31 July 2014

DESIGN REQUIREMENTS

FOR THE FRAMEWORK OF THE USER INTERFACE FOR USE IN FEDERAL CORRECTIONAL INSTITUTIONS

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TABLE OF ABBREVIATIONS

Abbreviation	Expansion
API	Application Programming Interface
ATP	Acceptance Test Procedure
BIFMA	Business & Industrial Furniture Manufacturers Association
CA	Contract Authority
CCDA	Command Control and Data Acquisition
CCTV	Closed Circuit Television
CD	Commissioner's Directive
CER	Common Equipment Room
COTS	Commercial-Off-The- Shelf
CSA	Canadian Standards Association
CSC	Correctional Service Canada
DCMS	Door Control and Monitoring System
DES	Director Engineering Services
EIA	Electronic Industries Association
FAAS	Facility Alarm Annunciation System
FAR	False Alarm Rate
FDS	Fence Disturbance Detection System
FIU	FAAS Interface Unit
GFE	Government Furnished Equipment
IVRMS	Inmate Voice Recording and Management System
IP	Internet Protocol
MCCP	Main Communications and Control Post
MDS	Motion Detection System
MTBF	Mean Time Between Failure
MTTR	Mean Time to Repair
NAR	Nuisance Alarm Rate
NTP	Network Time Protocol
PA	Public Address
PC	Personal Computer
Pd	Probability of Detection
PIDS	Perimeter Intrusion Detection System
PIU	Perimeter Intrusion Detection System Integration Unit
PLC	Programmable Logic Controller
RFP	Request for Proposal
RTEO	Regional Technical and Engineering Officer

Abbreviation	Expansion
PPA	Portable Personal Alarm
PPAL	Portable Personal Alarm Locatable
SCC	Security Control Centre
SIO	Security Intelligence Officer
SOR	Statement / Observation Report
SOW	Statement of Work
STR	Statement of Technical Requirements
TCP/IP	Transport Control Protocol/Internet Protocol
TER	Telecommunications Equipment Room
UPS	Uninterruptible Power Supply
V&C	Visits and Correspondence
VDU	Video Display Unit
VIRS	Visits Intercept and Recording System
VMS	Video Management System

TABLE OF DEFINITIONS

#	Term	Example	Description	Function
1	Administrative User Interface		Monitor and Software that supports task specific User Interaction for System Administrators, located in a secure area	Provides Administrative Personnel with the ability to map enrolled users to the functional domains that they are allowed to access and change
2	Application	Cell Call Management, PA Management	Software that is used to deliver Application Support functionality for a sub-system	Software that provides the Operator Interface and supporting logic that allows a sub-system (Control Domain) to be managed
3	CCTV Monitor	PIDS or Range CCTV Monitor	Computer Monitor Hardware	Displays CCTV images for Operator viewing
4	Client		Rack mounted computer located in a secure area away from a Control Post or Control Desk.	Runs software and supports one or more Application
5	Configuration Data	Site floor plans showing quantity of cameras, doors, cells etc. Camera locations. Number of User Interfaces required in a Post.	Site and System specific information typically supplied by CSC that defines how a sub-system Application is to be set-up for a site, location within a site, or post.	The configuration data provides the information that a sub-system application requires to tailor it to meet site, location within a site, or post user requirements.
6	Configuration User Interface		Monitor and Software that supports task specific User Interaction, located in a secure area	Allows suppliers or qualified personnel to add, delete and modify Application Configuration
7	Contract Authority		Public Works and Government Services Canada (PW&GSC) is responsible for all contractual matters associated with the system design and implementation.	
8	Contractor		The company selected as the successful bidder.	
9	Control Console	MCCP Console, Living Unit Control Post Console	Console, typically located in a Control Post. Serves as the physical support infrastructure for Operator User Interfaces	Contains User Interfaces or Control Panels used by staff to execute their management responsibilities and interact with the Domains over which they have Control
10	Control Desk	Living Unit Control Desk	Desk, typically located in a Control Post or Office. Serves as the physical support infrastructure for Operator User Interfaces	Equipped with User interfaces used by staff to execute their management responsibilities and interact with the Domains over which they have Control
11	Control Domain	Cell Call, Guard Tour, Public Address	A group of Physical and Virtual devices or objects, often supported by specialized hardware and software, that performs a set of related functions	Collect information, or activate capabilities in their operational domain
12	Control Panel	PACP, Fire Alarm	Hardware and Software device that provides an Operator Interface (I/O device), located in a Control Post	Allows Operators to manage one or more Domain

#	Term	Example	Description	Function
13	Control Post	Living Unit Control Post/MCCP	Room or area, typically located in a secure area in an institution	Room used by staff to execute their management responsibilities and interact with the Domains over which they have Control
14	Custom Equipment		Equipment designed and/or manufactured specifically for a specific contract.	
15	Design Authority		Director, Electronic Security Systems (DES) Correctional Service of Canada (CSC) is responsible for all technical aspects of the system design and implementation.	
16	Device	CCTV Camera, Managed Door, Call Origination Device	A specialized device, typically consisting of hardware and software	Provides data collection or activate functions associated with a specific system or sub-system
17	Enrolment User Interface		Monitor and Software that supports task specific User Interaction, located in a secure area	Allows Designated Personnel to enroll and delete Users from the Command, Control and Data Acquisition System.
18	Maintenance User Interface		Monitor and Software that supports task specific User Interaction, located in the CER or Maintenance Service Provider Office	Provides Maintenance Personnel with the ability to interact with one or more Systems to carry out their day to day tasks to troubleshoot and maintain Systems and Subsystems
19	Notification	Notification that a door is opened, or a door is closed, or a sensor is in alarm	A notification is a message that can be shown on a User Interface and/or logged in a database that represents a change in state or a command initiated by an operator.	
20	Off-the Shelf		Equipment currently on the market with available field reliability data, manuals, engineering drawings and parts price list.	
21	Operator User Interface	PIDS Display, Door Control and Monitoring System Display	Computer Monitor and Software that supports User Interaction (I/O device)	Provides an Operator with the ability to interact with one or more Systems to carry out their day to day tasks at a Control Console or Control Desk
22	Project Officer		A CSC employee or a contracted person designated by DES to be responsible for the implementation of the project.	
23	Reporting User Interface		Monitor and Software that supports task specific User Interaction, located in a secure area	Provides Management Personnel with the ability to access preconfigured reports and to create custom reports
24	Server	Network Video Recorder	Rack mounted computer that runs software and is located in an equipment room such as a CER or TER	Runs software that is used to deliver services that support Command and Control Applications to connect to sub-systems
25	State		The state of a device as reported to a sub-system or system	This is a logical representation of the state of a device that is being monitored or managed

#	Term	Example	Description	Function
26	Sub-system	Cell Call, Guard Tour	A group of Physical and Virtual devices or objects, often supported by specialized hardware and software, that perform a specific set of related functions	Collects information, or activates capabilities in their operational domain
27	System	PIDS	A group of Physical and Virtual devices or objects, often supported by specialized hardware and software, including devices from sub-systems that perform a more general set of related functions	Collects information, or activates capabilities in their operational domain
28	Touch Screen User Interface	Door Control and Monitoring System User Interface	Typically an LCD Monitor with touch screen technology	Allows an Operator to view and interact with the Systems presented on the Monitor
29	Workstation		Rack mounted computer located in a secure area away from a Control Post or Control Desk	Runs software that is used to deliver Command and Control Capabilities

1 INTRODUCTION

.1 The intent of the Framework of the User Interface is to be used in conjunction with the Design Requirement for each Control Post to enable the Operational Staff in each control post, as appropriate to their span of control, to conduct the operations at their control post in a manner that is consistent with the other control posts both within the individual institution and across all institutions.

2 SCOPE

.1 This Design Requirement defines the essential design and functional requirements of the Correctional Service of Canada for the Framework of the User Interface that is to be incorporated into the design of all User Interfaces for all control posts for Federal Correctional Institutions. The design requirement does not specify the actual data involved in the processes, but describes in detail the Framework for the Human Machine Interface

3 AUDIENCE

.1 The intended audience includes potential developers, suppliers or those that configure the software application that will provide both the Human Machine Interface for the functionality described in the balance of the design requirement as well as the logic that will integrate and manage all the components of all the systems such as Microphones, Audio Recorders, CCTV Cameras, Video Recorders, Doors, Perimeter Security and Interior Security. This design requirement must be read in conjunction with the Design Requirement for each system in each control post.

4 GENERAL

.1 The primary purpose of the Operator User Interface is to control and monitor devices from a control post. The devices controlled and monitored vary from control post to control post and are defined in configuration files.

.2 The User Interface must be designed in such a way that it supports multiple management domains in a seamless and transparent manner as the system is expanded, supporting the representation of one domain through all domains that must be managed on the same User Interface.

.3 The different systems are comprised of two main components from a UI perspective, and the configuration and layout is determined by the functionality of the control post:

.1 A status display which is part of the control post

.2 A monitoring display or displays for CCTV

.4 This capability may be called upon to meet operational requirements or to meet situations in which a User Interface fails or for the aggregation of Control Post functionality as posts are reconfigured to accommodate staffing requirements. The definition of how User Interfaces in control posts provide redundancy within a control post and at another control post must be flexible and must defined in the associated configuration information.

.5 Commands originating from Operator actions at the User Interface and events that represent a change of state at a device will typically result in a message that will be “logged” by the underlying data logging services of the Command, Control and Data Acquisition Platform on which this application runs. This data can and will be accessed at a later date for evidentiary use, assessment, and follow-up.

5 DESIGN REQUIREMENTS

5.1 General

.1 The priorities for the User Interface design are to:

.1 Enable operators to respond to emergencies and situations with potential for danger effectively in a manner that ensures safety of staff, the safety of the inmates and public safety [i.e. safety is number 1] – maximizing the preservation of life

.2 Enable all tasks to be conducted efficiently and effectively – this requires the design to support operational processes in a way that are intuitive and automatic, minimizes the use of text, and do not require interpretation or memory to execute a task

.3 Consistency across all operational processes and tasks

.2 The User Interface shall be designed:

.1 Embodying best principles of UI design

.2 To present a consolidated and integrated view of numerous existing security, operations and communications systems onto one consistent user interface that can be configured across touch screen monitors

.3 To enable users to easily and safely conduct their tasks under a variety of operational situations

.4 To provide operational efficiency and effectiveness

.5 With the flexibility to accommodate the integration of future systems

.3 Thus the UI design will be clean, elegant with minimal visual clutter, as any other design will not meet the above three priorities.

5.1.1 User Interface

.1 The User Interface must use iconography and guidelines provided or approved by CSC.

.2 The preferred display layout will be based on a simplified floor plan of the whole or part of a unit based on screen space. Icons must be used instead of text where possible.

5.1.2 Human Factors

.1 The UI for the V&C and SIO must conform to accepted principles of good human factors design and be implemented according to the design requirements listed below:

Design Requirement for Design of Icons for User Interfaces

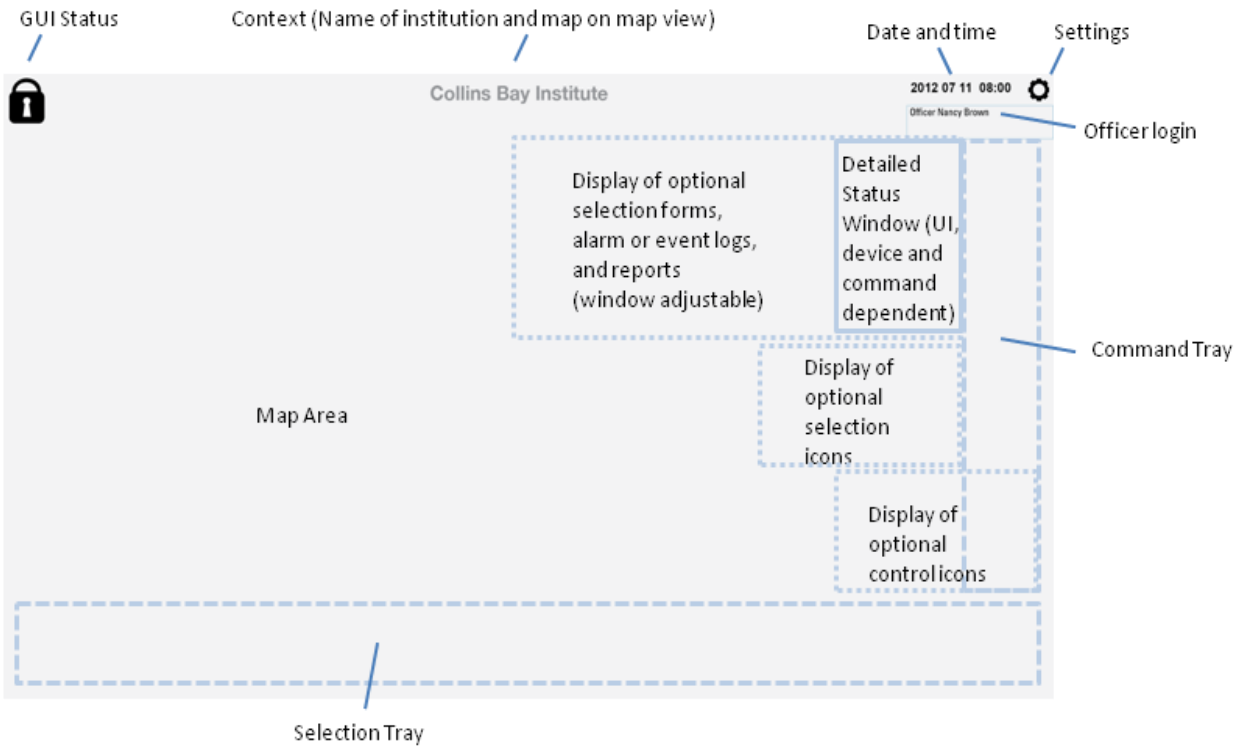
Design Requirement for Design of the Look and Feel of the User Interface

5.2 Design focus for each type of task

Type of tasks	Key objective
Emergency tasks	Focus: Safety and security of corrections staff , inmates and the general public
Daily tasks and actions of corrections staff	Focus: Operational efficiency and effectiveness (i.e. ensure tasks can be executed with a minimum number of steps, without a requirement to remember how to do a task) ensuring that unsafe or unsecure selections cannot be made inadvertently
Oversight, reporting and management processes	Focus: Operational efficiency and effectiveness. Ensure all system information needed for oversight and management is available to implement the tasks.

6 FUNCTIONAL AREAS OF THE FRAMEWORK

.1 These are the key areas that comprise the Framework for all User Interfaces.



.2 Detailed dimensions and guidelines for the optional areas are provided in Section 10.

6.1 UI status

.1 Under the date and time is the Officer Login area, which displays the names of officers who are logged in. RFID cards can be used to login.

.2 In order to log out, an officer selects their name, and chooses Cancel. They will be asked to confirm the selection either by the Confirm icon or swipe of an RFID card. If there is no RFID card scanner, or the scanner is not functional, the Confirm icon will be used.

.3 The officer can scroll up and down the list by swiping.

NOTE: This area is provided in anticipation of a future requirement, and the space reserved. If not implemented in the initial release, the position of the remaining windows will be implemented as if the officer login area is present.

6.2 Settings

.1 The settings icon enables officers to select the language used in text and help field, choosing from English or French.

.2 This area is always present.

6.3 Selection tray

.1 The Selection Tray to select systems and initiate system commands is on the bottom. There are Action Icons that are present on all control posts – such as Cancel, Alarm Acknowledgement, Map Selection, and Help.

.2 There are other Action Icons that are present only if required at that control post – such as Special Commands, Confirm, RFID Confirm and Emergency Checklist.

.3 The Selection Tray also contains the System Icons that represent systems that are controlled by that post – such as CCTV or Audio Recording – that when selected, bring up the set of commands that apply to that system. At some posts, there may be more than one system which is controlled and managed by the User Interface at that control post. Which systems are controlled by which post, and therefore available at that post, is determined by configuration files.

.4 If the control post only supports one system, there will be no System Icons in the Selection Tray, only the Action Icons.

.5 If a control post requires only one system under normal operating conditions, and the UI for that control post fails (in a Living Unit Control Post), and the operations transfer to another status display, then the Touch Screen one would now show both System Icons.

.6 This area is always present, and the only icons shown are those needed at that monitor at that control post. There are no icons present which are not required for the operation of the control post at that time.

6.4 Command tray

.1 The Command Tray is on the right hand side, which enables selection of commands represented by icons with a right hand that does not then obscure the monitor (the vast majority of people are right handed) yet left handed people could also use their right hand, as there is no requirement for fine motor control. Command Icons displayed here are context sensitive, and only those commands that can be applied to that device are displayed; and if a command does not apply to the device in its current state, that command icon is “greyed out” to show that it is not available to be selected when the device is in its current state (i.e. can’t turn “on” a device which is already on).

.2 This area is also used to display thumbnails of the maps to be chosen for the Map Area. When there are more maps to be displayed in thumbnail format, the officer can scroll up and down the list by swiping. The maps that are able to be selected at any control post are determined by configuration data. The order of the maps displayed in thumbnail format for selection is also determined by configuration data. This ensures that a map thumbnail is always in the same location, and that the most commonly used thumbnail maps are displayed at the top.

.3 This area is always present, although the number of command icons that are shown vary by system. Also, if there are additional control icons for a device – such as camera control, or audio control, they are presented at the bottom of the command tray, above the Selection Tray.

6.5 Map area

.1 The largest area is for display of the interactive map – the Map Area – which displays status and also enables selection of an device to which a command will apply.

.2 There are four types of maps that are displayed in the map area of a range control post:

.1 A detailed map that has an icon that represents the device in a selectable size. There is a detailed map for every area that is controlled and managed by a control post. The default detailed map for each control post is set up in configuration data.

.2 An overview map that shows the area controlled and managed from that control post and provides the status of all the devices but the icon representing the status of the device is not a selectable size. There is an icon on the overview map that enables selection of the detailed map which has icons of a selectable size. On these detailed maps, there will also be an icon to return to the overview map. Not all control posts will require an overview map – only those where the area controlled is larger than can be displayed on one detailed map for that control post. This is set up in configuration data.

.3 An emergency evacuation map may apply to certain control posts. This map is brought up when the emergency evacuation icon is selected. When the emergency status is cleared, the map returns to the default map for that control post (whether a detailed map or an overview map).

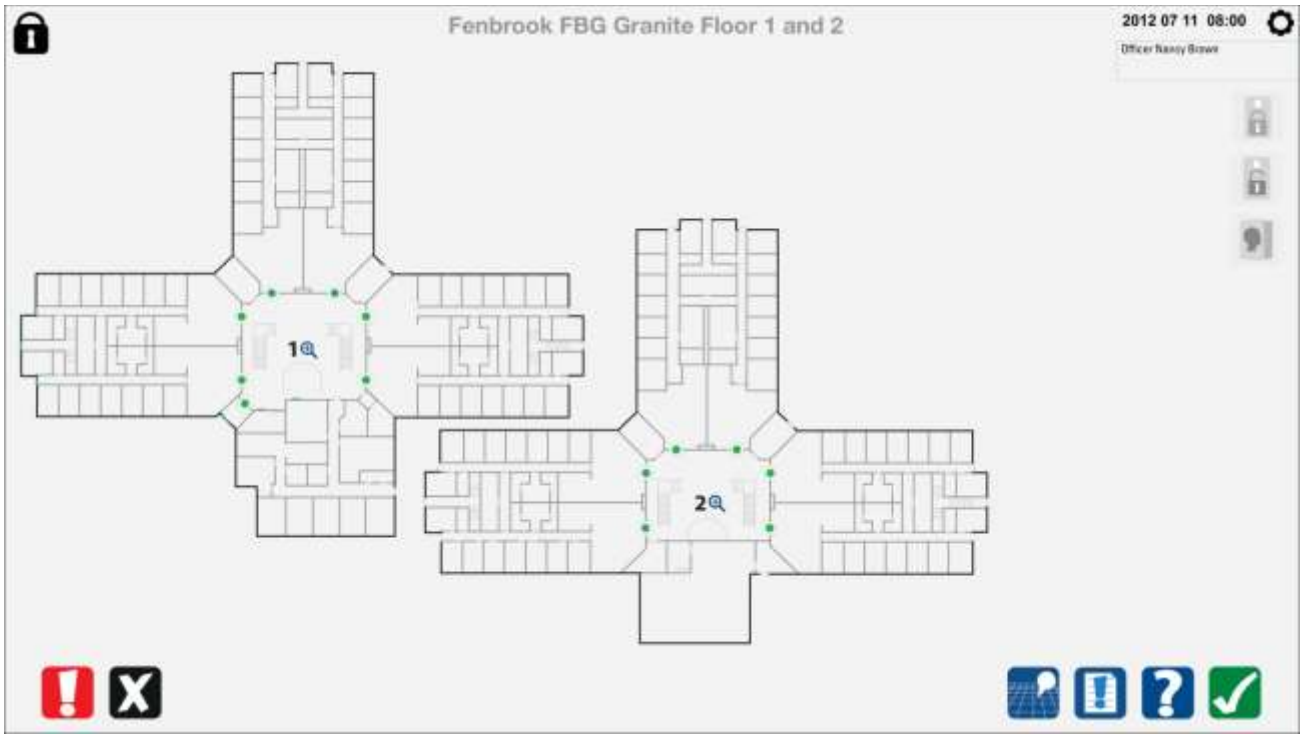
.4 A site map showing the layout of all buildings in the institution for the MCCP. There are two variations of this map: one is used to monitor the perimeter security, the other is used to monitor interior security. The interior security user interface has the ability to drill down as required within the building.

.3 There are specific default maps that are specified for each user interface for each system and control post.

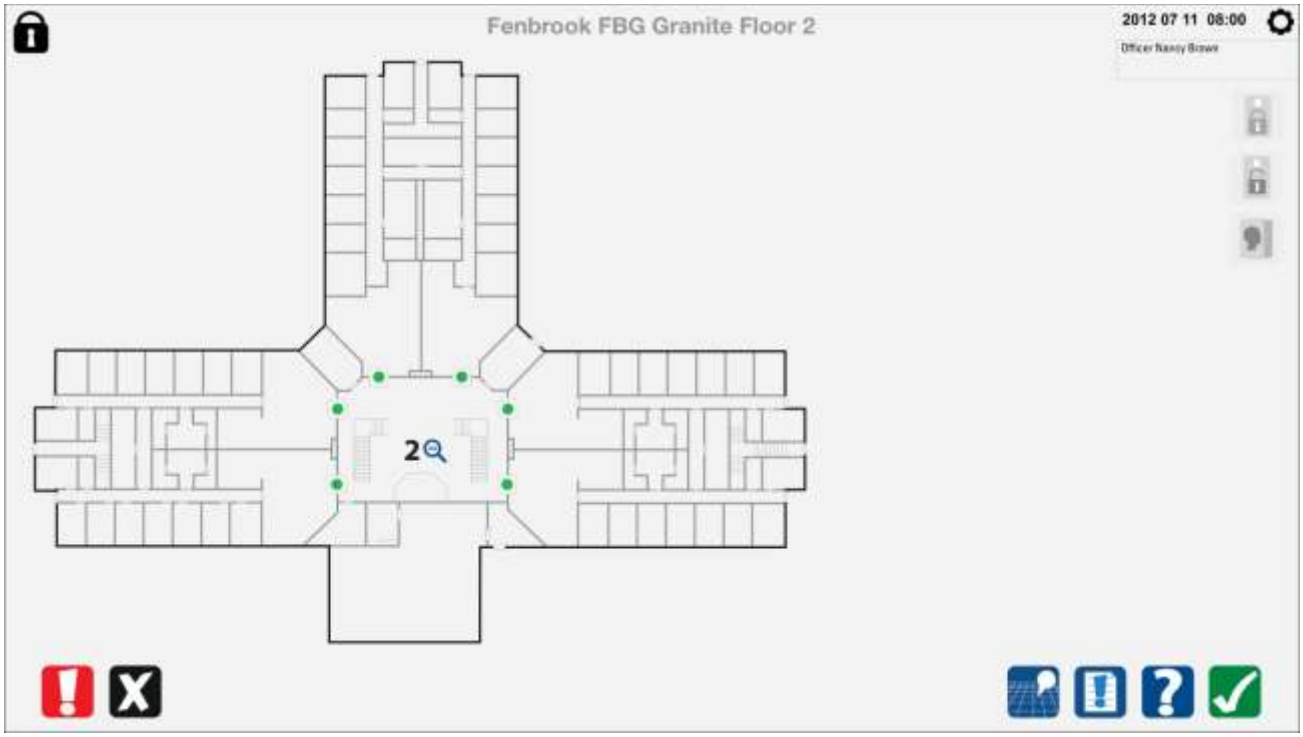
.4 The default maps and the maps that are displayed for Emergency Evacuation are defined by configuration data.

.5 The map area is always displayed, although on some UIs (such as the Corrections Manager UI) it may be obscured by reports.

.6 This shows an overview map with the ability to select the appropriate detail map. Note that the entire status is displayed, but the map icons are not a selectable size.



.7 This shows one of the detailed maps that is linked to the overview map. A standard detail map would look just like this map but without the icon to return to the overview map. Note that the map icons are the selectable size.



6.6 Detailed status window

.1 There is also a Detailed Status Window that is brought up when there is information to display about a chosen device, to provide the status of that device and to display alarms. The contents vary depending upon what is needed to be displayed on thatUI for that system and control post and command and device choice.

.2 The Detailed Status Window will also display the specific name of the device being selected, if applicable.

.3 An alarm icon in the Detailed Status Window is chosen to acknowledge an alarm.

.4 This area is only displayed when there is relevant information associated with the device selected or an alarm generated. If the Detailed Status Window is not required, and there is a form window presented, the form window will align with the edge of the Command Tray.

6.7 Form and reports area

.1 For some UIs there is a need to provide a window to display a list of alarms or an event log, or reports. The information presented in this area can be invoked by a separate command, and can remain on the display.

.2 This area is displayed at the top of the map area, next to the Detailed Status Window (if one is presented) or next to the Command Area. The display should have the capability to be made wider and longer by using standard multi touch gestures. The area can be cancelled with a cancel button in the upper right corner. Since these can often cover the map view, should there be an alarm, this window is reduced to a standard size determined by configuration data. When the alarm is acknowledged, the officer can return the window to its larger size to be able to see the entire contents of the window.

.3 This area is only used on certain UIs based on configuration data.

6.8 Display of other optional selection icons

.1 Other icons are presented when there is some selection required for a device, or to enter data in forms. As soon as the selection is made or the information in the form completed, these icons pop-out.

.2 This area is only used on certain UIs based on configuration data.

6.9 Display of other optional control icons

.1 Other icons are presented when they represent ways to control some of the other devices on the map.

.2 They are presented either just below the Detailed Status Window beside the Command Tray

.3 Since these icons may be used more than once to control an object, they are presented when the command icon is selected, and remain on the map view until another device is chosen or the icon is cancelled by the cancel button in the upper right corner.

.4 This area is only used on certain UIs based on configuration data

7 TYPES OF ICONS

.1 There are six different types of icons:

.5 Action icons

.6 System selection icons

.7 Command icons

.8 Status icons

.9 Map status icons

.10 Structure icons

.2 Each icon type has a style that is consistent within the type, and is slightly distinct from each other type to enable rapid recognition of type.

7.1 Action icons

.1 These are the icons that appear on every User Interface. They are 1.905 cm by 1.905 cm. See Section 8 for more details.

7.2 Icons used to confirm or acknowledge

7.2.1 Confirm icon

.1 This icon is used to confirm some commands chosen in the Command Area. When confirmation is required for a command or an action, the Confirm icon will flash. In some locations, RFID cards will be used to confirm actions, and the Confirm icon will be replaced by an icon indicating an RFID card. In these locations, the Confirm icon will be used only when the RFID card reader is not functioning.

7.2.2 Confirm RFID icon

.1 This icon is used to confirm any command or action chosen in the Command Area with the swipe of an RFID card. When confirmation by RFID card is required for a command or an action, the Confirm RFID icon will flash. In some locations, RFID cards will be used to confirm actions, and the Confirm icon will be replaced by an icon indicating an RFID card. In these locations, the Confirm icon will be used only when the RFID card reader is not functioning.

7.2.3 Acknowledge alarm icon

.1 This icon is used to acknowledge all unacknowledged alarms. When the alarm icon in the Detailed Status Window.

7.2.4 Cancel icon

.1 This icon is used to cancel any command chosen in the Command Area, to cancel a selection or to cancel the display of a form.

7.2.5 Special commands icon

.1 This icon is used to select any command for special actions, such as Lockdown, Evacuation and Shutdown. When Special Commands is selected, there are three new icons that are displayed for each of the special states. The level of confirmation required depends on the special set of commands being invoked..

.2 When “Special Commands” is selected, there are three icons that are presented just above the Selection Tray, and any system icons which may have been present are removed.. Each

type has a different severity, and the actions taken by the UI are consistent with the degree of emergency. These icons are larger, 2.5 cm by 2.5 cm. See Section 8 for more details.

.3 Lockdown requires only a single confirmation – the rationale being that confirmation is the third icon selected. Selecting Lockdown presents a special map that allows an entire range to be selected with a single icon.

.4 Similarly Shutdown requires only a single confirmation presented as a text box that is presented on the Map View that asks if they are sure they want to shutdown the system(s) at that post. The Map View is dimmed when Shutdown is selected.

.5 When Evacuation is selected an evacuation map is presented that has all the ranges and external doors on one display. Ranges of cells are represented as a single block to enable release of all doors in that range. The external doors are individually selectable; this enables selection of a particular range with a particular exit door. No confirmation is required. The names of the doors released are listed in the Detailed Status Window.

.6 When doors are released with the emergency evacuation, there is an alarm generated and logged.

.7 When Shutdown is selected, the user is prompted with text pop-ups to confirm Shutdown. When confirmed, the post is shut down, the user interface is no longer operable, and the post can only be re-enabled from the MCCP or the local equipment room.

.8 Where there is a both a closed control post and an open control post, when the closed control post initiates a Shutdown, the open control post is also Shutdown. Each post is re-enabled from the MCCP or the local equipment room, individually.

.9 When there is an emergency in effect, the Emergency icon will show that it has been selected. In order to cancel the Emergency, the Cancel icon needs to be selected, and then the selection must by confirmed, either by selecting the Confirm icon, or by swiping an RFID card.

7.2.6 Help icon

.1 This icon is used to bring up Help for an icon or task. Help is selected, and then the device or command is selected, and the help text is displayed in the Detailed Status Window.

7.2.7 Map selection icon

.1 Each control post has a map, defined by configuration data, that is presented when the control post comes up. For some control posts, this is the only map that is needed. Also, as part of configuration data, the backup for each control post is defined, and how that control post is presented when there is a requirement for it to assume backup duties is also configured.

.2 There are also control posts where there is a need to select the map displayed on the map view. When a control post has a requirement to look at or control different maps of the institution, in order to choose a map, the Map Choose icon is selected, and all the maps that can be displayed at that post (which is also configured) are displayed as thumb nails in the Command Area. If there are more maps than can be displayed, the user has the ability to swipe (instead of using a scroll bar) to display the full range of maps available at that post. The order of the maps presented in the thumbnails is defined by configuration data.

7.2.8 Emergency checklist icon

.1 This icon is used to bring up the Emergency Checklist for an alarm. From the Emergency Checklist, the emergency instruction set can be brought up for each item in the Emergency Checklist.

7.3 Systems selection icons

.1 These are the icons that go in the Selection Tray to choose which set of system commands are to be used. They are 1.905 cm by 1.905 cm. See Section 8 for more details.

.2 Only those systems that are able to be managed and controlled from that control post are displayed in the selection tray together with the other Action Icons.

.3 If only one system is available at a control post, there are no system icons displayed in the Selection Tray. When one control post is configured as a back up to another control post, and one of them fails, then the remaining control post will then display the System Icons in the Selection Tray.

.4 The Systems that are available on a control post, either as primary systems that are always available, or as systems that are available only as a backup when the primary system fails, are part of configuration data.

.5 When there is more than one system configured on a User Interface, whether as primary or backup, the devices that are shown on the map view are defined by configuration data. For example, in the V&C, the cameras and microphones (tables) are shown on the Map View at the same time, even though the system needs to be selected in order to send a command to the device that is shown on the map view. At other User Interfaces, such as a Living Unit Control Post, if one User Interface because of fallback manages both doors and power and light, the doors would always be displayed on the map view, and the power and light devices (including TV) would only be displayed when that system is selected. Under these circumstances if the power and light system was selected, and a door was chosen on the map view, the system selection would change to the Door Control System and the commands relevant to the state of the device chosen would be presented, and the power and light devices would not be shown.

.6 The systems that are currently envisaged as being managed at a control post User Interface are:

.1 PIDS (in MCCP)

.2 FAAS (in MCCP)

.3 CCTV (in MCCP, V&C, and any other location where cameras are monitored and controlled, except SIO)

.4 Audio Monitoring (in V&C and SIO)

.5 Security Management and Supervision System (in ECP, MCP, MCCP, range office)

.6 Cell Call (in range office)

.7 Power, Light and TV control

.8 Security Patrol (in range office and Correctional Managers' Office)

.9 Limited Call Intercom System (LCIS)

.10 Public Address (PA)

.7 When there is only one system active on a control post, there are no System Icons presented in the Selection Tray. When there is more than one system active on a control post, the systems available are presented in the Selection Tray. Selected versions of the icons are shown below:

.8 Only one system can be selected at a time, and the commands that apply to that system are shown in the Command Tray.

7.4 Command icons

.1 The command icons presented are dependent upon the system selected, the device chose, and the status of that device. They are generally 1.9 cm by 1.9 cm, with small variations when available or selected. See Section 8 for details.

.2 In general, the sequence is to choose device (or devices) on the map view and then select a command to be performed. In some cases there is information to provide to complete the command, or there may be additional controls related to a command.

.3 In some cases, a command will always be available, such as to present a list.

.4 There are three other types of command icons, and each of these icons has its own shape and size, however the size of the icon that is needed to make a selection or move a control button will be 1 cm by 1 cm (although the visible part of the icon may not fill the entire space. See Appendix A for details).

- .1 Form icons for selection
- .2 Selection icons
- .3 Control icons

7.5 Status icons

.1 The status icons are presented in the Detailed Status Window, and are dependent on the device chosen, and the command selected. They are generally unique to each system. They are 1.75 cm by 1.75 cm, although the outside border of the icon is not visible, and so the colored part of the status icon is smaller. See Section 8 for more details.

7.6 Map icons

.1 Map icons are presented on the Map View, and represent the true status of the device.

.2 Many of the map icons are unique to each system.

.3 Map icons are 1 cm by 1 cm (the actual target) on a detailed map so as to be a minimum size to be selectable. Map icons on an overview map are adjusted to be a minimum of .3 cm by .3 cm, although .5 cm by .5 cm is the size used in the examples in this section.

.4 The colored part of the icon is .8 cm by .8 cm (the visual target). There is a minimum space of .225 cm (the padding to next target) between selectable map icons on a detail view.

.5 See Section 8 for details.

7.7 Structure icons

.1 The structure symbols or icons represent the physical elements of the institution, such as walls, stairs, etc. Commands cannot be sent to them. They generally apply to all map views.

8 OPERATIONAL RULES FOR USER INTERFACES

8.1 Key principles

.1 One device, one command processed at a time

.1 General rule is one device, one command. For some devices and commands, several devices may be chosen (grouped), and the command sent to those devices which are in the state that the command would apply.

.2 In some cases, there may be more than one step to complete a command or there are ongoing actions with that command – such as choosing a camera, selecting the monitor to which the camera feed is sent, and then controlling the movement of a PTZ camera. In this case, the user does not need to re-select the camera to first select the feed, and then activate the controls.

.3 The exception to this is that upon completion of the command, the Detailed Status Window shows the device that had been chosen, and the status at the end of the command. There is a 10 second window before the Detailed Status Window pops out where another command to that same device may have a command sent to it. In this case, the map icon would not flash to show selection, only the new state. The Detailed Status Window would also show the new status.

a. For the Perimeter Security UI in the MCCP, there is no timeout for the Detailed Status Window and an MDS or FDS alarm. Once an alarm is generated from an MDS or FPS, the map view shows the sector in alarm, shows the FOV of the 4 cameras with the best view of that sensor (which are also displayed on the CCTV monitor). There is no change to the map view for that sector or the detailed status window until the operator either clears the alarm, masks the alarm, or chooses another sector.

.4 Note: For a description of how a second alarm is handled, see the Alarm Handling section of this document.

.2 Change in state of an icon

.1 Every touch of an icon results in a change in the visual appearance of the icon selected to indicate it was selected.

.2 Every action by the user is reflected in a change of state of one or more icons on the UI.

.3 An icon flashes when an action is required. The confirm icon or RFID confirm icon or Alarm Acknowledge icon flashes when a confirmation of the command is required. The alarm acknowledgement icon flashes when acknowledgement of an alarm is required. These are the main types of states for the map icons and status icons.

Status	Action to indicate status
Reflecting current status quo (may be one of many states)	No flashing, may be one of many states
Device chosen for a command to be performed	Map icon flashes alternately blue and its current status until command completed or timeout is reached
Alarm generated	Map icon(s) changes to alarm icon(s) for that device (red, and sometimes with an alarm bell inside) Detailed Status Window icon shows alarm icon for that device with red bell inside and bars indicating alarm incrementing from 1 to 3.

	Icon no longer flashes Audible alarm sounds
Alarm acknowledged (alarm acknowledgement icon selected)	Same map icon no longer flashes Detailed Status Window icon shows alarm icon for that device with red bell inside and no bars Audible alarm stops

8.2 Operational rules

.1 Resting state of GUI shows:

- .1 Map view
- .2 Standard action icons that apply
- .3 System icons if the control post controls more than one system
- .4 Command icons that apply to that system are greyed out as no device chosen, with the exception of general commands that are UI specific and not device specific, such as displaying a list.

.2 Map view always provides the real status of the device: NOTE inmate enable still to be determined.

.3 When user logs in, Login Status icon changes from grey to black.

.4 Users logged out after 60 seconds of inactivity, and Login Status Icon changes to grey.

.5 When systems logged off (Login Status Icon is grey), no commands are displayed in the command tray

.6 When user logs in, and there is only one system configured for that control post, there is no system icon shown in the selection tray and the commands for that system are shown as unavailable [until a device is chosen]. If more than one system is accessible at the control post, the systems are displayed in the selection tray.

.7 If there is more than one system configured for that user interface, the only time no system would be selected is when the monitor first comes up. Otherwise, there would always be one system selected. I.e., the system does not become unselected after an elapsed period of inactivity.

.8 If there are multiple systems controlled by that post, as soon as one is selected, the commands relevant to that system are displayed in the command tray and shown as unavailable.

.9 As soon as a device is chosen, the commands that can be applied are displayed in the Command Tray, with those that are applicable to the device in its current state shown as available. Other commands are shown as unavailable. Detailed Status Window displays detailed information as applicable, and an icon that represents the current status of the device.

.10 As soon as a device is chosen, it flashes alternately between its current state and blue, and flashes for 10 seconds. After 10 seconds, the device is no longer chosen, stops flashing, and commands no longer displayed as available. Detailed Status Window is popped out after 10 seconds as well. Commands become unavailable until another device is chosen, or another system is selected (if that is applicable) and a device is chosen.

.11 When a device is chosen, choosing the device again de-selects it within the 10 second window. Selecting “Cancel” also de-selects a device or a command. Touching another part of the screen does not de-select a device. De-selecting requires an active step avoiding the situation where an accidental touching of the screen can terminate the choose device / select command sequence.

.12 A device previously chosen as part of a group of devices can be de-selected by choosing the device again. In this case, selecting cancel de-selects all of the chosen devices

.13 When a command is selected for a device, that command is shown as selected, and other

commands are shown as available or unavailable as appropriate. The Detailed Status Window reflects the command selected, and in the case of a slider door that has sensors to indicate door movement, the current status of the door (ie opening or closing).

.14 If a command is to be confirmed, the other commands are shown as still available until the command is confirmed. Then the command tray reflects the commands available and not available as a result of the change in state of the device resulting from the command.

.15 If a command is to be confirmed, another command can be selected and replaces the previous selection (as long as it is available and applies to the chosen device in its current state). In other words, you can change what command is selected without having to choose the device again, as long as the confirm icon is not selected or the RFID card is not scanned (as long as confirmation is required).

.16 Once a command is selected and a confirm is required, the user has 10 seconds to confirm the command before the UI returns to its previous state before the device was chosen.

.17 If the command is one that can continue to be engaged with the device (such as recording audio or a camera feed directed to a monitor), the selected device turns green.

.18 If another device is chosen the Detailed Status Window and the command tray reflect the current state of that device, even if other commands are still be in progress against other devices. [The system cannot be held up waiting for a command to be complete before another command can be applied to another device.]

.19 If multiple devices are chosen, the 10 second time out takes place after the last device chosen. Choosing another device as part of a group of those devices effectively resets the 10 second timer.

.20 When multiple devices are chosen, the Detailed Status Window lists the devices chosen, and if all devices have the same status, an icon representing that status is displayed. If there is more than one status amongst the devices chosen, no status icon is displayed in the Detailed Status Window.

.21 When multiple devices are chosen as a group and there are different statuses for the devices, all commands that can apply to any of the devices are available. If a “close” command is chosen, and some doors are open, then the command is only sent to the doors to which it applies. The Detailed Status Window then reports which devices were sent the command, and to which devices the command was not sent as it did not apply.

.22 If a command is in progress against a device with the Detailed Status Window showing the current status of the device, then the device does not need to be re-chosen to send a new command to that device. Example, slider door that is opening or closing can have “close” or “open” respectively selected while the previous command is still being completed. As long as that device is displayed in the Detailed Status Window, commands can be sent to that device. The Detailed Status Window pops out 10 seconds after the command completes. This provides a 10 second window to send another command to the device.

.23 When the command is complete, the Detailed Status Window continues to display the current status, and after 10 seconds, the Detailed Status Window pops out, and the icons in the Command Tray return to the unavailable status until a device is chosen.

.24 For doors and barriers, where there is an ability to know whether the door is moving, the door icon will be yellow while the door is moving. When the door stops – whether for open cuff mode or after a stop command, the door icon will be insecure (red).

.25 Where there is a control post that is controlling an area that does not easily fit onto one map, which means that all the devices being managed from that post cannot be displayed at a size that allows for their selection on a touch screen:

.26 There is a representation of the whole area being monitored (called an overview map), with an icon (magnifying glass) on the map to provide a detailed map of a specific wing or area. It is pre-determined how many detailed maps can be selected from the main Map View of the entire area of control

.27 When a detailed map is presented, there is an icon representing how to return to the overview map.

8.3 Alarm handling

.1 Alarms have two states:
  .1 Alarm generated
  .2 Alarm acknowledged

.2 If a detailed map is being presented on the UI, and the alarm is generated from an area that is not displayed on the detailed map, the overview map for that area is presented.

.3 When an alarm is generated at a control post, the map icon changes status and flashes, and the Detailed Status Window pops up to display the information about the alarm, and to present a status icon.

.4 The alarm is acknowledged by selecting the Alarm Acknowledge icon:
  .1 Eliminates any switching of maps (which would require a visual re-orientation by the officer)
  .2 Becomes a consistent set of steps to acknowledge any alarm
  .3 Faster time to acknowledge an alarm, as the user does not have to re-orient themselves to the new map
  .4 Leaves the overview map in place to constantly provide status of area under control of that post
  .5 Consistent set of iconography for every stage in alarm acknowledgement
  .6 All the user can do is acknowledge the alarm - there are no other commands that are able to be applied to the device in that state, so there is no need to switch the map view to one that displays the map icons of a sufficient size to send a command to
  .7 Consistent with philosophy of every action by the user results in a change of state of one or more icons
  .8 Enables a more consistent alarm handling between MCCP and control posts

.5 All unacknowledged alarms are deemed acknowledged when this icon is selected.

.6 If there is more than one alarm generated, and there are different audible sounds for the alarms, the sound that is generated is that of the highest priority alarm. There is only one sound generated at a time at a GUI. [Note: fire alarms may be an exception as there may be an audible alarm from the fire panel]

.7 If there are more than one alarm unacknowledged at the GUI, there is a change in the frequency of the audible alarm to indicate that more than one alarm has been generated.

.8 When there is more than one unacknowledged alarm, the status display changes to list the unacknowledged alarms in order of priority.

.9 Selecting the Alarm Acknowledge icon silences the audible alarm.

.10 This table shows how the three states of an alarm is represented on all UIs, except SIO UI, where there are no alarms presented at the UI which require acknowledgement by the SIO:

Alarm State	Map icon	Detailed Status Window icon	Audible Alarm
Alarm generated	Map icon changes to alarm icon for that device (usually red with alarm bell inside)	Detailed Status Window icon shows alarm icon for that device with red bell inside and icon is flashing and bars indicating alarm incrementing from 1 to 3.	Yes
Alarm selected in Detailed Status Window	Same map icon continues to flash	Detailed Status Window icon shows alarm icon for that device with red bell inside and bars indicating alarm incrementing from 1 to 3. Icon no longer flashes,	Yes

Alarm acknowledged (using alarm acknowledged icon)	Same map icon no longer flashes. If it is a fault alarm, the icon turns magenta.	Detailed Status Window icon shows alarm icon for that device with red bell inside and no bars – alarm acknowledged status icon. If this is a fault alarm, the status icon is magenta.	No

.11 If the officer has selected a device, and an alarm comes in before the command is chosen, the device is de-selected and the alarm process must be followed. Once the alarm (or alarms) has been acknowledged, the officer has to choose the device again.

.12 When there is an alarm generated, and there is a special situation, the officer can still select the Special Commands icon without acknowledging the alarm. In this case, the audible alarm will sound for one second every 5 seconds at half volume until the emergency state is cleared, in which case the audible alarm will return to its normal sound until acknowledged. In these circumstances, the Detailed Status Window will also list the device which has generated the alarm (for Emergency Evacuation or for Lockdown). If there is more than one alarm generated, then the audible alarm will be that of multiple alarm. The officer will not be able to acknowledge the alarm until the emergency state is clear. Then the alarm process will be applied.

.13 The following table describes the operational processes when there are alarms and other actions in progress:

Action in progress when alarm comes in	**What happens when alarm generated**	**What happens when alarm acknowledged**
Device chosen; and is flashing to indicate selection	Device no longer selected	Device no longer selected
Device chosen; and is flashing to indicate selection; command is selected; no confirmation required	Command completes, but status not updated in Detailed Status Window; map reflects current status Alarm generated, reflected in Detailed Status Window	Detailed Status Window shows current alarm status; status for completing other command not displayed
Device chosen; and is flashing to indicate selection; command is selected; confirmation required	Command does not complete; device no longer selected; commands are not available; Detailed Status Window shows alarm information	Detailed Status Window shows current alarm status
Alarm generated, and need to invoke a Special Command (see Note 1 below)	As soon as Special Commands icon is selected, alarm cannot be acknowledged. Map changes and detailed status window may not be presented /available. Audible alarm will be as described below.	When Special Command is completed, all previous alarms are presented. Alarms that had been generated and the alarm state resolved itself – would not be shown on the control post, but would be shown on the MCCP detailed alarm, and would generate a timeout alarm at the MCCP. Example – a door does not close within a timeout value, which would normally generate an alarm. If there is a need to lockdown cells, or a need to evacuate certain cells, that alarm would not be acknowledged at the control post. If there is a

		timeout for an alarm, then it would be reported at the MCCP.
System shutdown	No alarms from the UI as it is shutdown. Alarm is generated at the MCCP.	When system restored, only new alarms are presented. All old alarms are already captured at MCCP.

8.3.1 Alarm handling at the MCCP

.1 The design requirement for the UI for each control post lists all the alarms generated at the post, and whether they are displayed and listed at the MCCP, and whether the alarm generates an audible alarm at the MCCP.

.2 All alarms are reported at the MCCP and displayed on the Active Alarm Display which is a scrollable list of all alarms generated, listed in order of priority and then time generated. Once an alarm is acknowledged or cleared, it is no longer displayed. Officers can choose to have the Active Alarm Display shown or not.

.3 The priorities described below are used to determine the order of display of the alarms in the Active Alarm Display on the Interior Security Display Monitor. A Priority 1 alarm would be displayed at the top of the Active Alarm Display, even if there are other alarms being displayed that are lower priority. The Detailed Status Window will always display the highest priority unacknowledged alarm, and the map will move to show the detailed map associated with the location of that alarm, as per configuration data.

.4 By using the Detailed Status Window to present the highest priority alarm, the Active Alarm Display does not need to be sized to the minimum size used for the map icons in order to select an alarm to be acknowledged.

.5 When an alarm comes in, the map view shifts to provide a detailed view of the location of the alarm. The level of detail is determined by the type of alarm, and is captured in configuration data. Some alarms may not shift to a detailed map, for example a fire alarm from a building. Other alarms, like a PPA, may trigger both a shift to a detailed map, and automatic display of certain cameras on the CCTV display monitors (part of configuration data).

.6 If an alarm of a higher priority comes in, the map shifts to display the new higher priority alarm, the sound changes to one consistent with the new priority, and any other actions that may have been underway are cancelled until the alarm is acknowledged.

.7 With the density of alarms that are possible on the Interior Security UI, the UI may have a large number of icons for alarms. Icons for alarms are never placed over the building identifier. In an emergency where there may be a significant number of alarms coming in from one building, given the priority of the alarms, it is very likely that there would be a detailed display that allows all alarms to be shown in an uncluttered way. If not, the operator can choose to display a detailed map by selecting the building name.

8.3.2 Alarm priorities

.1 This is the current list of alarm and alarm priorities:

Location	Alarm	Category	Rationale for category	Display Monitor	Ack'd or reset at MCCP
Any location in interior	PPA and PALS	Urgent– Priority 1a	Life and safety of officer	• Interior security • Active alarm display on interior security	Reset
Periphery	Sensor alarm MDS or FDS:	Urgent – Priority 1b	Security (public safety)	• Perimeter security • Active alarm display on interior security	Reset
PFV periphery	Sensor alarms, glass break alarms, window, door IR, motion detection in crawl space	Major – Priority 2	Security	• Mini PIDS often in MCCP on Interior Security	Reset or Ack'd depending on alarm
Any control post	Control post shutdown	Major– Priority 2	Major incident - Life and safety of officers and inmates	• Interior security • Active alarm display on interior security	Ack'd Note: MCCP can shutdown and reactivate control posts (incl V&C)
Periphery or PFV periphery	MDS or FDS fault or tamper alarm	Major – Priority 3	Security	• Perimeter security for perimeter; Interior security for PFV • Active alarm display on interior security	Ack'd, Can mask
Any location in interior	Fire Alarm	Major – Priority 4 (for active alarm display)	Backup - life and safety of officers and inmates	• Interior security • Active alarm display on interior security	Display only
Interior, cells and medical area	ICCS and Nurse Cell Call Systems, uncancelled and unacknowledged	Minor – Priority5	Life and safety of inmate	• Range control post • Nurses station • Interior security • Active alarm display on interior security	Ack'd

Location	Alarm	Category	Rationale for category	Display Monitor	Ack'd or reset at MCCP
Any location in interior	Fault or tamper alarm in an area not covered by SMSS, i.e. no one else to look at it; exit door alarms; interlock override	Minor – Priority 7a	Security – lower in priority as alarm may resolve itself	• Interior security • Active alarm display on interior security	No, can mask from MCCP
Any control post	Fault or tamper alarms for the devices that report are managed by that CP	Minor – Priority 7b	Security	• CP responsible to manage those devices	Only sounds in MCCP if alarm escalated to the MCCP
Any SMSS	Interlock override	Minor Priority 7c	Security	• Interior security • Active alarm display on interior security	Ack'd
Any location in interior	Facility and mechanical alarms, UPS alarms, operational audio logger alarms; includes other system failures	Minor – Priority 8	Security	• Interior security • Active alarm display on interior security	Ack'd
Any location in interior	PPA low battery	Minor – Priority 9a	Backup – potential life and safety of officers	• Interior security • Active alarm display on interior security	No
Any location in interior	Alarms from other control posts that generate an audible alarm at MCCP, usually on timeout of alarm acknowledgement	Minor – Priority 10	Security	• Interior security • Active alarm display on interior security	Ack'd

8.3.3 Alarms that generate sounds across all control posts

.1 Alarms from control posts that generate audible alarms both at that CP, the Correctional Manager's CP and /or the MCCP are shown below:

Alarm		Category	Rationale for category	Audible Alarm at MCCP	Audible Alarm or Alert at that CP	Audible Alarm or Alert at CM CP
SMMS (range office and other access control posts)	Shutdown	Major– Priority 3	Major incident - Life and safety of officers and inmates	Sound 3	None, shut down	
	Exit door opened (that reports to that range control post)	Minor – Priority 7	Security – lower in priority as it identifies a possible risk	Only if acknowledgement timeout expired	Sound 5	
	Interlock override	Minor – Priority 7	Security – lower in priority as it identifies a possible risk	Sound 5	Sound 5	
	Door not locking within pre-specified time of being closed (usually 10 seconds)	Minor – Priority 7	Security – lower in priority as it identifies a possible risk	Only if acknowledgement timeout expired	Sound 5	
	Door open too long (swing door),usually for 60 seconds after being released	Minor – Priority 7	Security – lower in priority as it identifies a possible risk	Only if acknowledgement timeout expired	Sound 5	
	Fault or tamper alarm for window or door or any other device managed by control post	Minor – Priority 7	Security – lower in priority as it identifies a possible risk	Only if acknowledgement timeout expired	Sound 5	
Cell call (range office)	Cell call not answered within timer	Minor – Priority 6	Life and safety of inmate	Sound 4	Sound4	
Security patrol (range office and CM)	Time limit has expired	Minor – Priority 6	Life and safety of inmate		Re-use sound 1	Sound 1
	Time limit warning interval for next security patrol	Minor – Priority 9	Potential life and safety of inmates		Re-use sound 2	

V&C	Shutdown	Major– Priority 3	Major incident - Life and safety of officers and inmates	Sound 3	None, shut down	
	Camera or microphone tamper or failure	Minor – Priority 7	Security			
SIO	None – the alarms that show on the V&C UI map view are also shown on the SIO UI map view, but there are no audible alarms at the SIO UI					
Other range office systems (lights), excluding SMSS (aka DCS)	None					
All control posts	System failure	Minor – Priority 8	Security	Alarm sound 5	Alarm sound 5 only if the other systems are still up;	
	Fault or tamper alarms for the devices that report are managed by that CP	Minor – Priority 8	Security	Alarm sound 5 Only if acknowledgement timeout expired	Alarm sound 5	

9 LIST OF COMMON COMMANDS ACROSS ALL USER INTERFACES

.1 All icons are available from CSC in .png format.

9.1 Structure icons

.1 All of these icons are static, and no commands can be sent to them. They indicate the physical presence of a structural element on the Map View.

Icon Description	Location	Icon Name	Icon	Description for Help
Perimeter fence - location	Map area	S1_perimeter_fence		Indicates outer perimeter of institution to indicate location, but not the monintored status
Sally port	Map area	S3_sally_port		Indicated location of a sally port
Yard fence	Map area	S4_yard_fence		Indicates a fence for a yard
Exterior wall	Map area	S5_exterior_wall		Indicates an exterior wall
Interior wall	Map area	S6_interior_wall		Indicates an Interior wall
Stair case	Map area	S9_stair		Indicates a stair, with an arrow indicating direction of change in elevation.
Locked indicator	Map area	S10_locked		Indicates that the object on which the locked icon is in place can be locked manually. For a door it indicates that it can be locked manually, and is located in an area that offenders and visitors have physical access to, and must be kept locked unless unlocked for a specific purpose.
Door, not under DCS	Map area	S11_door		Indicates a door that is not under control of a DCS, where you want to know the location of the door.
Male washroom indicator	Map area	S12_male_washroom		Indicates a washroom for men.
Female washroom indicator	Map area	S13_female_washroom		Indicates a washroom for women.
Generic washroom indicator	Map area	S14_generic_washroom		Indicates a washroom for men or women.

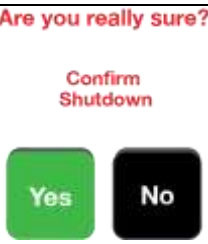
Cabinet	Map area	S15_cabinet		Indicates a cabinet that has a lock that will generate an alarm. Cabinets that do not generate alarms are not placed on the map view.
Interior partial wall	Map area	S16_partial_wall		Indicates a partial wall that does not go to the ceiling.
Road	Map area	S17_road		Indicates a road over which vehicles with mobile sensor data (or GPS) may be tracked and displayed.
Windowed wall	Map area	S18_windowed_wall		Indicates an interior wall with windows to provide observation in an area where inmates can be present
Wall continues	Map area	S19_wall_continues		Indicates that the wall on the drawing continues into another floor plan or building
Barred wall		S20_barred_wall		
Indicates a shaft		S21_shaft_fill		Indicates a shaft that is generally icon
		S22_circular_stairs		

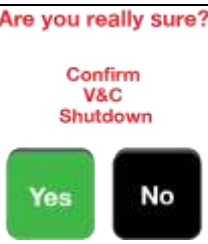
9.2 Common command icons

Icon Description	Location	Icon Name	Icon	Description for Help
UI logged in	Login area	1_UI_logged_in		UI is active. Select to turn off the UI. The icon turns grey, and no commands are available for selection. The map view is still presented.
UI logged out	Login area	2_UI_logged_out		UI is not active. Log in to activate the UI. The icon turns black and commands are available for selection. Default map view for that UI is presented.
Confirm	Selection Tray	3_Confirm		Used to confirm a command or selection. If confirm is required, the confirm icon will flash.
	Selection Tray	4_Confirm_selected		Confirm has been selected.
Cancel	Selection Tray	5_Cancel		Used to cancel any command or action. Selecting cancel will cancel any other selection(s).
	Selection Tray	6_Cancel_selected		The cancel command has been selected, and any other selection has been cancelled.
Emergency	Selection Tray	7_Emergency		Used to select emergency actions. Selecting this icon will bring up the possible emergency actions that can be chosen.
	Selection Tray	8_Emergency_selected		Indicates Emergency command selected, and that the UI is in an emergency state.
Help	Selection Tray	9_Help		Used to apply help to an icon

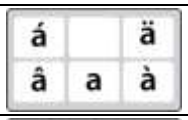
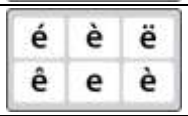
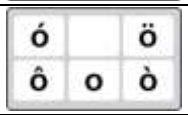
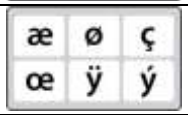
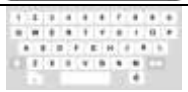
	Selection Tray	10_Help_selected		Help has been selected, and the explanation is displayed in the Detailed Status Window. Choosing cancel or choosing another command will clear the help text from this window.
Map	Selection Tray	11_Map_choose		Used to select a map to display in the Map View. Map thumbnails are displayed
	Selection Tray	12_Map_selected		Indicates that a map can be chosen to be displayed on the main part of the UI
RFID confirm	Selection Tray	13_RFID_confirm		Used to confirm a command or selection with swiping of an RFID card. If confirm is required, the confirm icon will flash.
	Selection Tray	14_RFID_confirm_selected		A swipe of an RFID card has confirmed the command or selection.
Emergency checklist		34_Emergency_checklist		Presents an emergency checklist which can provide detailed steps
		35_ Emergency_checklist_selected		Emergency checklist has been selected and the emergency checklist is presented
Acknowledge alarm		42_Ack_alarm		Used to acknowledge an alarm and turn off the audible alarm. Icons for alarms show the 'active alarm unacknkowledged" state.
		43_Ack_alarm_selected		Indicates that the alarm has been acknowledged. Icons for alarms now show the 'alarm acknowledged" state.

9.3 Special command icons

Icon Description	Location	Icon Name	Icon	Description for Help
Emergency lockdown	Pops up in System Selection Tray	15_Emergency _lockdown		Used to select Emergency Lockdown. When selected, the other two icons disappear indicating that an Emergency Lockdown is in progress, and only commands related to that state are displayed.
Emergency evacuation	Pops up in System Selection Tray	16_Emergency_ evacuation		Used to select Emergency Evacuation. When selected, the other two icons disappear indicating that an Emergency Evacuation is in progress, and only commands related to that state are displayed. A specific Emergency Evacuation map, if configured, is presented when this icon is selected.
Emergency shutdown	Pops up in System Selection Tray	17_Emergency_ shutdown		Used to select Emergency shutdown. When selected, the other two icons disappear indicating that an Emergency Evacuation is in progress, the map view is greyed out, and only commands to confirm or cancel the Emergency Shutdown are presented. Emergency Shutdown turns off the GUI at that control position, and it can only be re-initiated from a remote location.
Emergency shutdown confirm	Pops up on map area	36_Emergency_ shutdown_conf irm		Used to confirm Emergency Shutdown with a double confirmation. Emergency Shutdown turns off the GUI at that control position, and it can only be re-initiated from a remote location.
Select detail map	Only on some map views	37_Detail_View		Displayed on an overview map to select a detail map of the chosen area.
Select overview map	Only on some map views	38_Overview		Displayed on a detail map to return to the overview map that presents the entire status of the area.

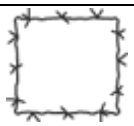
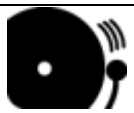
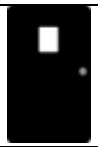
Reactivate control post	Pops up in System Selection Tray	39_Activate_control_post		Used to reactivate a shutdown control post.
Emergency shutdown for a control post – at this point can only be applied to the V&C	Pops up in System Selection Tray	40_ Emergency_shutdown_CP		Used to shutdown a V&C control post
Emergency shutdown confirm for V&C	Pops up on map area	41_ Emergency_shutdown_confirm_V&C		Confirmation of shutdown of the V&C control post
Activate a control post selected	Pops up in system selection tray	44_Activate_control_post_selected		This shows that activating a Control Post Status Display has been selected.
Shutdown a control post selected	Pops up in system selection tray	45_Emergency_shutdown_CP_selected		This shows that shutting down a Control Post Status Display has been selected.

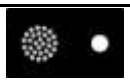
9.4 Common icons across multiple systems

Icon Description	Location	Icon Name	Icon	Description for Help
Keyboard for accents for A	Pops up above keyboard	C1_keyboard_A		This keyboard provides the ability to select the different accents for the letter A for all required languages.
Keyboard for accents for E	Pops up above keyboard	C1_keyboard_E		This keyboard provides the ability to select the different accents for the letter E for all required languages.
Keyboard for accents for I	Pops up above keyboard	C1_keyboard_I		This keyboard provides the ability to select the different accents for the letter I for all required languages.
Keyboard for accents for O	Pops up above keyboard	C1_keyboard_O		This keyboard provides the ability to select the different accents for the letter O for all required languages.
Keyboard for accents for U	Pops up above keyboard	C1_keyboard_U		This keyboard provides the ability to select the different accents for the letter U for all required languages.
Keyboard for accents for Y	Pops up above keyboard	C1_keyboard_Y		This keyboard provides the ability to select the different accents for the letter Y for all required languages.
Alpha numeric keyboard	Pops up under detailed status window	C2_keyboard_alpha_numeric		Alpha numeric keyboard for data entry
Calendar	Pops up under detailed status window	C3_calendar		Calendar to choose dates for reports or data entry
Select time	Part of report selection parameters	C4_select_time		Numeric keypad to choose time for reports
Select time greyed	Part of report selection parameters	C5_select_time_greyed		Numeric keypad to choose time for reports which is greyed out when that specific field is not ready for data entry
Field for data entry		C6_field_enter		Indicates a field where data is to be entered

Field available for data entry		C7_field_enter_selected		Indicates a field that is available for data entry

9.5 System selection icons

Icon Description	Location	Icon Name	Icon	Description for Help
Perimeter monitoring	Selection Tray	18_perimeter_monitoring		Used to by operator to choose commands related to perimeter monitoring, which may include PIDS, PIDTS and / or SIDS.
	Selection Tray	19_perimeter_monitoring_selected		Indicates perimeter monitoring system commands are available for selection
Alarm monitoring	Selection Tray	20_alarm_monitoring		Used to by operator to choose commands related to the alarms that are routed to the Alarm Monitoring GUI
	Selection Tray	21_alarm_monitoring_selected		Indicates alarm monitoring commands are available for selection
CCTV	Selection Tray	22_CCTV		Used by operator to select commands related to CCTV
	Selection Tray	23_CCTV_selected		Indicates CCTV commands are available for selection. When selected, the field of view of PT or PTZ cameras are displayed on the GUI.
Guard tour	Selection Tray	24_Guard_tour		Used by operator to select commands related to guard tour
	Selection Tray	25_Guard_tour_selected		Indicates guard tour commands are available for selection
Door control system	Selection Tray	26_Door_control_system		Used to by operator to choose door commands

	Selection Tray	27_Door_control_system_selected		Indicates door commands are available for selection
Cell Call	Selection Tray	28_Cell_call		Used to by operator to choose cell call commands
	Selection Tray	29_Cell_call_selected		Indicates cell call commands are available for selection
Power and light control	Selection Tray	30_Power_and_light		
	Selection Tray	31_Power_and_light_selected		
Audio record	Selection Tray	32_Audio_record		Used to by operator to choose commands related to audio recording
	Selection Tray	33_Audio_record_selected		Indicates audio recording commands are available for selection

10 DETAILED SPECIFICATIONS FOR ICONS, POSITIONING AND COLOURS

10.1 Colours

GUI and Icon Standards

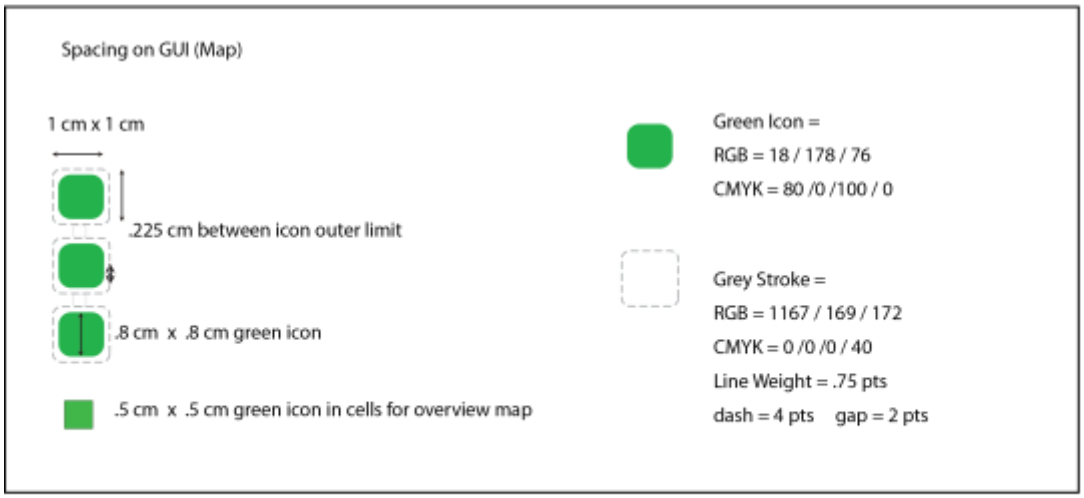
* Monitor Size = 475 mm x 267 mm

CSC Red	RGB = 237 / 28 / 36	CMYK = 0 /100 /100 / 0
CSC Magenta Dye=	RGB = 202 / 48 / 146	CMYK = 18/94/0/0
CSC Orng/Yel. =	RGB = 253 / 187/ 48	CMYK = 0 /29 / 91 /0
CSC Yellow=	RGB = 255/242/0	CMYK = 0 / 0 / 100 / 0
CSC Green:	RGB = 0 / 133 / 63	CMYK = 95 / 100 / 27
CSC Blue:	RGB = 0 / 74 / 139	CMYK = 100 / 66 / 0 25
CSC Black:	RGB =19 / 24 / 25	CMYK = 75 / 64 / 63 / 80
CSC Grey Stroke on Icon:	RGB = 99 / 100 / 102	CMYK = 0 / 0 / 0 / 75
CSC Grey in Icon Fill:	RGB = 218 / 217 / 217	CMYK = 14 / 10 / 11 / 0
Apple Grey Background :	RGB = 230 / 230 / 230	CMYK = 8 / 7 / 6 / 0
Building in MCCP - grey fill	RGB= 146 / 148 / 151	CMYK= 45.31 / 36.33 / 35.16 / 1.56
Perimeter Line (site maps)	RBG= 242/241/240	CMYK: 3.91 / 3.13 / 3.13 / 0

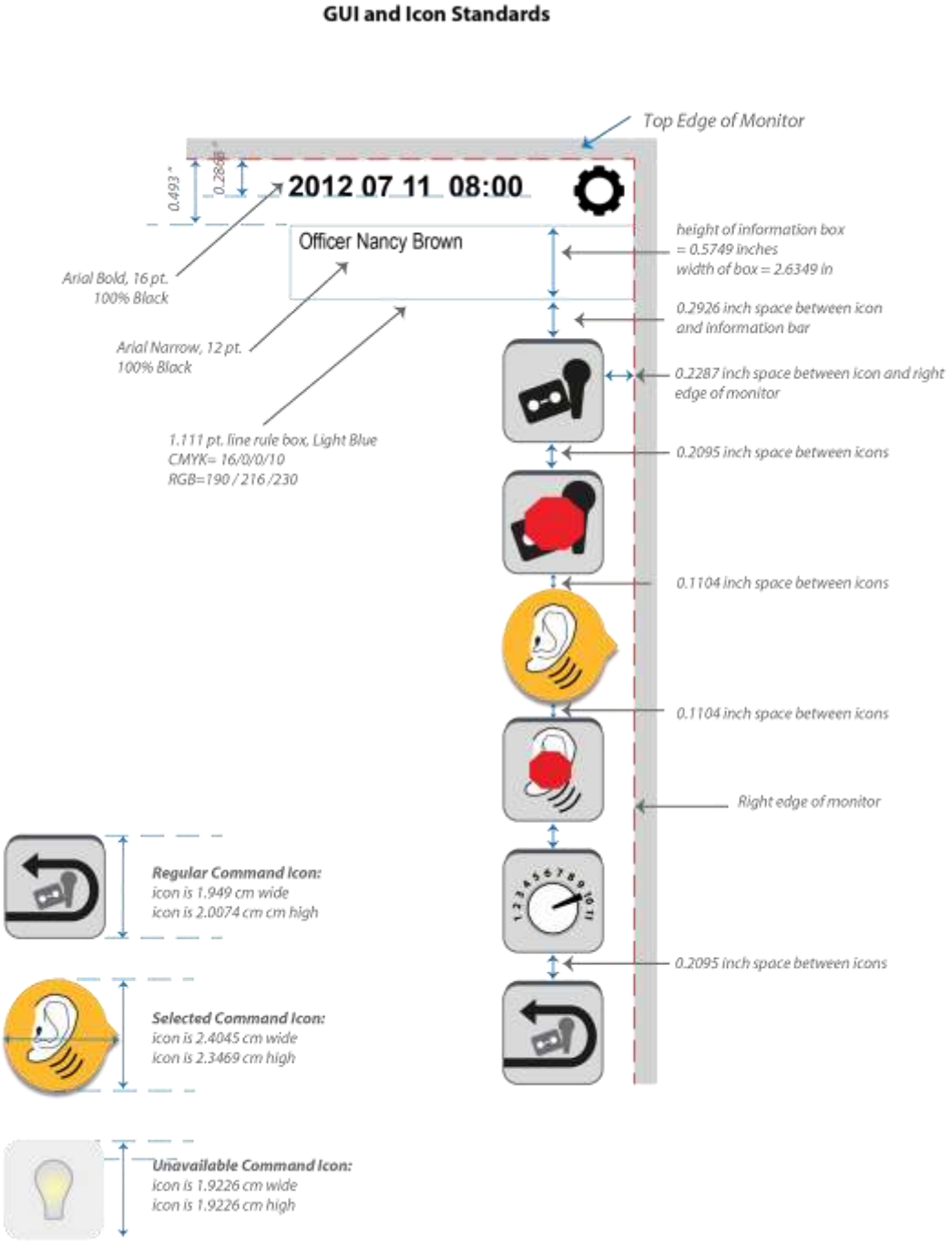
10.2 Detailed icon sizing

GUI and Icon Standards

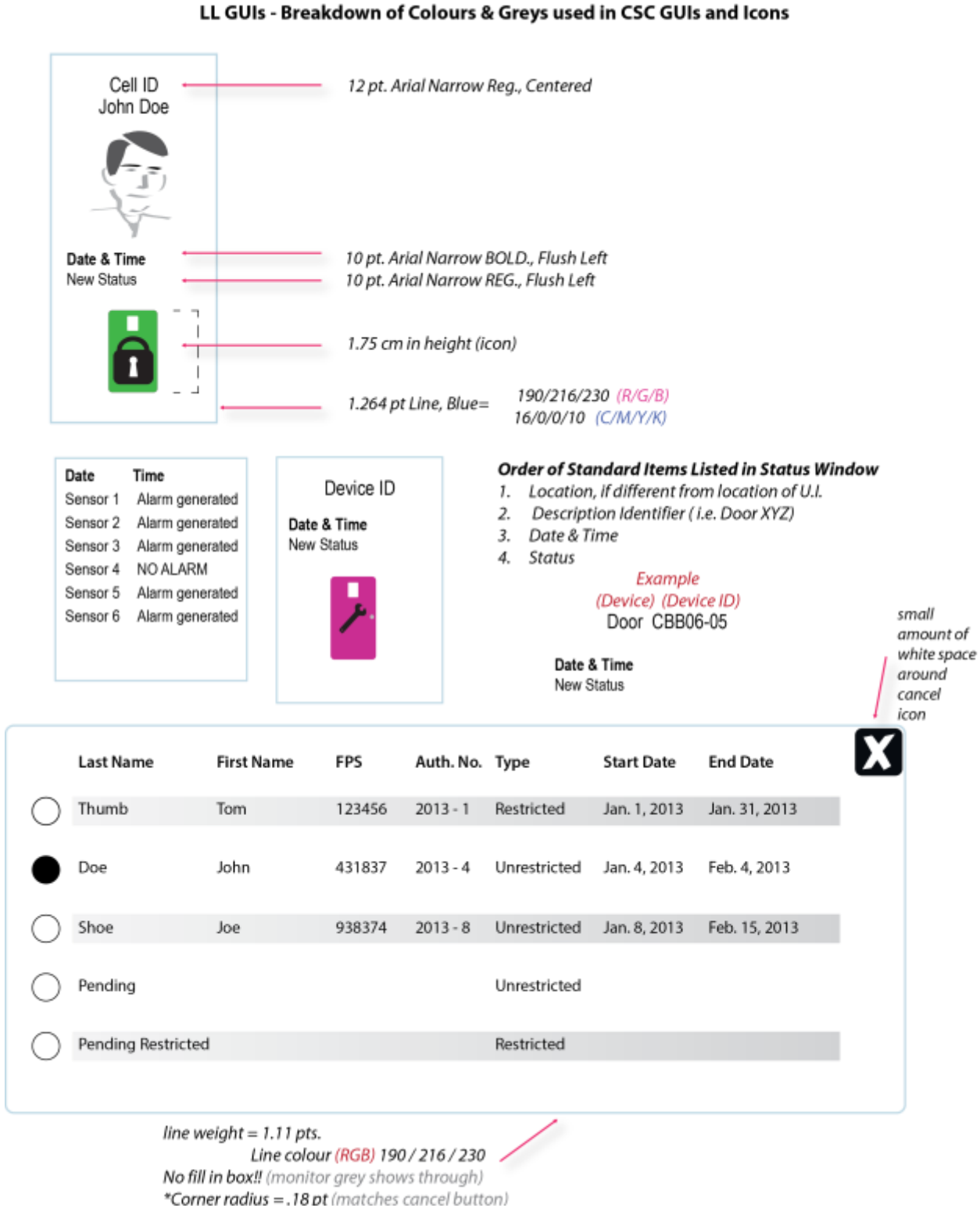
CSC Grey Stroke on Icon (.75 pt size) :	RGB = 74 / 81 / 90	CMYK = 71 / 59 / 49 / 0	
Selected icon yellow	RGB = 253 / 187 / 48	CMYK = 0 / 29/91/0	
CSC Grey in Icon background fill:	RGB = 217 / 217 / 217	CMYK = 14 / 10 / 11 / 0	
Icon graphic	Black 100%		
Door icon graphic	RGB = 176 / 176 / 176	CMYK = 31% Black	
Door - grey outline - .18 pt size rule	RGB = 0 / 0 / 0 / 31	CMYK = 75% Black	
GUI Monitor - Grey Background :	RBG = 240/ 240/ 240	CMYK = 4 / 3 / 3 / 0	



10.3 Positioning of command icons



10.4 Detailed status window



10.5 Special icons

GUI and Icon Standards

Cell Tables

Colour Blue = RGB: R100 G120 B189
C M Y K: C=100 M=42 Y=4.3 K=0

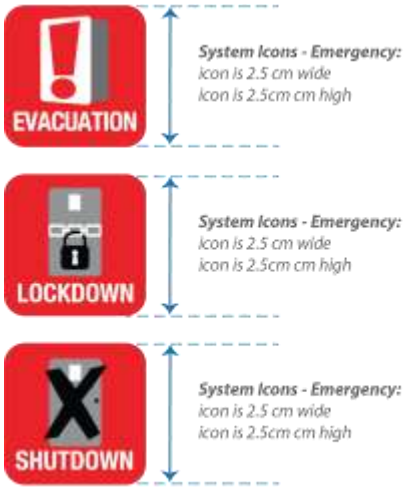
Colour - Green= RGB: R29 G178 B26
CMYK: C=79.7 M=0 Y=100 K=0

Green circle size = .0.36 cm x 0.36 cm

Cell Tables

Line Weight = 0.501 pt,
Line Colour= 100% Black
Icon Height= .8 cm

25 ← Font: Arial Narrow, 10.8 pts, 100% black



System Icons - Emergency:
icon is 2.5 cm wide
icon is 2.5cm cm high

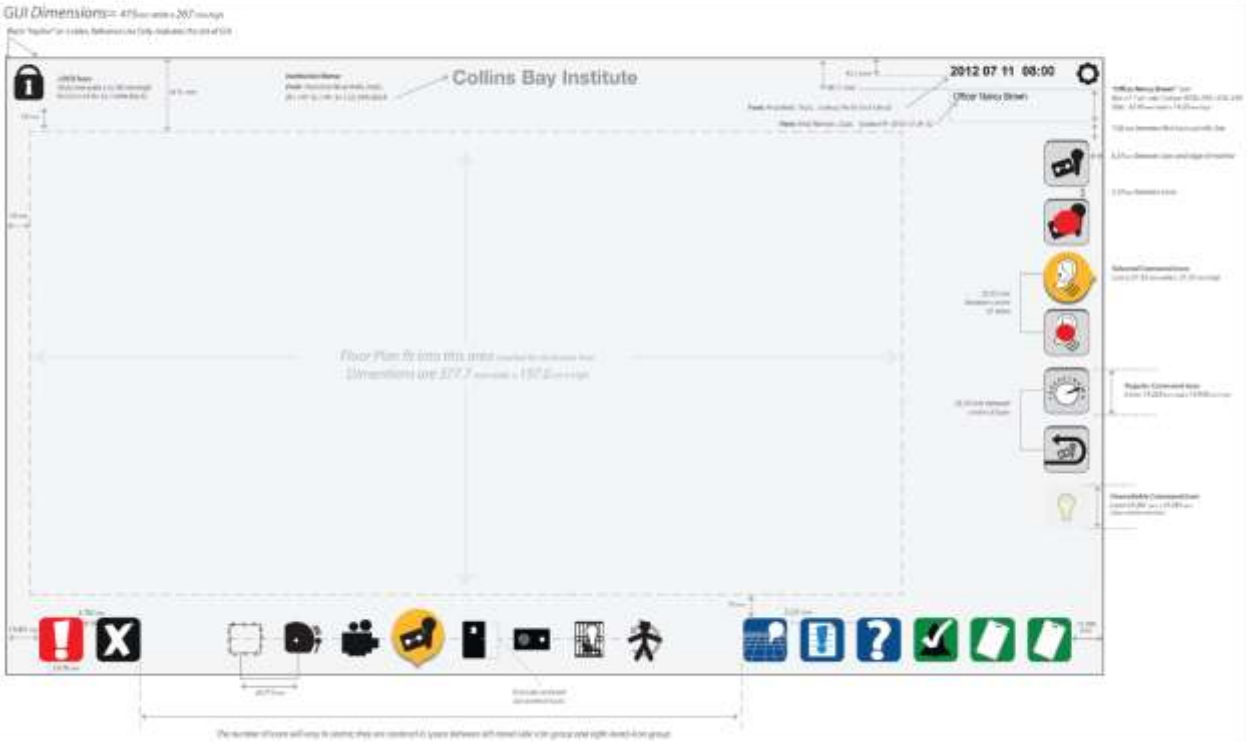
System Icons - Emergency:
icon is 2.5 cm wide
icon is 2.5cm cm high

System Icons - Emergency:
icon is 2.5 cm wide
icon is 2.5cm cm high

System Icons - Regular:
icon is 1.905 cm wide
icon is 1.905 cm cm high

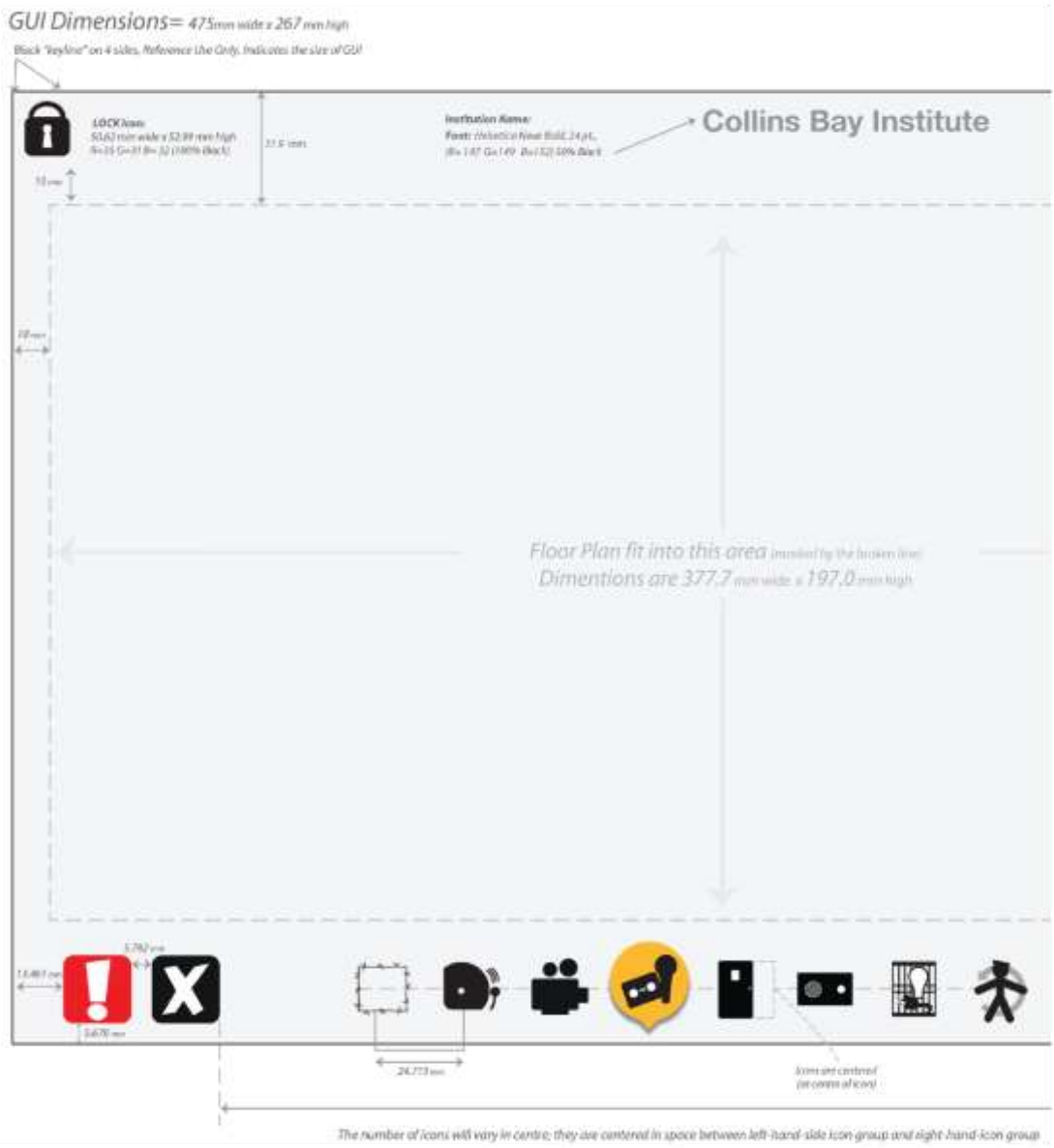
System Icons - Selected:
icon is 2.3961 cm wide
icon is 2.681 cm high

10.6 Sizing for UI overall



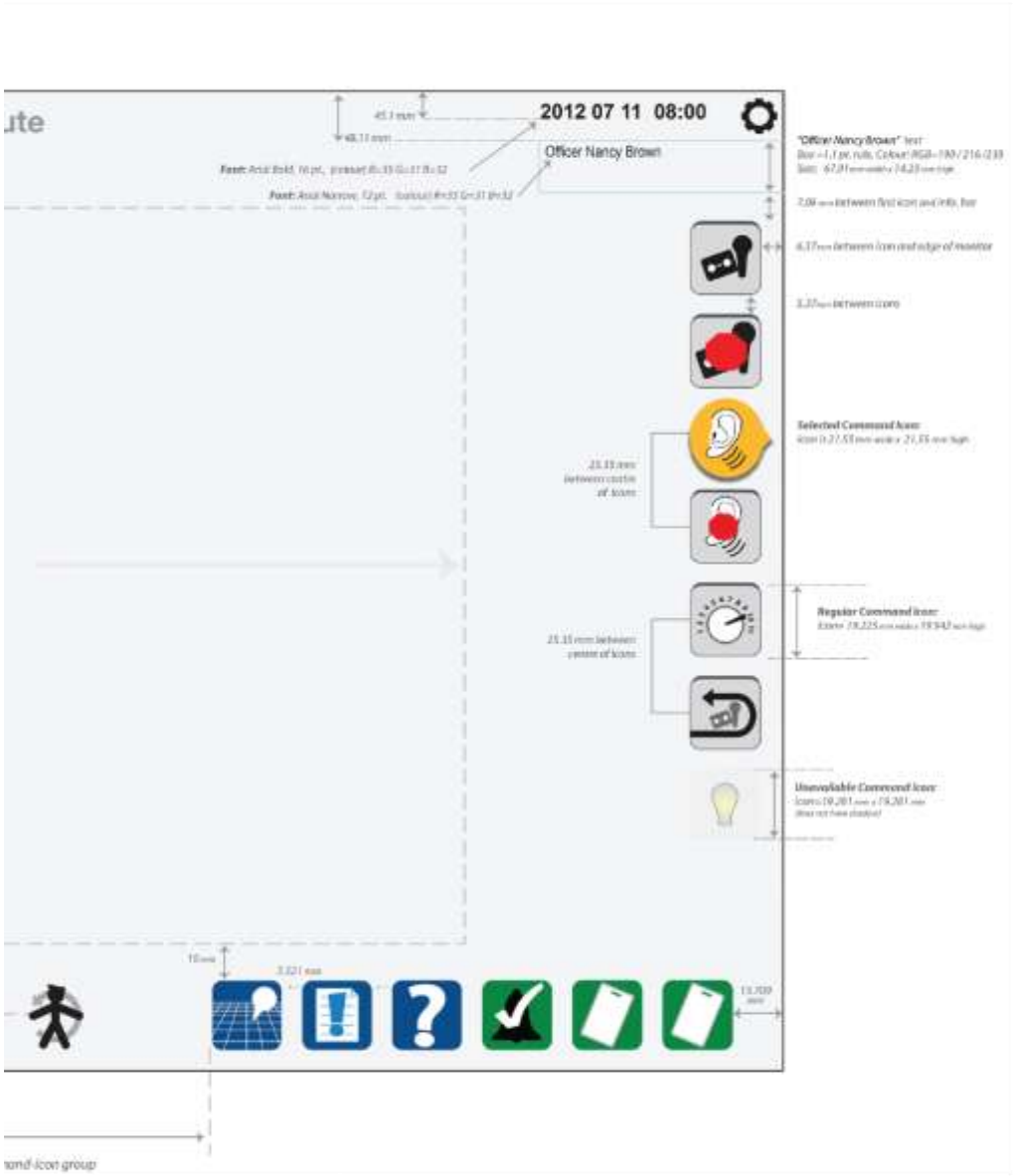
10.7 Sizing on left hand side of display

GUI and Icon Standards
(Left Hand Side of GUI Master page)



10.8 Sizing on right hand side of display

GUI and Icon Standards
(Left Hand Side of GUI Master page)



10.9 Details of structure icons

GUI and Icon Standards

Type of map	Example	Weight of lines	Colour	Graphic Example
L1	Site Maps	.523 black line (outline on buildings)	R=145 B=147 B= 150 (fill inside buildings)	
L2	V&C Areas, Some floor plans Building maps used at Interior Security.	• Line weights are 3 pt. (Interior, exterior, windowed walls, barred walls) • Half-walls are .7 pt. • Elevators=.75 pt. • Stairs=.5 pt width • Symbols= 1.5 pt • Doors= .5 pt	• Exterior line=100% black • Interior Line colour is R=145 G=147 B=150 • Half-Walls= R=99 G=100 B=103 • Doors= white fill with black outline • Shaft areas are have continuous black dot fill (half-tone dot)	
L3 – Overview Map	Floor Plans, often entire floor of building, i.e. Ground Floor Control post to monitor status	• Line weights are 1 pt. (Interior, exterior, windowed walls, barred walls) • Half-walls are .5 pt. • Elevators=.5 pt. • Stairs=.2 pt width • Symbols cont. walls= .0625 pt • Doors= .2 pt	• Exterior line=100% black • Interior Line colour is R=145 G=147 B=150 • Half-Walls (colour)= R=99 G=100 B=103 • Doors= white fill with black outline • Shaft areas are have continuous black dot fill (half-tone dot)	
L3 – Detailed map	Part of a floor plan, bigger than V&C area Control post to choose icons to send commands to	• Line weights are 2 pt. (Interior, exterior, windowed walls, barred walls) • Half-walls are .6 pt. • Elevators=.6 pt. • Stairs=.35 pt width • Symbols cont.walls= 1.25 pt • Doors Lines= .3 pt • Perimeter Line= 3 pt. weight, it is a dashed line (dash is made up of 1 pt.dash, and 3 pt. gap	• Exterior line=100% black • Interior Line colour is R=145 G=147 B=150 • Half-Walls= R=99 G=100 B=103 • Doors= white fill with black outline • Shaft areas are have continuous black dot fill (half-tone dot) • Perimeter line colour: RGB: 240 / 240/240 CMYK: 4/3.5/3.5/0	

Note: Doors - Length of doors may vary in any of these Map levels; the door length is based upon the blueprint, and the length can vary per institution.