systems
- Mineral prospecting

Advantages.

- The computer can store far **more information** than a human.
- It can draw on a wide variety of sources such as knowledge from books, case studies
- The computer does not '**forget**' or make mistakes.
- Data can be kept **up-to-date**.
- The expert system is always **available** 24 hours a day and will never 'retire'.
- The system can be used at a **distance** over a network. So rural areas or even poorer third world countries have access to experts.
- Provides accurate predictions with probabilities of all possible problems with more accurate advice.
- Some people prefer the privacy of talking to a computer.

Disadvantages

- 👎● Over reliance upon computers
- 👎● Some ‘ experts’ could loose their jobs or not be given training if computers are available to d the job.
- 👎● Lacks the 'human touch'! – lack of personal contact
- 👎● Dependent upon the correct information being given if data or rules wrong

UNISYS



HOLMES 2®

Thursday October 11th, 1910

hrs

Dai's House

Dai Davies Peech
leaves home to attend
the Royal Welsh.
He is expecting to be
away for about a week.
His daughter Emma (22) is
left alone in charge of the house.



•Emma works at Pontop View Hotel.

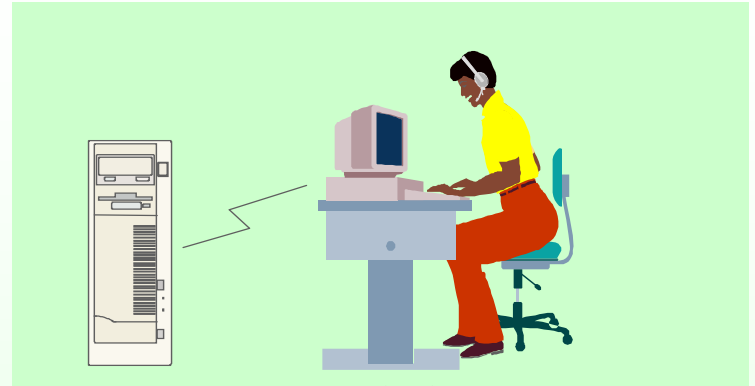


•The **Green Party Ramblers** Association holds a function that same evening at the hotel.

•Emma leaves the hotel at 23.35 and is never seen alive again.

•On Tuesday 16th October her body is found in the bedroom. There is evidence of a struggle and robbery.

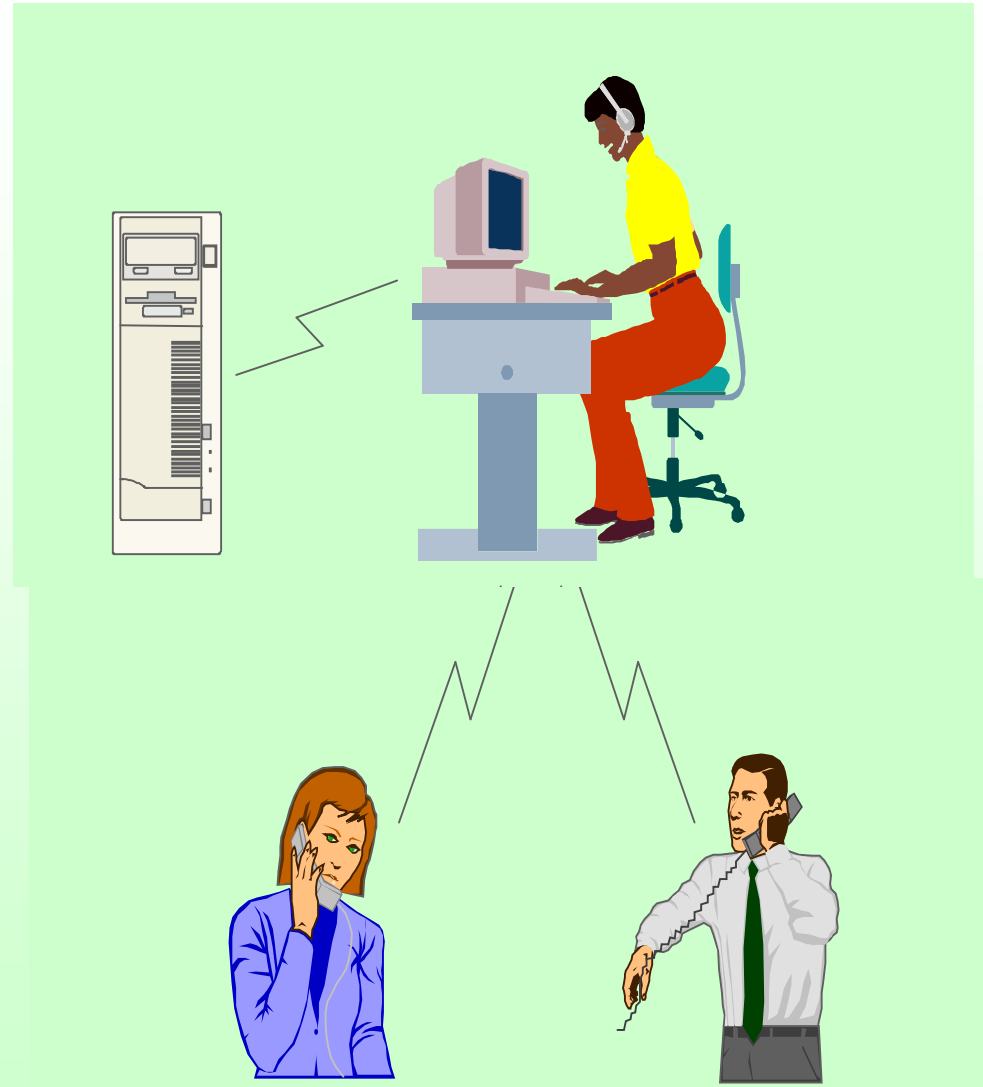
Tuesday October 16th, 1530 hrs
Investigation Incident Room



- **A murder enquiry is underway and HOLMES 2 is mobilised, ready for use. To initiate the incident, the system administrator has merely to configure users and their roles for this investigation and identify the enquiry teams on the system.**

Tuesday October 16th,
1930 hrs
Investigation Incident
Room

**A police appeal for
witnesses is
broadcast by the
media.
The Incident Room
prepares for high
telephone activity.**



Mobilising Public Assistance

Wednesday October 17th,
0900 hrs
Criminal Investigation
Department HQ

- In response to last night's b received. The caller is Joe B where Emma worked on Sa
- The message text is entered automatically enters the oth number is automatically all
- The telephone message is re of enquiry is begun.

Type Message (Unregistered) - M51

Help

Message No: Message Type:

From/To: Date: Time:

Address:

Post Code: Officer Receiving/Sending:

Tel. (Home): (Rank, Name, Number)

(Business): (Other):

I was at the Pontop View Hotel on Saturday 13th October. I saw Emma Peech leave the Hotel at 23.35 hours

2
message

line

Wednesday October 17th, 0930 hrs
Criminal Investigation Department
HQ

Now that the message has been recorded on the system, it is examined by an officer who creates an Action to visit Joe Barnes to take a Statement.

An appropriate enquiry officer is selected, and a copy of the Action is printed for the officer.

Raise Action

Main * Tags

Text: TST N410 Joe BARNES - saw victim leave hotel.

Resume: TST N410 JOE BARNES - SAW VICTIM LEAVE HOTEL.

Force ID: 99 Force Name: DAGPORT POLICE

Station ID: HQ Station Name: HEADQUARTERS

Class ID: VICT Class Description: VICTIM

Sub Class 1:

Sub Class 2:

Originating Document: M51 Print? Priority: Low Medium High

Originating Details:

Associated Documents:

Print? Print? Print? Print? Print? Print?

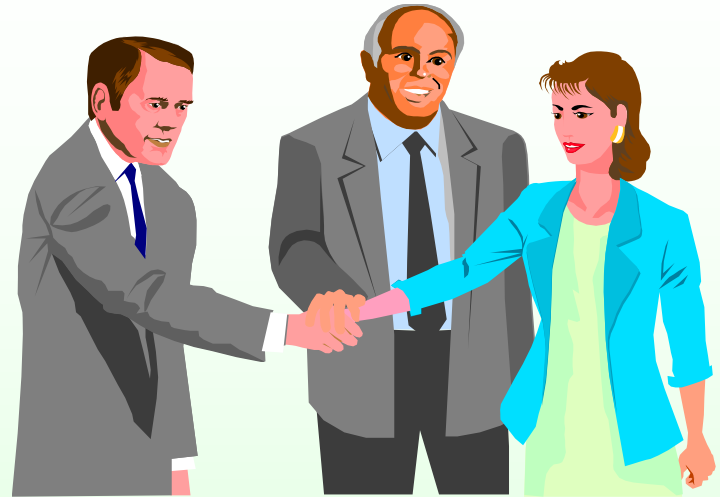
Linked Actions:

Current Index List (1)

Ref:	Description:
N410	BARNES JOE

Create Display Message Cancel

Wednesday October 17th, 1430 hrs
Joe Barnes' Residence



- **The Police visit Joe Barnes to get a full statement from him.**
- **The officers also compile a physical description of Joe Barnes himself.**
- **The resulting Statement and Personal Descriptive Form (PDF) are returned to the Incident Room, and the Action is marked as “Complete”.**

Taking a Statement

Wednesday October 17th, 1630
hrs
Investigation Incident Room

**A record is created for
Joe Barnes in HOLMES 2.**

**Every person connected with
the enquiry is recorded in
HOLMES 2**

**The PDF collated by the enquiry
officers is linked to the
record for Joe Barnes.**

Update Nominal N410 BARNES JOE

Nominal No.: **N410**

Names: Unknown Unidentified

Surname: **BARNES** Qualifier:

Forenames: **JOE**

Title: **MR** Sex: **MALE** Ethnic Appearance: **1** **WHITE EUROPEAN**

Age: Default - U + DoB: **14/09/1963 D** from: **37** to: Height: from: **1.79** to:

Place of Birth: **SLOUGH**

Occupations (1): - U + Rank:

Occupation: **CONTRACTOR** Officer No.:

Employer/School Name: **SELF EMPLOYED**

Cross References (6)

X-Ref	Use	Description
TELEPHONE	BUSINESS	01234 098765
TELEPHONE	HOME	01234 567890
M51	SUBJECT	16/10/2000 BARNES JOE .
M51	BARNES	SAW VICTIM LEAVING PONTOP VIEW HOTEL AT 2335HRS ON SUNDAY 13TH OCTOBER
A342	SUBJECT	TST N410 JOE BARNES - SAW VICTIM LEAVE HOTEL .

Chart Register Print Merge Dup Xref PNC
OK Save Update Mode Create Xref Index List Add Doc Xref Cancel

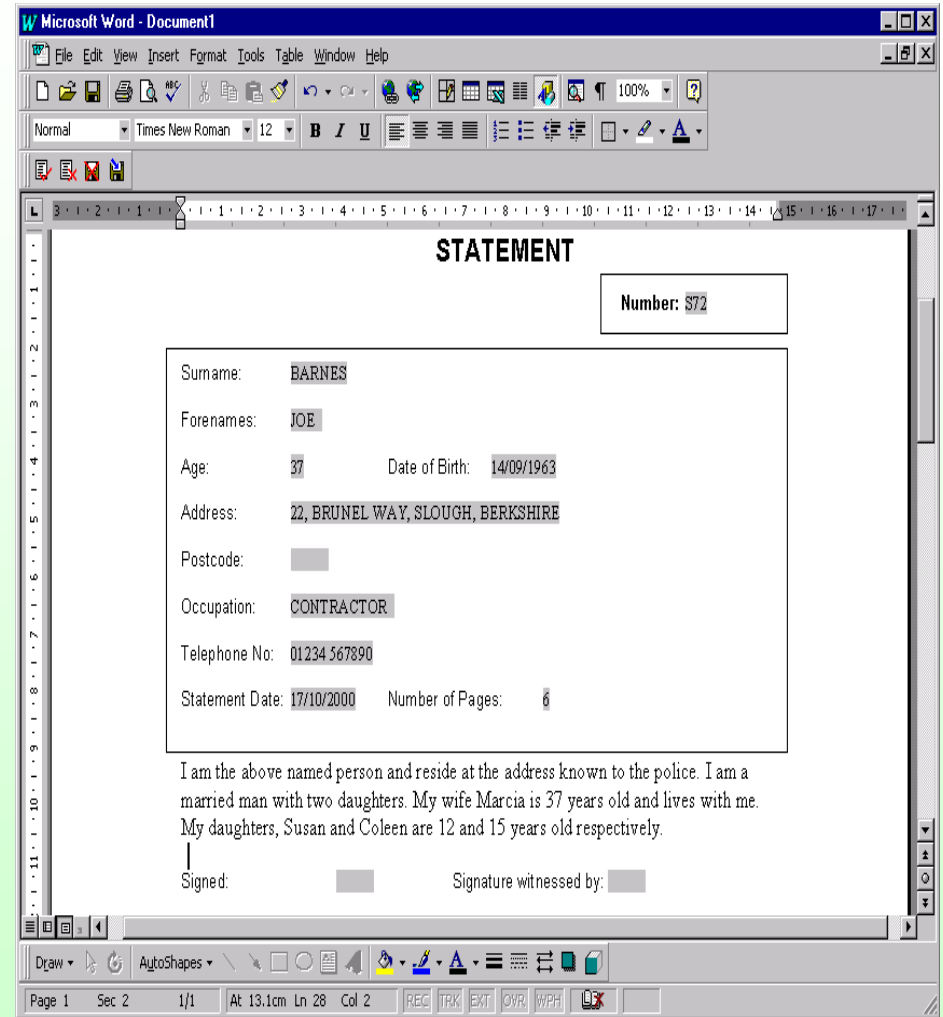
Nominal Records

Wednesday October 17th, 1700 hrs
Investigation Incident Room

**Joe Barnes' Statement now
needs to be typed up for access
by HOLMES 2.**

**This Statement is also linked
to the record for
Joe Barnes.**

**HOLMES 2 uses Microsoft Word
to provide the word processing
for all Documents which are stored
as part of the investigation.**



The screenshot shows a Microsoft Word document titled "Microsoft Word - Document1". The document content is as follows:

STATEMENT

Number: 372

Surname: BARNES
Forenames: JOE
Age: 37 Date of Birth: 14/09/1963
Address: 22, BRUNEL WAY, SLOUGH, BERKSHIRE
Postcode:
Occupation: CONTRACTOR
Telephone No: 01234 567890
Statement Date: 17/10/2000 Number of Pages: 6

I am the above named person and reside at the address known to the police. I am a married man with two daughters. My wife Marcia is 37 years old and lives with me. My daughters, Susan and Coleen are 12 and 15 years old respectively.

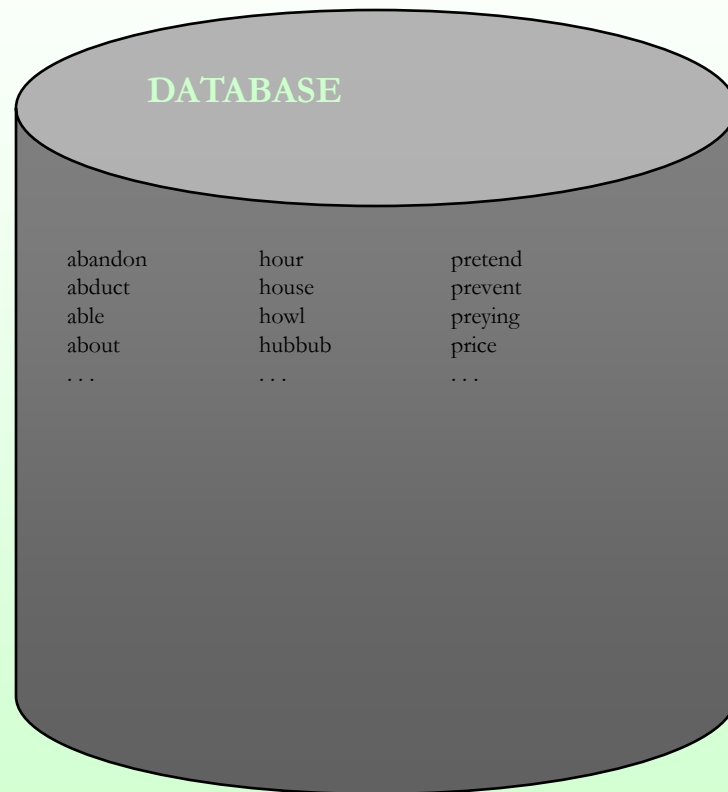
Signed: _____ Signature witnessed by: _____

The status bar at the bottom indicates: Page 1 Sec 2 1/1 At 13.1cm Ln 28 Col 2

Statement is Typed

Wednesday October 17th, 1730 hrs
Criminal Investigation Department HQ

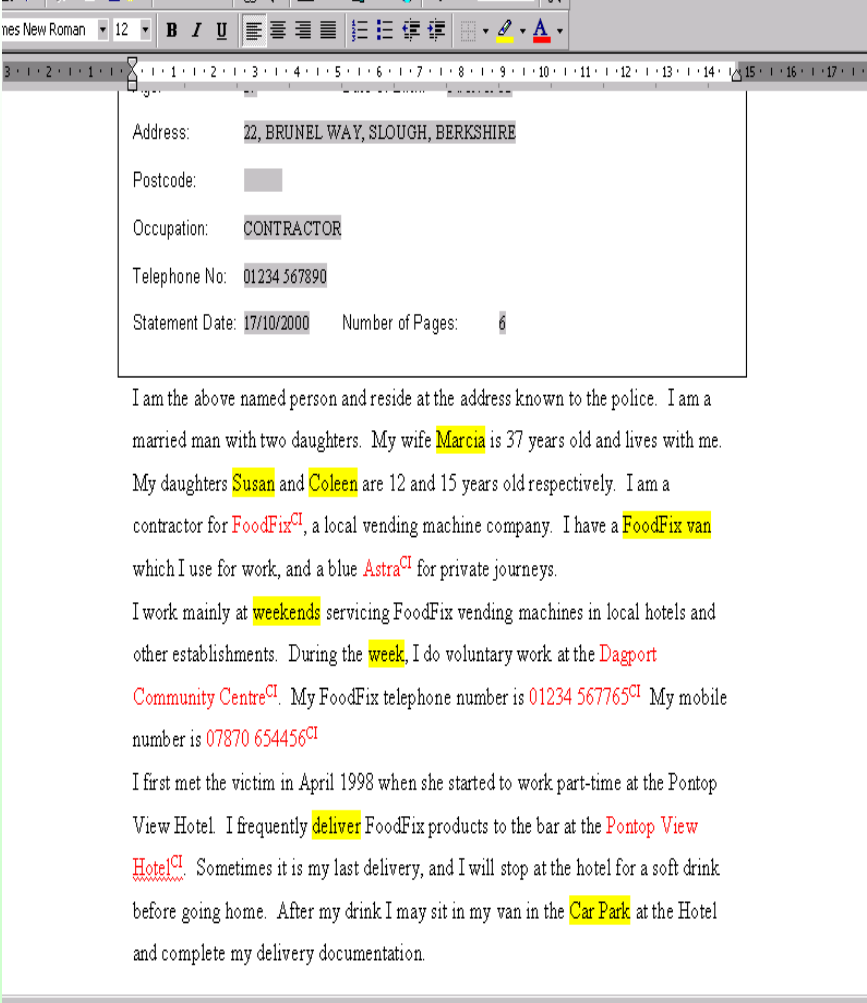
When the typing of a Document has been completed, it is immediately added to a database. This enables Detectives to start searching at the earliest opportunity for any document which may be connected to relevant information.



Investigation Information

Wednesday October
17th, 1800 hrs
Criminal Investigation
Department HQ

- **Joe Barnes' Statement now needs to to identify the important items of information.**
- **This process is known as Document Mark-up, and may be done on-line or off. The resulting Index Items and Actions are added to**
- **HOLMES 2 using the Graphical Indexing facility.**



Address: 22, BRUNEL WAY, SLOUGH, BERKSHIRE

Postcode: [REDACTED]

Occupation: CONTRACTOR

Telephone No: 01234 567890

Statement Date: 17/10/2000 Number of Pages: 6

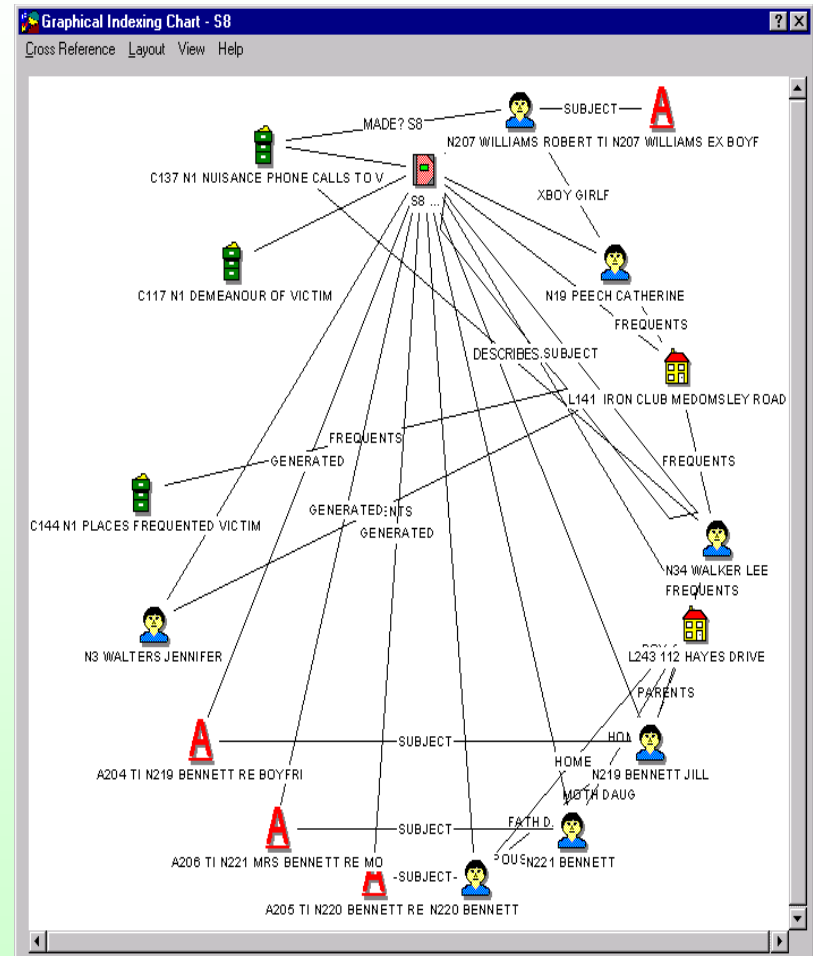
I am the above named person and reside at the address known to the police. I am a married man with two daughters. My wife **Marcia** is 37 years old and lives with me. My daughters **Susan** and **Coleen** are 12 and 15 years old respectively. I am a contractor for **FoodFix^{CI}**, a local vending machine company. I have a **FoodFix van** which I use for work, and a blue **Astra^{CI}** for private journeys.

I work mainly at **weekends** servicing FoodFix vending machines in local hotels and other establishments. During the **week**, I do voluntary work at the **Dagport Community Centre^{CI}**. My FoodFix telephone number is **01234 567765^{CI}** My mobile number is **07870 654456^{CI}**

I first met the victim in April 1998 when she started to work part-time at the Pontop View Hotel. I frequently **deliver** FoodFix products to the bar at the **Pontop View Hotel^{CI}**. Sometimes it is my last delivery, and I will stop at the hotel for a soft drink before going home. After my drink I may sit in my van in the **Car Park** at the Hotel and complete my delivery documentation.

Wednesday October
17th, 1900 hrs
Investigation
Incident Room

- Items are added to the indexed database from a marked-up Document. Joe Barnes' Nominal record already exists in the database since it was entered previously.
- As items are added (or confirmed), a graphical representation, called a Link Chart, of the information and relationships can be displayed.
- Items can be **cross-referenced** to each other, and to their originating Documents.



Thursday
October 18th,
0900 hrs
Criminal
Investigation
Department HQ

•Now that a reasonable amount of information has been recorded in HOLMES 2, the enquiry team starts to research the data to identify new lines of enquiry.

•One method used is a search of all document information to establish whether they have “missed” anything important.

•By searching on the key items, a list of information, ranked in order of relevance, is produced.

The screenshot shows the Neurodynamics Dynamic Reasoning Engine interface. The title bar reads "Neurodynamics Dynamic Reasoning Engine". The menu bar includes "File", "History", "Synonym", and "Help". The main window has three tabs: "Chart", "Query", and "Options". The "Query" tab is active, and the query input field contains the text "tell me about a bus trip". Below the input field, the "Query results" section displays a table of search results. The table has five columns: "S", "Relevance", "Entity type", "Description", and "Links". The results are ranked by relevance, with the highest being 80% for "House to House" and the lowest being 25% for several "Exhibits".

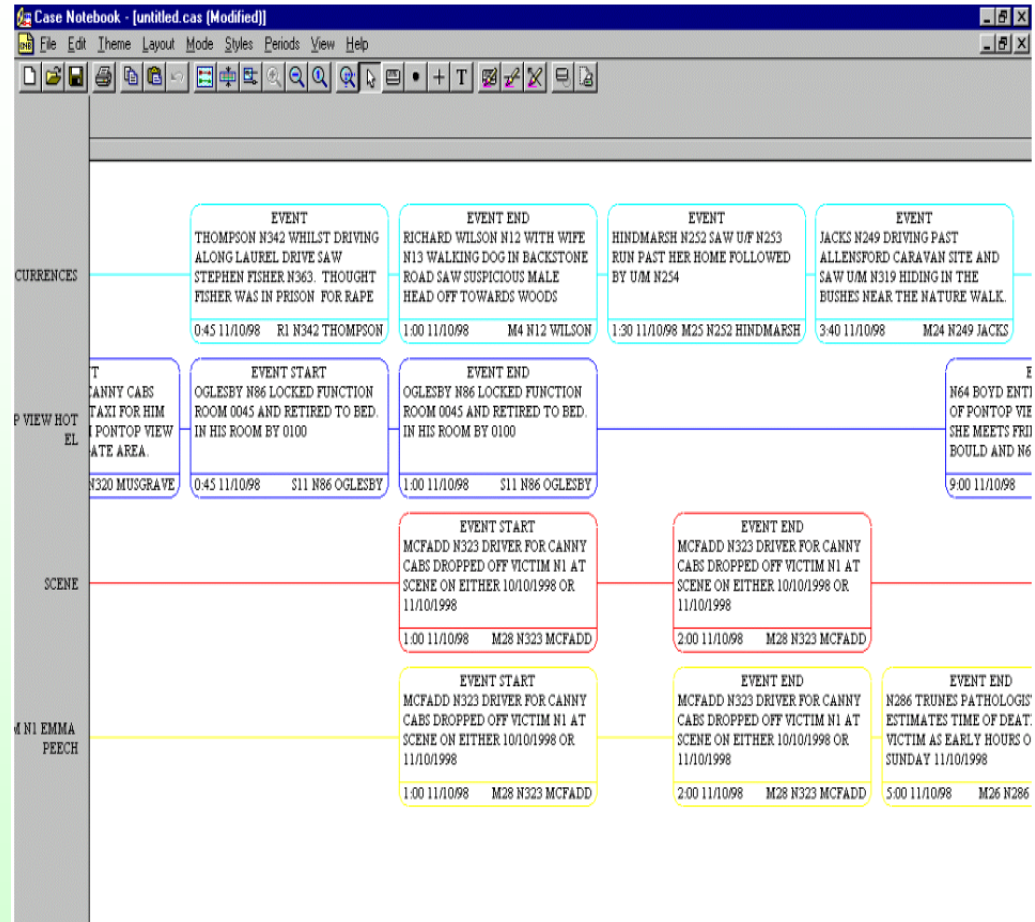
S	Relevance	Entity type	Description	Links
	80%	House to House	17/10/1998 OGLE ROB H00150801	(BUS, TRIP)
	49%	Actions	A162 TST OGLE N159 RE VI	(TRIP)
	49%	Actions	A165 TSTMCCRIVEN N160 RE	(TRIP)
	31%	Exhibits	X208 BUS PASS IN NAME J WITNESS	(BUS)
	30%	House	GALLOWGATE BUS STAT	(BUS)
	27%	Statement	13/10/1998 WALTERS S2	(BUS)
	27%	Other Document	16/10/1998 COPY OF D7	(BUS)
	26%	Statement	24/10/1998 MILNER V S44	(BUS)
	26%	Statement	01/10/1998 PEECH CA S15	(BUS)
	26%	Policy File	2000 13/10/1998 DECISION 001 PAGE	(BUS)
	26%	Statement	15/10/1998 FOSTER A S5	(BUS)
	26%	Statement	21/10/1998 POWELL M S30	(BUS)
	26%	Message	20/10/1998 HINDMARC M30	(BUS)
	26%	Actions	A286 TST CLARKE N336 RE	(BUS)
	26%	Actions	A179 TST DIXON N175 RE S	(BUS)
	26%	Actions	A303 TST N209 WILKINSON	(BUS)
	26%	Actions	A285 TST HINDMARSH N335	(BUS)
	26%	Actions	A180 TST LANCER N180 RE	(BUS)
	25%	Exhibits	X216 BLACK LEATHER BELT WITNESS	(BUS)
	25%	Exhibits	X215 CANNY CABS TAXI REC WITNESS	(BUS)
	25%	Exhibits	X214 NEWCASTLE BROWN ALE WITNESS	(BUS)
	25%	Exhibits	X213 BLACK LEATHER AND F WITNESS	(BUS)
	25%	Exhibits	X212 BLACK LEATHER AND F WITNESS	(BUS)
	25%	Exhibits	X211 BROWN HANDLED SHEAT WITNESS	(BUS)
	25%	Exhibits	X210 WHITE ASDA CARRIER WITNESS	(BUS)

At the bottom of the interface, there is a row of buttons: "Execute", "View", "Suggest", "Fuzzy", "Reset", "History", and "Quit". Below the main window, a status bar reads "Neurodynamics Dynamic Reasoning Engine | Found 58 matches |".

Free-Text Searching

Thursday October 18th,
0900 hrs
Criminal Investigation
Department HQ

- **At the same time, a detailed account of Emma's movements can be built from friends' and witnesses' Statements.**
- **By comparing this Graphical Sequence of Events and the results of the free-text search, the team establishes that on Friday 12th October, Emma was seen with Anthony Hickson, a hitherto unknown male.**



Graphical Sequence of Events

Thursday October 18th,
1000 hrs
Criminal Investigation
Department HQ

- **Anthony Hickson's index record can be retrieved directly from the Sequence of Events, or from a link chart.**
- **There is very little information in his record, so another Action is raised to gather more information.**

Display Nominal N13 HICKSON ANTHONY JAMES

Nominal No.: N13

Names: Unknown Unidentified

Surname: HICKSON Qualifier: _____

Forenames: ANTHONY JAMES

Title: MR Sex: MALE Ethnic Appearance: 1 WHITE EUROPEAN

Age: _____ DoB: _____ from: _____ to: _____ Height: _____ from: _____ to: _____

DoB (0): _____

Place of Birth: _____

Occupations (0): _____

Occupation: _____ Rank: _____

Officer No.: _____

Employer/School Name: _____

Cross References (0)

X-Ref	Use	Description
-------	-----	-------------

Chart Register Print Merge Dup Xref PNC
OK Save Update Mode Create Xref Index List Add Doc Xref Cancel

Index Searching

Thursday October 18th,
1000 hrs
Criminal Investigation
Department HQ

- Now that Anthony Hickson has been identified as an important suspect, the Senior Investigating Officer wants to be notified of all new information regarding him.
- The Automatic Index Monitoring facility can be configured to recognise when new information is entered according to certain criteria. Every time a match is encountered, a message is produced.

The screenshot shows a software window titled "Create Nominal Query" with a "Help" button in the top right corner. The "Query Description" field contains "PEECH SUSPECT". Below this are several tabs: "Nominal Details", "PDF 1", "PDF 2", "Other Information", and "Warning/UDF/Tags". The "Nominal Details" tab is active and contains the following fields:

- Nominal/Document No.: [] []
- Names: [] []
- Name Class: [] [] Unknown [] Unidentified []
- Surname: HICKSON [50] Qualifier: [] []
- Forenames: [] [] [] [] [] []
- Title: [] [] Sex: MALE [50] Ethnic Appearance: [] [] [] []
- Age: [] [] DoB: [] [] Age exact: [] [] Height exact: [] []
- Place of Birth: [] []
- Occupations: [] [] [] [] Rank: [] [] Officer No.: [] []

At the bottom of the window, there is an "Information Message" dialog box with an information icon and the text: "Automatic Index Monitoring: You have new results rated above the required threshold. Select New Results from the Automatic Index Monitoring menu." An "OK" button is located at the bottom of the message box.

Monitoring New Information

Thursday
October 18th,
1030 hrs
Criminal
Investigation
Department HQ

- **The Peech enquiry team receives a phone call from a neighbouring Police Force where another Green Party Ramblers Association function was held. After this function, a young girl disappeared.**
- **The two incidents can be linked to find similarities, and provide a further focus for the investigation.**
- **The HOLMES 2 Database Comparison facility automates the task of finding similarities by comparing individual records.**

The screenshot displays the 'Results for comparison philsdbc' window, which is divided into three tabs: 'Comparison Results', 'Direct Record Comparison', and 'Record Matches'. The 'Direct Record Comparison' tab is active, showing a 'Details - [35% Relevance]' section. This section contains several fields for comparing two records, with some fields highlighted in red to indicate matches or differences.

Tag 3:	Tag 4:	Tag 5:	Other Information:
			P54 PREVIOUS CONVICTIONS FOR WOUNDING AGGRAVATED BURGLARY AT
			H00080501 WAS CONVICTED OF RAPE IN 1967

Clothing Description:

P54	20/10/1998	NIKE TRAINING SHOES BLUE DENIM JEANS BLACK T SHIRT
H00080501	1430 11/10/1998	BLACK LEATHER BOMBER JACKET BLUE JEANS+++WHITE SHIRT AND DARK GREEN F

Date of Birth:

Date of Birth:	Default:	Distinguishing Feature - Feature:	Distinguishing Feature - BodyPart:
22/02/1970	D	TATTOO	ARM+++FINGER+++HAND
17/04/1942	D	SCAR+++TATTOO	FACE+++ARM

Distinguishing Feature - Position:

RIGHT+++LEFT
LEFT+++RIGHT

Keyword:

FEMALE FIGURE+++LETTERS
LETTERS

Description:

NUDE WITH WORDS I LOVE TOTTY ON F
5 INCH SCAR LEFT SIDE OF FACE+++NUI

Jewellery Description: **Hair Position:** **Hair Style:**

Key to Grid:

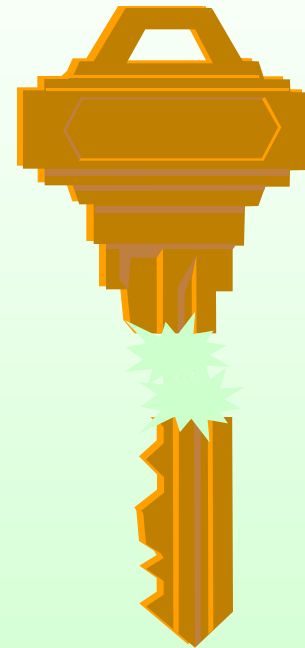
No Match	No Data	Truncated String	Synonym String	Exact Date	Exact Numeric
Not Compared	Exact String	Soundex String	Diphthong String	Approximate Date	Approximate Numeric

Print

Linking and Comparing Incidents

Thursday October 18th,
1030 hrs
Criminal Investigation
Department HQ

- **Many exhibits from the scene of Emma Peech's murder are available for the enquiry team to examine.**
- **Among them is a Yale key which was found snapped in the lock of the front door.**
- **Another is Emma's handbag which seems to have been ransacked, and her credit cards removed.**



Thursday October 18th,
1030 hrs
Criminal Investigation
Department HQ

**Credit
Cards**

**FINGER
PRINTS**

- **Over the next couple of days, the enquiry team monitors the use of Emma's credit cards, and the movements of Anthony Hickson.**
- **Emma's mother, Catherine Peech, confirms that Anthony Hickson had been a boyfriend of hers and was still in possession of a key to her house. She had not changed the lock since splitting with Hickson the previous month.**
- **From the information gathered, the team concludes that Hickson was the murderer.**



**Door
Key**

**Where
where
abouts**

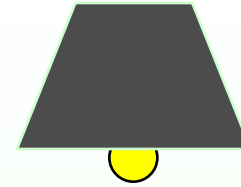
Progressing the Investigation

Saturday October 20th, 1030

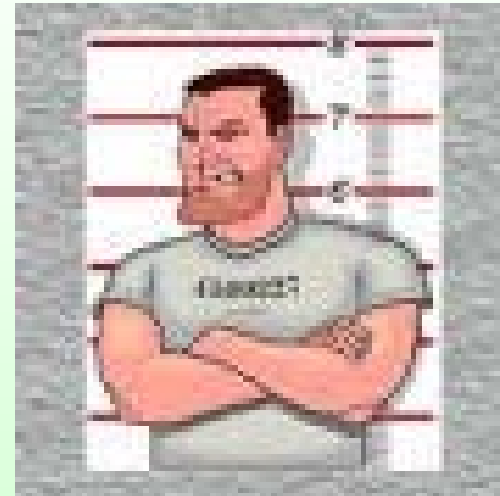
hrs

Criminal Investigation

Department HQ



- **By researching the HOLMES 2 database for the incident, it is possible to identify the suspect's movements, his clothing, cash withdrawals and his demeanour as described by witnesses.**
- **This information is vital during interviews with the suspect following his arrest, enabling officers to negate excuses and alibis offered by the offender.**



Apprehending the Suspect

Saturday October
20th, 1030 hrs
Criminal
Investigation
Department HQ



- **Once an investigation has been successfully completed, or the Senior Investigating Officer decides to wind up the investigation because all lines of enquiry have been exhausted, he writes his Closing Report.**
- **This is a summary of the incident including details of the events leading up to the incident, lines of enquiry followed, and the outcome of the enquiry.**
- **Since most of this information is already available in HOLMES 2, the report can be compiled quickly, and resource reassigned to new incidents.**

Closing the Case



[Return](#)