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1. Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the Inmate Management Information System software. It will explain the purpose and features of the software, the interfaces of the software, what the software will do and the constraints under which it must operate. This document is intended for users of the software, Creators, testers and potential additional developers.

Scope

The web based Inmate Management Information System software will exclusively be focused on the inmates and their direct management, admission, discharge, transfers, discipline, medical and visits.

1.2 Intended Audience

This document was created for the following list of persons:

1. Customers & Users
2. Systems Analysts
3. Developers
4. Programmers
5. Testers
6. Project Managers

2. Overall Description

2.1 Product Perspective

This product is being designed for the management of inmates throughout the penal system, it will be a web based application that will be used to efficiently admit inmates to prison and effectively manage their prison career thereafter.

The application will utilise a PHP frontend to display the admission and other forms that speaks to the bio-data, criminal and rehabilitation of the prisoner. And a MYSQL database to hold the data on a webserver, the PHP interface will be used to communicate with the database.

This database is being developed a fully manual system that is currently in use, and a partially developed system that is not fully deployed and has been faulty and expensive.

2.2 Product Functions

This project will serve several functions for the prison system, namely;

- It will admitted inmates to prisons, that is create convicted and remand records for the inmates on their admission to prison.

- Display complete prison records, that is compose a full record from the various tables that will be created.

- Track their medical health, the software will have forms for the medical staff to fill upon initial examination and, for any other diagnosis or condition that arises/manifest throughout the inmates' prison career.

- It will track the inmates adjudication and other aspects of their prison careers.

- The movement of inmates between prison locations will be tracked throughout their prison career, their reasons for transferral and date of transferral will also be recorded.

- The system will generate information and request through criteria searches that administration, prison staff and clerks will be able to select and create.

- Generate and publish reports, users will be able to generate reports and publish them for viewing.

- Users will be able to view reports and make request for special reports.

2.3 User Classes and Characteristics

There are four types of users that will interact with this system, the Prison Staff/Clerks, the Directorate (High level prison staff and civilians that are responsible for prison management), the Ministry of Public security and other systems in the Judiciary e.g. courts, and the prison administration. Each of these users will have different levels of access to the system because of the nature of their job, and will be able to access this system through unique passwords.

The Prison Staff and or Clerks will be using the system to admit inmates into the prison system, accessing the blank forms for the database to record the relevant data to create a comprehensive profile of the inmate. They will also use the system to generate reports by criteria searches, e.g. discharges, admission and by the type of offences etc. These users are lower level but they have the most important function of populating the database. They will also generate their monthly reports and publish them for the entire prison system and the Ministry and Courts etc. to utilise.

The directorate will utilise the reporting feature of this system to generate reports on the inmates by various aspects of data collected and will use this information to inform decisions and high level policies that affect both staff and inmates alike. These decisions will also affect the nation as a whole and inform public polices and rehabilitation and reintegration of inmates into the society form which they were taken. These users are at the highest level and are the most important, all the data collection and reporting is done so that these users can have accurate and real-time date to effectively carry out their mandate.

The Ministry of Public Security and other Judicial Systems will only be able to see published reports and request special reports from the Guyana Prison Service. They will not affect any changes and can in no way besides requests interact with the system. These users are very improrant on the spectrum of users as they

will be utilising the information for a variety of purposed that are directly linked to public safety and national security.

Lastly the system will be utilised by the prison administration to manage and update the inmate's rehabilitation, medical, adjudication and labour. They will be able to affect changes and interact only with the relevant areas to which they are attached. They will also be able to publish monthly reports from their various departments for viewing purposes, of the entire prison system. These users are medium level security and have an important job in prison management.

All staff will have clearance based on their security level/rank and expertise/training with the system, use of the system is not limited to any specific time.

2.4 Design and Implementation Constraints

The database capacity will limit the response time, since there will be once central server that will serve all five (5) prison locations. And that their will more often than not users using/updating the same forms at the same time.

The internet connection will also be a constraint to the system, the infrastructure is set up utilising dedicated lines from GTT DSL service and the connection is sometimes unreliable due to difficulties that GTT are currently faced with.

2.5 Assumptions and Dependencies

The success of this project depends on the assumption that the prison service will have met the logical and physical hardware requirements, that is on both the serve side and the number of PCs needed to fully deploy the system in the way in which it is designed to work

The system is dependent on the faultless functioning of the dedicated lines from GTT, and that the purchased speeds be at an optimum at all times.

It is assumed that the prison service will have made the necessary changes to the standard procedures law to allow the use of digital documentation instead of physical paper based systems.

3. System Features

The overall objective of IMIS was to scale up prison governance by ensuring a transparent, user friendly, problem solving, and friendly and trustworthy prison management system across Guyana.

3.1 Classification

Class of use	Actors involved	Use case	description
User account usage	Police Administrator Data manager Dept	login	Login into account <includes password> Invalid id or password
Viewing	Administrator Police officer Dept Police	View register	<extends> 1.view nominal role 2.View case register 3.view in-out register 4.view parole register 5.view duty register
Generating reports	Administrator Data Manager Dept Police	Report generation	<extends> 1.prisoner wise report 2.case wise report 3.vistor wise report
Confirm interview request	Administrator	Confirm interview request	All interview requests By relatives of prisoners
password	Administrator	Change password	Change of password

3.2 GLOBAL AND TECHNICAL FUNCTIONAL REQUIREMENTS

Requirement
The software application shall create an electronic file for each offender, which may include multiple offenses committed by that offender
The software application shall capture, store and report on all inmates using their SID#
The software application shall use prompts and error messages to assure that all required fields are completed
The software application shall include a security matrix that defines access to screens for specific user groups
The software application shall have the ability to open, close, and reopen files and case records
The software application shall assure that each staff member shall have a unique ID and password combination
The software application shall have the ability to run queries to locate, active, and inactive records by name of individualized identifier (unique id (SID), SSN, DOB); case number; address, or name of defendant references
The software application shall accept input of scanned original documents to associate with each offender
The software application shall have the capacity to capture, store and display multiple digital images than may include at a minimum offender photo, scars, marks, tattoos.
Photo images stored in the State's database must be stored as compressed files using the JPEG 2000 compression algorithm.
The software application shall provide interactive tools to allow the State system administrator to monitor all processes and queues, and to detect and correct system operational problems.
The software application shall provide the ability to retrieve and/or reopen a previously closed case
The software application shall “link” (invoke a separate workstation session for or with the use of the state CJIS repository (Mainframe Application)) to obtain at a minimum, prior criminal history and/or convictions. The search criteria is based on SID Number which will be the only data element passed to CJIS.
The software application shall record signatures electronically

3.3 DESCRIPTION OF FEATURES

3.3.1 FEATURES OF IMATE PRISON MANAGEMENT SYSTEM

Our system has two main interfaces one for Admin panel and other is for User which is jailor. Along with these, we have other interfaces which can be discussed as below:

Registration:

User data need to be registered in the prison management system so as to use the system and add the prisoner's details.

If the user (jailor) is not registered in the-the prison management system, he/she cannot do any task with it like writing, adding prisoner crime and punishment details etc.

Login:

After registration one can log in the system as the operator of the system on the behalf of user. After this, he has the other user interfaces available for further actions.

Adding Prisoner:

The second option that is given in this is the one of the most important that is adding prisoner.

As soon as the court declares that the victim is found guilty and tells his or her punishment and in which prison the victim must be kept, the prisoner will be sent to the same prison as told by court and all the details of criminal like name, address, age, criminal number, crime and the punishment all can be updated in the prison management system,

Then later these details can be used further and there is no option to delete the prisoners data so once the prisoner is added to the database, no one can delete the data of the criminal and it will be helpful as papers can get lost or can be theft but in this case information cannot be lost and there is no use of theft this data as no changes can be made in the database.

Prisoners' data cannot be lost because the backup of the database is there and the backup gets updated as soon as the changes are made into the database.

3.4 Use Case Diagram

3.5 Case Initiation functional Requirements

Requirements
The software application shall allow Pretrial Services to know if a defendant has been arrested before or not and open a case for a defendant who may or may not have previously been arrested.
The software application shall capture, store and report information on all new arrestees and their movement through the pretrial process
The software application shall track the name of the defendant, date and time of booking and the booking identification number
The software application shall track those actions that have been completed and those still to be done in real time using color coding or other type of check off system (actions include interview, criminal history check, verification, appearance before court commissioner, risk assessment, drug screening, and bail review)
The software application shall have a free text field for capturing information gathered while conducting interviews with references
The software application shall have a user interface for interview data capture that includes fields for booking information
The software application shall capture, store and report on the results of a court commissioner's hearing, including decision, bail amount(s), bail review date and location and any conditions regarding bail and /or release
The software application shall include a user interface with fields for completing assessments and interviews including references, while maintaining a complete history of all past assessments and interviews
The software application shall be able to scan ad-hoc documents and attach them to a defendant's record
The software application shall provide an integrated calendar for scheduling and alerts for trial dates, appointments, and appearances at judicial proceedings
The software application shall send an alert for any activity or status that is determined by IMIS to require alerts (for instance, history of serious/violent offenses, protective orders, and so forth.) Multiple outputs shall be available.
The software application shall provide a daily scheduling page for each investigator to input

Requirements
and track defendants who are due for urinalysis
The software application shall provide a daily scheduling page for each investigator to input and track defendants who are who are required to appear in court or at any other scheduled activity
The software application shall capture, store, and report on each offenders' pretrial supervision conditions
The software application shall alert the case manager when a defendant is out of compliance with any of his or her pretrial supervision conditions, at a minimum it shall report if date targets have not been met, or scheduled drug testing has not been completed

4. Other Non-functional Requirements

4.1 Performance Requirements

The IMIS consists of two (2) parts :

- Client Web Application
- Mysql Database

Therefore the "Base line "System Requirements for IMIS will be:

Operating System	RAM	Storage
Ubuntu Linux	8 GB	1TB GB Solid-State Drives

- **Operating System:** Ubuntu Linux was selected due to its popularity and OS Advantages being Linux in whole. Not only is Ubuntu easy to use although the End-Users primary focus will be on the Web-Application, the Linux OS nature is not memory extensive. Thus at most times performance will be seamless, and to mention Ubuntu Linux is completely free of cost, meaning it can be installed on many systems as needed.

- **RAM:** Ram is key for any system to perform smoothly dependent on their tasks. That is why 8GB of RAM is necessary due to certain functions for example: "Retrieval Operations" because the IMIS will hold large amount of data and will get larger over time. For features and functions such as fast application start up, Minimum UI interface animations and Viewing the Database, 8GB of RAM will be sufficient.

- **Storage:** For a accumulative system like IMIS sufficient storage is a primary factor not only for performance but in security which will be explained further in the "Safety Requirements" sub heading. As stated before a Solid-State Drive SSD is required for enhance performance and durability which is worth the expense.

With these minimum requirements IMIS will perform efficient at most times (due to possible unforeseen circumstances), and will enhance user experience.

4.2 Safety Requirements

There are few Safety Risks to mention of IMIS because its main purpose serves as the Front-End web-based application of the IMIS Database. Users personal information is not required by IMIS, and neither does any of its features utilize the webcam. With that being said the users of IMIS are quite safe while using it.

Safety Risks	Mitigation Requirements
Data loss	It is Required that the host Machine house two (2) solid state drives, one for primary storage and the other for secondary storage (Backups). The IMIS by default initially creates a backup and then updates the backup on a daily basis.

4.3 Security Requirements

As mentioned earlier the IMIS will have two parts being web-based and the other being internal database. Here is a tabular view of possible Security Risks.

Security Risks	Mitigation Requirements
System/Data Breaches	The IMIS need to be designed to enforce integrity such as User authorization in the startup process. It is required of the User to exercise caution when transferring requested information via LAN and WAN for the external sources such as the Guyana Police Force(GPS) and Department of Public Prosecutions(DPP).
System Attacks	The Users is required to setup a firewall and ensure its status to be active at all times in order to prevent many common attacks for example Ping of Death (POD) which will lead to Denial of Service (DDoS) that will Deny User from

	using IMIS. In addition the User must report any suspicious activities immediately to the security staff.

4.4 Software Quality Attributes

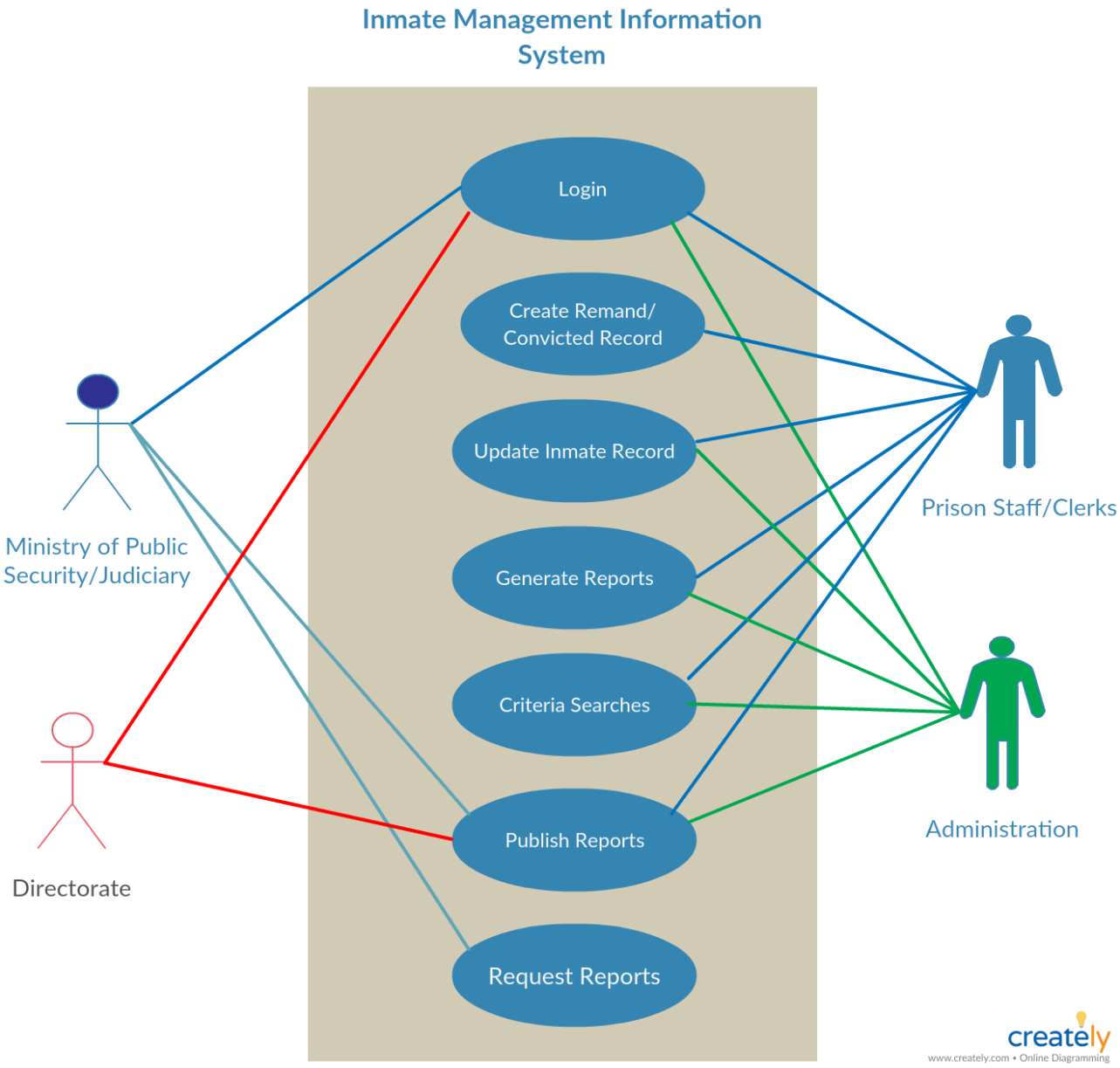
Here is a tabular view of Software Quality characteristics that IMIS will be shipped with:

Characteristics	**Description**
Functionality	This process defines our goals as it relates to the project purpose and requirements. Such as the Accuracy of our requirements, the Security needed for the IMIS and the Interoperability to relate to its end users.
Reliability	This characteristic relates to the functionality aspect of the IMIS in order to retain a reliable service especially in the event of failure. The IMIS should be able to recover all current data and immediately regain its functionality to keep productivity among the end users.
Usability	The IMIS will be designed to reflect a socio-technical approach to allow ease of use of all its functions.
Efficiency	The IMIS functions will aim not to be resource extensive, and should be able to execute its functions within 1000 ms. And such performance will be aided by the Ubuntu Linux OS.
Maintainability	The IMIS code should be constructed “clean/readable” in order to maintain possible system faults and upgrade IMIS functions if necessary.

Portability	The IMIS will adapt to its environment in terms of installation and also be compatible with other related DBMS.

5. Apendix

5.1 Use Case Diagram



5.2 Context Diagram