The Short Bay Information on

Prisoners System

(S H I P S)

System Specification

By

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T A B L E O F C O N T E N T S

1.0 Introduction

This report is a specification for the computerisation of the Prisoner's records at the Short Bay Prison. It was instigated by the Prison Governor who realised that the current manual system was inefficient and likely to be inaccurate with the steady increase of work caused by Government demands.

The Administration staff consists of a supervisor and six Guards who perform the clerical duties for the Prison. Over the past few years the clerical load, especially the reporting, has increased to the point where the staff are unable to cope satisfactorily. The Prison Governor called in a team of consultants, who recommended the computerisation of the prison records.

It has been decided that the development will be a server based PC/LAN strategy. No outside communication lines are envisaged. Initially there will be nine connected PCs. Three will be located in the clerical office and one in each of the five cell blocks and one in the hospital block.

The security of the system in regard to access to the hardware and access to the information stored has been one of the major concerns of the Prison Governor.

2.0 Background

Short Bay Prison is one of a number of Government operated prisons in the medium to high security classification. Prisoners are interned in Short Bay from periods ranging from six months to life depending on their sentence and their security rating. Prisoners are often transferred to low security prisons if they are of good behaviour. Occasionally prisoners are returned from low security prisons. Also troublesome prisoners are often swapped from one prison to another in the hope that the change of environment will have a beneficial effect on their behaviour.

Short Bay prison consists of four cellblocks called 'A', 'B', 'C' & 'D', all medium security and a high security cellblock (called 'E') for solitary confinement of high security prisoners. Also there is a hospital wing (called 'H') which has a fully equipped operating theatre where all but the most major of operations can be carried out by visiting doctors.

Within the prison walls there are :-

1. A prison kitchen, all meals are actually eaten in the cellblocks,
2. A prison laundry,
3. A metal-working shop (for automobile number plates),
4. A garden, for vegetables, the prison is quite proud of its self-sufficiency in vegetables,
5. A wood working shop, for prison furniture, repair and wooden articles for charity,
6. A prison library,
7. An administration building between the inner and outer walls (no prisoners are allowed in the administration building).

Except for high security prisoners, all other prisoners are expected to work in one of the above areas six days a week. This gives them an earning capacity to buy such things as cigarettes, sweets, books and personal articles.

The prison has provision for 480 medium security and 60 high security prisoners. Each cell block has three floors with 40 cells per floor. Each cell can contain a maximum of

three prisoners. The high security block ('E') has three floors also, each floor has 20 single occupancy cells. This cellblock is very rarely full.

The hospital block has 40 beds divided up over two floors.

There are 240 guards of which the majority work normal hours and are involved with the working activities of the prison (e.g. kitchen, metalworking shop).

3.0 System Overview

The main purpose of this system is to simplify the record-keeping and reporting of the prison clerical staff. If this system is successful then further systems will be added such as a complete record of Guards, Guard shift control and allocation, and the integration of costing and purchasing of the prison activities, e.g. the metal-working shop, these being of lower priority.

This system comprises of four sub-systems :-

1. The Prisoners' Sub-system, which maintains records of each prisoner,

2. The Cell Block Sub-system, which maintains records of the cells both medium and high security as well as the hospital accommodation.

3. The Accommodation Sub-system, which maintains records of Cell Allocation of prisoners, included in this sub-system is the application to find a free cell space.

4. The Security-Access Sub-System which maintains records of passwords and guards with access to the system. Included in this system is the Audit module which will allow tracing of changes to the prison database giving time, date, before and after images, Guard No and type of change.

4.0 Detailed System Specification

The structure of the tables in the system are outlined in Section 6. Validation of the screens are outlined in Section 7.

4.1 The Prisoner Sub-System

This sub-system maintains records of the prisoners' name, brief personnel details, sentence, parole information, and information on the prisoners location in the prison. As a prisoner may spend a number of periods in the prison this record is maintained online until the release date of the prisoner. if the prisoner receives further convictions then his release date will be updated.

Prisoners must be able to be accessed either by their number which is assigned manually when the record is added or by their surname, first name and first initial. If there is a clash then the second letter of the middle name will be used to make the entry unique. This should only be required on the addition of a second prisoner with the same name.

Provision should be made for the manual input of the second letter if there is a clash on the entry of a third prisoner with the same name. This function is not required in the current system. If the situation occurs then the prisoner should be rejected with an appropriate error message.

When a prisoner arrives, the date of arrival is entered into the system and this signifies that the prisoner is in residence. When a prisoner leaves the prison, his departure date is entered into the system, thus a prisoner whose departure date is greater than his arrival date is not in residence.

There are four online applications in this system :

1. Addition of a new prisoners details. No data on the prisoners location is entered at this stage.

2. Changing of details entered in the addition application.

3. Deletion of a prisoner details. This can only occur if the prisoner has never entered the prison. This application is intended to be used only when an error has been made in the addition of a prisoner's record.

4. Enquiries on a prisoner. There will be a number of differing types of enquires available depending on the security level of the enquirer, e.g. some enquires will show cell details others will not.

An archive program is also required that will list all prisoners whose sentence has been served. This program will also remove all of these prisoners from the prisoner table.

Included in this sub-system are the various report listings required. These are detailed in Section 8.0.

4.2 The Cell Block Sub-System

This sub-system maintains records of cells and hospital beds. It keeps track of the furniture in the cell and the condition of the cell.

Although the prisoners in the cell are in this table, the prisoners details are not maintained by this system.

There are four online applications in this system :

1. Addition of a cell/hospital bed. This task should only occur when the system is being set up. As well as identifying the cell to the system, details of the furniture and cell condition will also be added.

2. Changing of details entered in the addition application. A cell cannot be placed under repair if it holds prisoners. There must be an equivalent number of mattresses and beds to the number of prisoners in the cell.

3. Deletion of a cell details. This application is intended to be used only when an error has been made in the addition of a cell's record.

4. Enquires on a cell/hospital. There will be a number of differing types of enquires available depending on the security level of the enquirer, e.g. some enquires will show prisoners in the cell others will not.

Included in this sub-system are the various report listings required. These are detailed in Section 8.0.

4.3 The Accommodation Sub-System

This sub-system keeps track of the location of a prisoner. It allows allocation of a prisoner to a cell, moving of prisoners from one cell to another or to the hospital and the removal of a prisoner on the prisoners departure. Also the 'Find Cell' application will let the system find the most appropriate cell.

Cells should have the appropriate number of beds and mattresses for the number of prisoners in a cell. A cell under repair cannot hold prisoners.

There are five online applications in this system :

1. Allocation of a cell for a prisoner. This function will only be carried out on arrival of a prisoner to the prison. All prisoners must be assigned a cell, a prisoner going straight into hospital will still be assigned a cell. This application updates the last arrival date in the prisoners table as well as the prisoners cell allocation.

2. Find a cell. This application attempts to find a cell location for a prisoner. It uses the information in the prisoners record as well as information on other prisoners in cells. In attempting to find a cell a number of rules apply. They are:

    1. Preference is given to having three prisoners in a cell rather than two.
    2. Cells should be filled from the ground up.
    3. Prisoners of the same height and build are preferred in the same cell.
    4. Extreme differences are not allowed in height if only two prisoners are in the cell.
    5. High security prisoners must be assigned cells in cell block 'E'.

    The relative order of importance of these rules is - 5,4,1,2,3.

    N.B. In the allocation of a prisoner or the change of cell for a prisoner warning messages should be displayed if these rules are broken.

3. Change a cell/bed. This function allows a prisoner to be moved from cell to cell or to the hospital.

4. Departure of a prisoner. This application has two modes one when a prisoner leaves the prison which updates the departure date in the prisoners record, the second when a prisoner moves from the hospital back to his cell. A prisoner in hospital must have his hospital location deleted before he can leave the prison.

5. Enquires on a prisoner. There will be a number of differing types of enquiries available depending on the security level of the enquirer, e.g. some enquiries will show all prisoners in the cell others will not.

Included in this sub-system are the various report listings required. These are detailed in Section 8.0.

4.4 The Security Sub-System

This sub-system maintains records of guards and passwords and also enables the logging of all transactions. The maintenance of the guards and the passwords is fairly straight forward, the applications being addition, change, delete and inquiry. A password that is suspended cannot be used to gain access to the system.

The security rating of the password refers to the amount of information that is displayed by the various inquiry programs. Security level 1 is given minimal information, security level 9 has access to all information.

The associated cell block determines what cell block the holder of that password has access to. A cell block type of 'Z' has access to all cellblocks. Thus movement of prisoners between cell blocks has to be performed by a guard with access type 'Z'.

The associated sub-systems determines what access a particular password has.

The associated functions determines whether a guard using that password can add, change, delete and/or inquiry. The 'Find Cell' application is regarded as a change.

Included in this sub-system are the various report listings required. These are detailed in Section 8.0.

5.0 Hardware

The SHIPS system will be based on MS-Windows XP running under Windows 2005 Server with GUI[i] screens. The database will be SQL Server 2005.

6.0 DB Design

There are 7 relational tables in the system. They are :

1. Prisoners table,
2. Prisoners name cross reference table
3. Cellblock table,
4. Hospital bed table,
5. Audit table,
6. Password table,
7. Guards table.

N.B. These tables do not necessarily have to be set up individually, they may be combined as long as the index functionality is retained.

[i] It should be noted that the original version of this specification was written for a COBOL transaction based system. While most references have been modified, menu and screen controls refer to the original. In designing this system, appropriate labeled GUI buttons should be designed and displayed instead.

6.1. Prisoners Table

Field Name	Security	Size	Type
Prisoners Number(Key)		6	N
Prisoners Name :			
Surname	7	30	A
First name	7	15	A
Middle name	7	15	A
Age		2	N
Build		1	A
Height		1	A
Date of record		6	N
Date of last arrival		6	N
Date of last departure		6	N
Conviction		2x30	A
Date of Conviction		6	N
Sentence Length :			
Years		2	N
Months		2	N
Days		2	N
Initial parole period :			
Years		2	N
Months		2	N
Days		2	N
Current parole period :			
Years		2	N
Months		2	N
Days		2	N
Security Rating		1	N
Current Prison details :			
Cell block		1	A
Cell number		3	N
Bed block		1	A
Bed number		3	N
Work Location		3	X
Comments		2x30	X
Date of comment		6	N
Guard no		6	N
{To be added later }			
Psychiatric Details			
Psychiatrist's comment		*6x60*	*X*
Date of comment		*6*	*N*
Psychiatrist's name		*20*	*A*

6.2 Prisoners Name Cross Reference Table

Field Name	Security	Size	Type
Prisoners Name : (Key)			
Surname	7	30	A
First name	7	15	A
Other Initials	7	2	A
Prisoners Number		6	N

6.3 Cellblock Table

Field Name	Security	Size	Type
Cell block } Key		1	A
Cell number } Key		3	N
Cell floor		1	N
Cell Occupants :			
Prisoner 1 Number		6	N
Cell date		6	N
Prisoner 2 Number		6	N
Cell date		6	N
Prisoner 3 Number		6	N
Cell date		6	N
Cell Furniture :			
No of beds		1	N
No of mattresses		1	N
No of tables		1	N
No of chairs		1	N
Cell condition		1	N
Last painted date		6	N
Cell under repair		1	A
Comments		2x30	X

6.4. Hospital Bed Table

Field Name	Security	Size	Type
Hospital bed no (Key)		3	N
Hospital floor		1	N
Bed Occupant :			
Prisoner Number		6	N
Arrival date		6	N
Expected departure date		6	N
Comments		2x30	X

6.5. Audit Table

Field Name	Security	Size	Type
Date		6	N
Time		6	N
Guard's No		6	N
Prisoner's No		6	N
From cell no :			
Cell block		1	A
Cell number		3	N
To cell no :			
Cell block		1	A
Cell number		3	N
Type of change code		2	N
Type of Change		2x30	X

6.6. Password Table

Field Name	Security	Size	Type
Password (key)	9	6	X
Password Suspended		1	A
Security Rating		1	N
Associated Cell Blocks		1	A
Associated sub-systems		4	A
Associated functions		4	A
Password date		6	N
Entered by (guard no)		6	N

6.7. Guards Table

Field Name	Security	Size	Type
Guard no (key)		6	N
Guard name	8	30	A
Date of entry		6	N
Entered by(name)		30	A

7.0 Screen Layouts

Screen layouts will be consistent throughout the system and will conform to organizational standards. Errors in input fields will be high-lighted by making the field blink and a specific appropriate error message.

7.0.1 Log On Screen

Field Name	Size	Type	Range	Validation	Notes & Function
PASSWORD	6	X	FREE FORMAT	MUST BE PRESENT MUST BE IN PASS-WORD TABLE	ONLY 3 ATTEMPTS ALLOWED, NOT SHOWN ON SCREEN
GUARD NO.	6	N	1 - 999999	TABLE, MUST BE PRESENT	MUST BE IN GUARD

7.0.2 Menu Selection Screen

Field Name	Size	Type	Range	Validation	Notes & Function
MENU SELECT -ION FIELD	4	X	A-Z,0-9	Q OR APPLICATION NAME	Q - LOG UT ELSE APPLICATION CHOICE

7.1 Prisoner Table

7.1.1 Add a New Prisoner Application

7.1.1.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	MUST BE PRESENT UNIQUE	CHECK TO SEE NOT ALREADY IN TABLE
SURNAME	30	A		CANNOT BE BLANK IGNORE CASE	CHECK TO SEE NOT ALREADY IN X-REF TABLE. UPPER CASE
FIRST NAME	15	A		CANNOT BE BLANK IGNORE CASE	CHANGED TO LOWER CASE
MIDDLE NAME	15	A		OPTIONAL, IGNORE CASE	ONLY SE FIRST LETTER FOR X-REF NAME TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.1.1.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
AGE	2	N	18-99	MUST BE PRESENT	
BUILD	1	A	L,M,H	MUST BE PRESENT	SPECIFIES BUILD OF PRISONER L - LIGHT M - MEDIUM H - HEAVY
HEIGHT	1	A	S,M,T	MUST BE PRESENT	SPECIFIES HEIGHT OF PRISONER S - SHORT M - MEDIUM T - TALL
DATE OF RECORD	6	N	TODAYS DATE	NONE	ASSIGNED BY SYSTEM, CLEARS DEPART DATE, ARRIVAL DATE
CONVICTION	2X30	X	FREE FORMAT	MUST BE PRESENT	DETAILS OF OFFENSE
CONVICTION DATE	6	N	DATE < TODAY	VALID DATE	

7.1.1.2 Screen Two (contd)

Field Name	Size	Type	Range	Validation	Notes & Function
SENTENCE YEARS	2	N	0-50	OPTIONAL	} ONE OF THESE }FIELDS MUST BE }GREATER THAN
SENTENCE MONTHS	2	N	0-12	OPTIONAL	} ZERO } }
SENTENCE DAYS	2	N	0-31	OPTIONAL	} }
INIT.PAROLE YEARS	2	N	0-50	OPTIONAL	} ONE OF THESE }FIELDS MUST BE }GREATER THAN
INIT.PAROLE MONTHS	2	N	0-12	OPTIONAL	} ZERO , MUST BE } LESS THAN }SENTENCE
INIT.PAROLE DAYS	2	N	0-31	OPTIONAL	} }
CURR.PAROLE YEARS	2	N	0-50	OPTIONAL	} ONE OF THESE }FIELDS MUST BE }GREATER THAN
CURR.PAROLE MONTHS	2	N	0-12	OPTIONAL	} ZERO , MUST BE } LESS THAN }SENTENCE, IF
CURR.PAROLE DAYS	2	N	0-31	OPTIONAL	}BLANK SAME AS }INIT PAROLE
SECURITY RATING	1	A	L,M,H	MUST BE PRESENT	SPECIFIES HEIGHT OF PRISONER L - LOW M - MEDIUM H - HIGH
COMMENT	2X30	X	FREE FORMAT		IF NOT BLANK UPDATE GUARD NO
COMMENT DATE	6	N	TODAYS DATE	NONE	ASSIGNED BY SYSTEM, WHEN COMMENT CHANGED
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	Q-RETURN TO SCRN ONE - NO UPDATE E - RETURN TO MENU UPDATE RECORD BLANK - UPDATE & RETURN TO SCRN ONE

7.1.2 Change Prisoner Details

7.1.2.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	OPTIONAL	CHECK TO SEE IF IN PRIS. TABLE
SURNAME	30	A		IF NUMBER PRESENT IGNORE,ELSE MUST BE PRESENT	EITHER NUMBER OR SURNAME & FIRST MUST BE PRESENT
FIRST NAME	15	A		IF SURNAME PRESNT MANDATORY	CHANGED TO LOWER CASE
MIDDLE NAME	2	A		OPTIONAL	ONLY USE FIRST LETTER FOR X-REF NAME TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.1.2.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
AGE	2	N	18-99	MUST BE PRESENT	
BUILD	1	A	L,M,H	MUST BE PRESENT	SPECIFIES BUILD OF PRISONER L - LIGHT M - MEDIUM H - HEAVY
HEIGHT	1	A	S,M,T	MUST BE PRESENT	SPECIFIES HEIGHT OF PRISONER S - SHORT M - MEDIUM T - TALL
CONVICTION	2X30	X	FREE FORMAT	MUST BE PRESENT	DETAILS OF OFFENSE
CONVICTION DATE	6	N	< INIT DATE	VALID DATE	
SENTENCE YEARS	2	N	0-50	OPTIONAL	ONE OF THESE FIELDS MUST BE GREATER THAN

7.1.2.2 Screen Two (contd)

Field Name	Size	Type	Range	Validation	Notes & Function
SENTENCE MONTHS	2	N	0-12	OPTIONAL	} ZERO
SENTENCE DAYS	2	N	0-31	OPTIONAL	}
INIT.PAROLE YEARS	2	N	0-50	OPTIONAL	} ONE OF THESE } FIELDS MUST BE } GREATER THAN
INIT.PAROLE MONTHS	2	N	0-12	OPTIONAL	} ZERO , MUST BE } LESS THAN } SENTENCE
INIT.PAROLE DAYS	2	N	0-31	OPTIONAL	}
CURR.PAROLE YEARS	2	N	0-50	OPTIONAL	} ONE OF THESE } FIELDS MUST BE } GREATER THAN
CURR.PAROLE MONTHS	2	N	0-12	OPTIONAL	} ZERO , MUST BE } LESS THAN } SENTENCE,
CURR.PAROLE DAYS	2	N	0-31	OPTIONAL	}
SECURITY RATING	1	A	L,M,H	MUST BE PRESENT	SPECIFIES HEIGHT OF PRISONER L - LOW M - MEDIUM H - HIGH
COMMENT	2X30	X	FREE FORMAT	'!' IN CHAR. POS 1 -CLEARS COMMENT	IF CHANGED UPDATE GUARD NO
COMMENT DATE	6	N	TODAYS DATE	NONE	ASSIGNED BY SYSTEM, WHEN COMMENT CHANGED
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

N.B. Blank inputs are interpreted as no change to existing data, except for the comment.

7.1.3 Enquiries on Prisoner

7.1.3.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	OPTIONAL	CHECK TO SEE IF IN PRIS. TABLE
SURNAME	30	A		IF NUMBER PRESENT IGNORE,ELSE MUST BE PRESENT	EITHER NUMBER OR SURNAME & FIRST MUST BE PRESENT
FIRST NAME	15	A		IF SURNAME PRESNT MANDATORY	CHANGED TO LOWER CASE
MIDDLE NAME	2	A		OPTIONAL	ONLY USE FIRST LETTER FOR X-REF NAME TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.1.3.2 Screen Two

Information for the various enquires on prisoners will require a number of screens (displaying differing subsets) according to the type of password functions and cell block access of the enquirer.

Field Name	Size	Type	Range	Validation	Notes & Function
CONTROL	1	A	Q	Q OR BLANK	E-RETURN TO MENU BLANK - RETURN TO SCREEN ONE

7.1.4 Delete Prisoner Details

7.1.4.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	OPTIONAL	CHECK TO SEE IF IN PRIS. TABLE
SURNAME	30	A		IF NUMBER PRESENT IGNORE,ELSE MUST BE PRESENT	EITHER NUMBER OR SURNAME & FIRST MUST BE PRESENT
FIRST NAME	15	A		IF SURNAME PRESNT MANDATORY	CHANGED TO LOWER CASE
MIDDLE NAME	2	A		OPTIONAL	ONLY USE FIRST LETTER FOR X-REF NAME FELE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

N.B. Record cannot be deleted if last arrived date field has a date.

7.1.4.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
DELETE FIELD	6	A	DELETE	MUST BE 'DELETE' ELSE IGNORE	IF 'DELETE' THEN DELETE RECORD ELSE NO CHANGE
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

7.2 Cell/Hospital Block

7.2.1 Add Cell/Bed

7.2.1.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
CELL BLOCK	1	A	A,B,C,D E,H	MUST BE PRESENT	A,B,C,D -NORMAL WINGS E - HIGH SECUR. H - HOSPITAL
CELL NUMBER	3	N	1-240	MUST BE PRESENT A,B,C,D - 1-120 E - 1-240 H - 1-40	CELL/BED MUST NOT BE IN TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.2.1.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
CELL FLOOR	1	N	1-3	MUST BE PRESENT IF 'H' THEN 1-2	HOSPITAL ONLY HAS 2 FLOORS
NO. OF BEDS	1	N	0-3	A,B,C,D MAX 3 E MAX 1,H IGNORE	HOSPITAL ALWAYS HAS A BED
NO. OF MATTRESSES	1	N	0-3	A,B,C,D MAX 3 E MAX 1,H IGNORE	HOSPITAL ALWAYS HAS A MATTRESS
NO. OF CHAIRS	1	N	0-3	A,B,C,D MAX 3 E MAX 1,H IGNORE	BLANK ASSUME ZERO
NO. OF TABLES	1	N	0-3	A,B,C,D MAX 1 E MAX 1,H IGNORE	BLANK ASSUME ZERO
CELL CONDITION	1	N	1-9	MUST BE PRESENT	1 - BAD 5 - OK 9 -GOOD
LAST PAINT--ED DATE	6	N	TODAYS DATE OR LESS	MUST BE PRESENT VALID DATE	
CELL UNDER REPAIR	1	A	Y ,N	IF ABSENT THEN N	INDICATES CELL CANNOT BE USED

7.2.1.2 Screen Two (contd)

Field Name	Size	Type	Range	Validation	Notes & Function
COMMENT	2X30	X	FREE FORMAT		
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

N.B. This screen will be somewhat modified if the required record is a hospital bed. The comment field is not displayed for a Hospital bed as it refers to the prisoners illness.

7.2.2 Change Cell/Bed Details

7.2.2.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
CELL BLOCK	1	A	A,B,C,D E,H	MUST BE PRESENT	A,B,C,D -NORMAL WINGS E - HIGH SECUR. H - HOSPITAL
CELL NUMBER	3	N	1-240	MUST BE PRESENT A,B,C,D - 1-120 E - 1-240 H - 1-40	CELL/BED MUST BE IN TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.2.2.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
CELL FLOOR	1	N	1-3	MUST BE PRESENT IF 'H' THEN 1-2	HOSPITAL ONLY HAS 2 FLOORS
NO. OF BEDS	1	N	0-3	A,B,C,D MAX 3 E MAX 1,H IGNORE	
NO. OF MATTRESSES	1	N	0-3	A,B,C,D MAX 3 E MAX 1,H IGNORE	
NO. OF CHAIRS	1	N	0-3	A,B,C,D MAX 3 E MAX 1,H IGNORE	
NO. OF TABLES	1	N	0-3	A,B,C,D MAX 1 E MAX 1,H IGNORE	
CELL CONDITION	1	N	1-9	MUST BE PRESENT	1 - BAD 5 - OK 9 -GOOD
LAST PAINT--ED DATE	6	N	TODAYS DATE OR LESS	MUST BE PRESENT VALID DATE	
CELL UNDER REPAIR	1	A	Y ,N	IF ABSENT THEN N	INDICATES CELL CANNOT BE USED
COMMENT	2X30	X	FREE FORMAT	'!' IN CHAR. POS. 1 -CLEARS COMMENT	
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

N.B. Blank inputs are interpreted as no change to existing data, except for the comment. This screen will be somewhat modified if the required record is a hospital bed. The comment field is not displayed for a Hospital bed as it contains details on the prisoner's illness. A cell cannot be under repair if there are prisoners in it.

7.2.3 Enquiry on Cell/Bed

7.2.3.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
CELL BLOCK	1	A	A,B,C,D E,H	MUST BE PRESENT	A,B,C,D -NORMAL WINGS E - HIGH SECUR. H - HOSPITAL
CELL NUMBER	3	N	1-240	MUST BE PRESENT A,B,C,D - 1-120 E - 1-240 H - 1-40	CELL/BED MUST BE IN TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.2.3.2 Screen Two

Information for the various enquires on cells will require a number of screens (displaying differing subsets) according to the type of password functions and cell block access of the enquirer.

Field Name	Size	Type	Range	Validation	Notes & Function
CONTROL	1	A	Q	Q OR BLANK	E-RETURN TO MENU BLANK - RETURN TO SCREEN ONE

7.2.4 Delete Cell/Bed

7.2.4.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
CELL BLOCK	1	A	A,B,C,D E,H	MUST BE PRESENT	A,B,C,D -NORMAL WINGS E - HIGH SECUR. H - HOSPITAL
CELL NUMBER	3	N	1-240	MUST BE PRESENT A,B,C,D - 1-120 E - 1-240 H - 1-40	CELL/BED MUST BE IN TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

N.B. A bed/cell cannot be deleted if it has prisoners in it or it has furniture.

7.2.4.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
DELETE FIELD	6	A	DELETE	MUST BE 'DELETE' ELSE IGNORE	IF 'DELETE' THEN DELETE RECORD ELSE NO CHANGE
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

7.3 Password Table

All accesses to the Password table will be logged whether or not they are successful.

7.3.1 Add Password

7.3.1.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PASSWORD	6	X	FREE FORMAT	MUST BE PRESENT MUST NOT BE IN PASSWORD TABLE	PASSWORD TO ADD
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.3.1.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
SUSPENDED	1	A	Y,N	N IF BLANK	PASSWORD CAN NOT USED
SECURITY LEVEL	1	N	1-9	MUST BE PRESENT	
ASSOCIATED CELL BLOCKS	1	A	A,B,C,D E,H,Z	ONE MUST BE PRESENT	Z - ALL CELL BLOCKS
ASSOCIATED SUB-SYSTEMS	4	A	P,C,S,A	ONE MUST BE PRESENT	P - PRISONERS C - CELLS S - SECURITY A - CELL ALLOC.
ASSOCIATED FUNCTIONS	4	A	A,C,D,E	ONE MUST BE PRESENT	A - ADD RECORDS C - CHANGE RECDS D - DELETE RECDS E - ENQUIRE RECS
PASSWORD DATE	6	N	TODAYS DATE	ASSIGNED BY SYSTEMS	PASSWORD CREATION DATE
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

7.3.2 Change Password

7.3.2.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PASSWORD	6	X	FREE FORMAT	MUST BE PRESENT MUST BE IN PASSWORD TABLE	PASSWORD TO CHANGE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.3.2.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
SUSPENDED	1	A	Y,N	N IF BLANK	PASSWORD CAN NOT USED
SECURITY LEVEL	1	N	1-9	MUST BE PRESENT	
ASSOCIATED CELL BLOCKS	1	A	A,B,C,D E,H,Z	ONE MUST BE PRSENT	Z - ALL CELL BLOCKS
ASSOCIATED SUB-SYSTEMS	4	A	P,C,S,A	ONE MUST BE PRESENT	P - PRISONERS C - CELLS S - SECURITY A - CELL ALLOC.
ASSOCIATED FUNCTIONS	4	A	A,C,D,E	ONE MUST BE PRESENT	A - ADD RECORDS C - CHANGE RECDS D - DELETE RECDS E - ENQUIRE RECS
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

N.B. Blank inputs are interpreted as no change to existing data, except for the comment.

7.3.3 Enquiry On Password

7.3.3.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PASSWORD	6	X	FREE FORMAT	MUST BE PRESENT MUST BE IN PASSWORD TABLE	PASSWORD TO ENQUIRE OM
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.3.3.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
CONTROL	1	A	Q	Q OR BLANK	E-RETURN TO MENU BLANK - RETURN TO SCREEN ONE

7.3.4 Delete Password

7.3.4.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PASSWORD	6	X	FREE FORMAT	MUST BE PRESENT MUST BE IN PASSWORD TABLE	PASSWORD TO DELETE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.3.4.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
DELETE FIELD	6	A	DELETE	MUST BE 'DELETE' ELSE IGNORE	IF 'DELETE' THEN DELETE RECORD ELSE NO CHANGE
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

7.4 Guard Table

7.4.1 Add Guard

7.4.1.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
GUARD NO.	6	N	1 - 999999	MUST NOT BE IN GUARD TABLE,MUST BE PRESENT	GUARD NO TO BE ADDED
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.4.1.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
GUARD NAME	30	A	FREE FORMAT	MUST BE PRESENT	
GUARD DATE	6	N	TODAYS DATE	ASSIGNED BY SYSTEM	GUARD CREATION DATE
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

7.4.2 Change Guard

7.4.2.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
GUARD NO.	6	N	1 - 999999	MUST NOT BE IN GUARD TABLE,MUST BE PRESENT	GUARD NO TO BE CHANGED
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.4.2.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
GUARD NAME	30	A	FREE FORMAT	MUST BE PRESENT	
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

7.4.3 Enquiry On Guard

7.4.3.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
GUARD NO.	6	N	1 - 999999	MUST NOT BE IN GUARD TABLE,MUST BE PRESENT	GUARD NO TO BE ENQUIRED IN
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.4.3.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
CONTROL	1	A	Q	Q OR BLANK	E-RETURN TO MENU BLANK - RETURN TO SCREEN ONE

7.4.4 Delete Guard

7.4.4.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
GUARD NO.	6	N	1 - 999999	MUST NOT BE IN GUARD TABLE,MUST BE PRESENT	GUARD NO TO BE DELETED
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.4.4.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
DELETE FIELD	6	A	DELETE	MUST BE 'DELETE' ELSE IGNORE	IF 'DELETE' THEN DELETE RECORD ELSE NO CHANGE
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

7.5 Prisoner Allocation Sub-System

7.5.1 Cell Allocation

7.5.1.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	OPTIONAL	CHECK TO SEE IF IN PRIS. TABLE MUST HAVE NO CELL ALLOC.
SURNAME	30	A		IF NUMBER PRESENT IGNORE,ELSE MUST BE PRESENT	EITHER NUMBER OR SURNAME & FIRST MUST BE PRESENT
FIRST NAME	15	A		IF SURNAME PRESNT MANDATORY	CHANGED TO LOWER CASE
MIDDLE NAME	2	A		OPTIONAL	ONLY USE FIRST LETTER FOR X-REF NAME TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO
NEW CELL BLOCK	1	A	A,B,C,D E	MUST BE PRESENT	CELL MUST BE IN TABLE, AND MUST HAVE A VACANCY
NEW CELL NUMBER	3	N	1-240	MUST BE PRESENT A,B,C,D - 1-120 E - 1-240	

7.5.1.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
WORK LOC.	3	X	K1-10 L1-5 M1-30 G1-10 W1-5 LI1-2	MUST BE PRESENT UNLESS CELL BLCK = E	K - KITCHEN L - LAUNDRY M - METAL SHOP G - GARDEN W - WOOD SHOP LI - LIBRARY
LAST DATE OF ARRIVAL	6	N	TODAYS DATE		NUMBERS EQUAL WORK GROUP ASSIGNED BY SYSTEM ,CLEARS DEPART. DATE

7.5.1.2 Screen Two (contd)

Field Name	Size	Type	Range	Validation	Notes & Function
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

N.B. A cell must have enough beds and mattresses for the number of prisoners Updates prisoner table and cell table.

7.5.2 Find Cell/Bed

7.5.2.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	OPTIONAL	CHECK TO SEE IF IN PRIS. TABLE
SURNAME	30	A		IF NUMBER PRESENT IGNORE,ELSE MUST BE PRESENT	EITHER NUMBER OR SURNAME & FIRST MUST BE PRESENT
FIRST NAME	15	A		IF SURNAME PRESNT MANDATORY	CHANGED TO LOWER CASE
MIDDLE NAME	2	A		OPTIONAL	ONLY USE FIRST LETTER FOR X-REF NAME TABLE
CELL BLOCK	1	A	A,B,C,D E,H	MUST BE PRESENT	CELL BLOCK TO SEARCH FOR VACANCY
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.5.2.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
SEARCH AGAIN	1	A	Y OR N	BLANK IS Y	CELL SHOWN IS OK ELSE LOOK AGAIN IN SAME CELL BLOCK
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

N.B. A cell must have enough beds and mattresses for the number of prisoners, if not display a message to screen.

7.5.3 Change Cell/Bed

7.5.3.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	OPTIONAL	CHECK TO SEE IF IN PRIS. TABLE MUST HAVE CELL ALLOC.
SURNAME	30	A		IF NUMBER PRESENT IGNORE,ELSE MUST BE PRESENT	EITHER NUMBER OR SURNAME & FIRST MUST BE PRESENT
FIRST NAME	15	A		IF SURNAME PRESNT MANDATORY	CHANGED TO LOWER CASE
MIDDLE NAME	2	A		OPTIONAL	ONLY USE FIRST LETTER FOR X-REF NAME TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.5.3.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
NEW CELL BLOCK	1	A	A,B,C,D E,H	MUST BE PRESENT	CELL MUST BE IN TABLE, AND MUST HAVE A VACANCY
NEW CELL NUMBER	3	N	1-240	MUST BE PRESENT A,B,C,D - 1-120 E - 1-240 H - 1-40	
COMMENT	2X30	X	FREE FORMAT	CLEARS CURRENT COMMENT	HOSPITAL BED ONLY
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

N.B. A cell must have enough beds and mattresses for the number of prisoners. If prisoner moved to hospital then hospital location is added to the prisoners record. The prisoner can't be in hospital.

7.5.4 Prisoner Departure

7.5.4.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	OPTIONAL	CHECK TO SEE IF IN PRIS. TABLE MUST HAVE CELL ALLOC.
SURNAME	30	A		IF NUMBER PRESENT IGNORE,ELSE MUST BE PRESENT	EITHER NUMBER OR SURNAME & FIRST MUST BE PRESENT
FIRST NAME	15	A		IF SURNAME PRESNT MANDATORY	CHANGED TO LOWER CASE
MIDDLE NAME	2	A		OPTIONAL	ONLY USE FIRST LETTER FOR X-REF NAME TABLE
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

7.5.4.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
DEPART FIELD	6	A	DEPART	MUST BE 'DEPART' ELSE IGNORE	IF 'DEPART' THEN PUT TODAYS DATE IN PRIS REC. CLEAR CELL DATA
CONTROL FIELD	1	A	E,Q	E,Q OR BLANK	E-RETURN TO SCRN ONE - NO UPDATE Q - RETURN TO MENU NO UPDATE BLANK - UPDATE & RETURN TO SCRN ONE

N.B. Clears both cell and hospital details if the prisoner is in hospital.

7.5.5 Enquire on Cell/Prisoner Relation

7.5.5.1 Screen One

Field Name	Size	Type	Range	Validation	Notes & Function
PRISONER NUMBER	6	N	1-999999	OPTIONAL	CHECK TO SEE IF IN PRIS. TABLE MUST HAVE CELL ALLOC.
SURNAME	30	A		OPTIONAL	}EITHER NUMBER OR }SURNAME & FIRST }MUST BE PRESENT
FIRST NAME	15	A		IF SURNAME PRESNT MANDATORY	}CHANGED TO LOWER }CASE }
MIDDLE NAME	2	A		OPTIONAL	}ONLY USE FIRST } LETTER FOR } X-REF NAME } TABLE
CELL BLOCK	1	A	A,B,C,D E,H	OPTIONAL	CELL MUST BE IN TABLE,
CELL NUMBER	3	N	1-240	OPTIONAL, IF CELL BLOCK PRESENT, MUST BE PRESENT A,B,C,D - 1-120 E - 1-240,H- 1-40	
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

N.B. Either a prisoner or a cell must be specified.

7.5.5.2 Screen Two

Field Name	Size	Type	Range	Validation	Notes & Function
CONTROL FIELD	1	A	Q	Q OR BLANK	Q - RETURN TO MENU BLANK - SCREEN TWO

8.0 Report Layouts

All reports will have heading and trailing logos. The reports cover :-

1. List of cells/beds - full/not full/empty/under repair /furniture listing /blocks /floors /empty /under repair

2. List of prisoners - no and alphabetic /abbreviated or full listing / not in prison / not allocated / served sentence/in hospital /by block/floor /due for release next month/parole increased /decreased / by security / by age /by date of conviction / by length in prison

3. List of cells and prisoners - full cells / not full / by block / by floor

4. Audit table listing by date / time/cell no/prisoner no/guard no /type of transaction /password access subsystem

5. List of Passwords - suspended / ok

6. List if Guards - no/name

All passwords to be encoded in the Password Table.

All prisoners names (in all tables, including the Audit Table) and all guards names are to be encoded. After three attempts at a password or a Guard No then system terminates.

After ten incorrect attempts in a processing run then the system terminates.

All change transactions to any table are to be logged in the Audit Table including all attempts to the Password table, logging on details and unsuccessful attempts. If possible the PC identifier that the transactions are carried out on should be included.

N.B. Initially, a simple alphabetic substitution will suffice for the encoding of all information. A better encoding system is currently under investigation.

9.0 Program Specifications

All table input/outputs/open/closes will be checked. The program to be terminated if any error detected with appropriate error messages.

Extensive reuse of code is expected, e.g. programs will be developed from the same skeleton as will all report programs.

OO programming is expected :-

- screen layouts will be laid out separately for each screen and fields will be uniquely identified throughout the whole system.
- handling of each screen's input/output will be completely separate from every other screen.
- error messages will be set up as constants.
- testing messages must be incorporated from the beginning and generally should be commented out not removed.
- except for massive hardware faults all programs should degrade gracefully from software faults, with the user being notified of the problem.
- at any stage the user should be able to cancel a transaction.
- Transactions will consist of six stages :
    1. choose function from menu
    2. show user blank template to collect initial call-up data
    3. validate call-up data, if correct show screen two else show error messages,
    4. show user current data form appropriate record or blank screen for new input
    5. collect input, validate input, return with accurate meaningful error messages to the user, or on valid data update the tables, update the Audit table.
    6. Go back for next input or show menu
- the working and final production version of the software must operate within one directory for the executable programs, one for the source and libraries, one for the development test tables, one forthe system test tables and one for the production tables
- the system will be menu-driven
- passwords will not be shown on the screen.

10.0 Batch Job Requirements

The following macros must be set up in the appropriate job control language :-

1. BATCH JOB to run the system from a one word command e.g. SHIPS
2. BATCH JOB to run the various reporting programs
3. BATCH JOB to take back-up copies of the data tables
4. BATCH JOB to recover tables from back-ups
5. BATCH JOB to do an automatic system start from a User-Id, i.e. no user intervention.
6. BATCH JOB to copy all source programs, libraries from the development directory
7. BATCH JOB to compile all programs in the system.
8. BATCH JOB to copy all the executable versions of the programs from the Production directory to the Operating directory.

11.0 Acceptance Testing

At each milestone testing of the user interface will be carried out and print outs of table contents expected (system utilities may be used initially).

A final set of test data will be used to test not only the user interface but the complete workings of the system as well as print outs of all tables and reports.

A separate audit review will be carried out to test the security and audit logging of the system.

Any program that fails any of the tests will be deemed unsatisfactory.

If required a complete but different set of test data will be supplied at an earlier stage but only once.

Included for acceptance will be a Users Manual and a presentation of the system to prison management and representation from the Prison Guard's Union. The User's Manual must be on-line as it is planned at a latter stage to make the on-line Users manual the basis of a training and 'Help' sub-system.

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