**Sheriff's Office IT Service Portfolio and Critical System**

Sponsors:

Justyna Grinholc

Michael Shoates

Lauren Lackey

Project Manager:

Lauren Lackey

Team:

Ernesto Estrada Rodas

Raheem Lee

Logo, company name

Description automatically generated 

Fulton County Government

Tel: (404) 612 – 4000

136 Pryor St SW, Atlanta GA 30303

Table of Contents

[Introduction 3](#_Toc121484744)

[Mission 3](#_Toc121484745)

[Project Scope 4](#_Toc121484746)

[Methodology 4](#_Toc121484747)

[Approach & Methods 5](#_Toc121484748)

[Resources 9](#_Toc121484749)

[Final Deliverables 10](#_Toc121484750)

[Next Steps 10](#_Toc121484751)

[Takeaways 11](#_Toc121484752)

[Lessons Learned 12](#_Toc121484753)

[Appendix 13](#_Toc121484754)

[Appendix A: Law Enforcement table that contains description of services and their criticality scores 13](#_Toc121484755)

[Appendix B: Jail table that contains service descriptions and their criticality scores 18](#_Toc121484756)

[Appendix C: Administration table with service descriptions and criticality scores 20](#_Toc121484757)

# Introduction

The Fulton County Sheriff’s Office IT Department is responsible for providing support to various departments within the facility. One of the ways that it supports its employee’s is by providing a variety of applications and services to help accomplish tasks. As a result, this allows the sheriff’s office to operate more efficiently. A newly created catalog system has been made for the IT Department called the Critical Systems Application Catalog. It’s meant to function as a central hub with an easy-to-use interface that hosts all of its online services and tools in one convenient spot. Think of it as an app store for your smart phone except that it hosts applications that’s geared exclusively towards the Sheriff’s Office and its operations.

# Mission

Our mission is to gather intel about these products and services from the Sheriff’s IT Department and input this information into their catalog. These applications must then be given a criticality score. If the servers from IT go down due to an emergency, the criticality score is simply an indicator within a ranking system which determines what applications are prioritized during the maintenance process. We evaluate each application’s functionality to determine a criticality score and create a guideline for determining any overlaps within the catalog system.

# Project Scope

* Gather descriptions and specifications of each service provided
* Create a criterion for calculating criticality
* Create a constitutional weight for “Mission Critical” services
* Create a Temporal Scale for added flexibility towards future updates
* Place a criticality score on each service
* Place a constitutional weight on applicable services
* Place a temporal score on applicable services
* Input services into the Critical Systems Application Catalog
* Create a manual for finding criticality
* Create guidelines for finding overlaps within the system

# Methodology

We used the Agile approach throughout this project. We met with our client multiple times and as our project matured, we received a much more defined project scope. We used internet research to gather intel about the different services and how they function. We also conducted client interviews to gather additional insight into what role these services play within the sheriff’s office. As result, we used this data to create a well-defined tangible result.

# Approach & Methods

What is a criticality analysis? In the event of an emergency if the server crashes or goes down temporarily, during the maintenance process we need to determine which services are prioritized. There are many applications that the sheriff’s office depends on in order to accomplish tasks. If unavailable, it could lead to a data breach or even the loss of lives. It’s very important to consider which services are essential to the sheriff’s office and analyzing the risk associated.

We proceeded by splitting the list of services in half amongst each other. There was a total of 58 services with one of them being the Main Switchboard. The main switchboard is the electrical management system used to safely distribute electricity throughout facility. Because this is a given priority, our project manager has allowed us to exclude this service from the portfolio. This brings our total amount of services to 57. With each member receiving roughly 29 services, we would then conduct extensive research on each application to determine their main functionalities.

After obtaining descriptions of each service, we decided that a great way to organize the services is to put them into categories based on department. We conducted an interview with our project manager Lauren and IT member William. This allowed us to gather intel on what department each service belonged to. The sheriff’s office is divided into three main departments: Jail, Law Enforcement, and Administration. These departments are what make up “The Three Pillars of the Sheriff’s Office”. They each have several distinct functions native to one another.

With this information, we then proceeded to find out more about these departments. As a result from research, we developed a well-defined list of essential functions for each department. This also contains the total number of functions for each department. Please refer to “The 3 Pillars of the Sheriff’s office” document for more details. This was going to play a key role in determining the criticality score for each service.

A *critical function* is a function of a service that has a direct and immediate impact on the department in question or the Fulton County Organization. We compared our critical functions for each service with the critical functions of each department for our analysis. Our criticality percentage formula is calculated as follows:

Number of Correlated Functions / Total Number of Department Functions = Criticality Percentage (%)

* Number of Correlated Functions – The number of critical functions from a service that are directly correlated with its department functions.
* Total Number of Department Functions – The total number of functions from each department within the sheriff’s office (refer to “The 3 Pillars of the Sheriff’s Office” document).
* Criticality Percentage – A criticality score that measures service prioritization during the maintenance process.

After the criticality percentage is calculated we then need to consider whether a service is considered “Mission Critical”. Consider a function as “Mission Critical” if it impacts the sheriff’s constitutional responsibilities. This refers to the *preservation of life, property, confidential information, and inmate welfare*. These factors must be considered and resolved within one business day before it begins to impact business operations. A constitutional weight is applied if the service’s critical functions correlate with these responsibilities.

* Constitutional Weight – An additional 15% weight that’s added to the criticality percentage based on the service’s constitutional responsibilities. If impacted, it has a potential risk resulting in:
  1. The loss of life & property
  2. The loss of confidential information
  3. The loss of inmate welfare

An additional 15% weight is applied for EACH responsibility that’s impacted.

After the constitutional weight has been factored, the new and final criticality percentage is then placed within the criticality scale. We use a criticality scale as a measurement tool to determine which services are more critical than others. The criticality scale has five zones of impact. “Mission Critical” being the most impactful and “Convenience” being the least impactful.

Criticality Scale

Graphical user interface, text, application, email

Description automatically generated

The criticality scale shows how the criticality percentage is classified during the maintenance process. It shows how well the department can operate without this service and when these services should ideally be resolved.

Temporal Scale

Table

Description automatically generated

The temporal scale is an optional weight factor that can be added or subtracted from any criticality percentage. This is not a classification chart but rather, a weight that’s added to increase or decrease a criticality percentage. This is to give added flexibility and adapt to any potential changes from the real-world including laws, regulations, or changes in functionality of the app itself. There may be a particular situation that’s occurring that calls for a service to be restored quicker (or slower) than previously anticipated. This weight factor is to account for any unexpected events.

# Resources

We used several resources to do our research on the many services that Fulton County Sheriff’s Office use for their operations. We visited each of the services’ website and read some of the white papers when they were available. This allowed us to better understand the capabilities and offering for each service to help us understand the functionalities that they have. This was a very important step for figuring out the criticalities. Another resource that we used was the Fulton County Sheriff’s Office website. We used the website to look for the overall functions of the Sheriff. This was the next step to have an initial criticality scale to further refine it with our sponsor meetings.

Lauren and William were a very important resource for our project. Lauren was our project sponsor and gave us plenty of guidance and answered all our questions regarding the Sheriff’s Office. William works at the IT Office of the Sheriff’s Department and gave us more details regarding who uses each of the services. Both gave support and details that were needed to complete this project.

# Final Deliverables

The final Deliverables were the creation the Criticality Scores for each of the services. We decided to group the services between Admin, Law Enforcement, and Jail. These three groups are the major stakeholders of the Sheriff’s Office. After arranging the services within their respective groups, we proceeded to create tables with descriptions for the services and their criticalities.

The other deliverable that we worked on for this project was building and populating a web app that would work as a catalog of the many services of the Sheriff’s Office. This will be the foundation towards starting to have a comprehensive plan to deal with disasters.

# Next Steps

There were some technical aspects that we were not able to gather due to scheduling or time constraints. Some of this information would need to be updated on the Critical Application System Catalogue. This could be done internally or with the help of another Capstone group.

A Phase 3 can be created to look for the major potential overlaps. From our client meetings we understood that there are many fields of information that are captured in their systems but there are many fields that are not useful or just create noise. We do recommend Fulton County’s Sheriff’s Office to work with Machine Learning methods to accurately find the information that does have an impact. From our understanding, there are great amounts of unstructured data such as descriptive information in text form, testimonials, etc. A group of data analyst can help the Sheriff’s Department to properly clean, transform, and visualize data.

After doing this process, Machine Learning algorithms can properly model the data to find the correlations within all fields of the data and find the potential overlap in a more objective way. Doing so can create efficiencies in the operations of the Sheriff’s Office. This will also reduce costs by reducing the number of services by doing consolidation and/or opting to not get new services because there is one that already does a similar functionality.

# Takeaways

* Each of the client meetings were very important. We were able to learn more about how the Sheriff Office is run.
* Clear communication helped us improve on our effectiveness when handling the many tasks on our project plans.
* Consistent feedback from our sponsor helped us adapt our skills with the needs of the Sheriff’s Office.
* Managing a Project plan and expectations of the project is key to keep good healthy relationship with our client
* Always keep a direct line of communication with the client.

# Lessons Learned

* Learned the nuances of governmental work
* Learned key concepts of Cyber Security such as Business Continuity Plans and applied those to this project
* Learned great teamwork practices and work ethics

# Appendix

## Appendix A: Law Enforcement table that contains description of services and their criticality scores

Law Enforcement Division

Ranked by Criticality Title in descending order (refer to criticality scale)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Service | Department | Description/Functionality | # Of Correlated Functions | Total # of Department Functions | Criticality Percentage | Constitutional Responsibilities | Constitutional Weight | Criticality Title |
| Cellbrite | Law Enforcement | Uses digital intelligence and investigative analytics to collect, review, analyze and manage data in investigations to protect and save lives, accelerate justice, and ensure data security. | 2 | 15 | 13% | Protection of Life and Property.  Protection of confidential information. | +30% = 43% | Mission Critical |
| GBI-SOR portal | GCIC | Support state criminal justice system. Criminal investigations and forensic lab services, computerized criminal justice information. | 3 | 15 | 20% | Protection of Life and Property.  Protection of Confidential Information. | +30% = 50% | Mission Critical |
| ONESolution CAD | Law Enforcement | Allows communications centers to dispatch and track calls for patrol, fire and medical. | 5 | 15 | 33% | Preservation of Life and Property | +15% = 48% | Mission Critical |
| CentralSquare -Moblan Mobile | Law Enforcement | Designed to function how first responders react and respond to complex and evolving events. Your responders see the most critical data, enabling them to focus on the situation at hand, with a direct line of communication to dispatch. | 5 | 15 | 33% | Preservation of Life and Property | +15% = 48% | Mission Critical |
| Accurent |  | Uncover assets, shortens investigations, process names. It helps solves cases faster. Frees up valuable staff to work on higher priority case work. | 5 | 15 | 33% | Protection of Life and Property | +15% = 48% | Mission Critical |
| AnywhereWarrant | Law Enforcement | A warrant management application that streamlines warrant generation of the Electronic Warrant system from start to end and reduces the cost of generation of a single manual warrant. | 5 | 15 | 33% | Protection of Life and Property | +15% = 48% | Mission Critical |
| CIRMS | Law Enforcement | Risk management system for Sheriff operations. It keeps track of crime record information. Contains warrants, stolen property, suspects, and property losses. | 4 | 15 | 27% | Protection of Life and Property | +15% =42% | Mission Critical |
| Evidence.com | Law Enforcement, Admin, Jail | Stores video, photos, documents, and other forms of data for evidence management | 6 | 15 | 40% | N/A |  | Mission Critical |
| Digital Stakeout | Law Enforcement | Enables cyber security professionals to reduce cyber risks | 3 | 15 | 20% | Protection of Confidential Information | +15% = 35% | Mission Critical |
| VINE | Law Enforcement | Confidential source for updated custody status and criminal case information. Send notifications to stakeholders | 1 | 15 | 7% | Protection of Life and Property | +15% = 22% | High Importance |
| Intelligence Module | Law Enforcement | Provides information that would assist in arrests. It can also be used to prevent potential incidents from occurring or reduce the impact. | 3 | 15 | 20% | N/A |  | High Importance |
| ONESolution’s Analytics | Law Enforcement | A tool that allows you to create reports in order to interpret visual data patterns, allocate resources effectively, anticipate future incidents, share law enforcement data, and improve service delivery. Customized dashboards convert your data into visualizations that provide insight for Law Enforcement. | 3 | 15 | 20% | N/A |  | High Importance |
| OffenderWatch | Law Enforcement | Registered sex offender management and community notification tool. It provides the most accurate and timely information available on the whereabouts, conduct, and compliance status of the registered offenders in Fulton County. | 3 | 15 | 20% | N/A |  | High Importance |
| Sex Offender Module | Law Enforcement | A sex offender registry management tool that generates alerts across jurisdictions based on an offender’s home, work, or school address, which further promotes collaboration among agencies on a single offender record. | 3 | 15 | 20% | N/A |  | High Importance |
| Formulytics | Law Enforcement | Provides a network platform for the storage and sharing of data regarding street gang terrorism and other criminal groups. Provides a full lifecycle intelligence collaboration of a criminal profile - From investigation and arrest, to prosecution, to incarceration, and release. | 3 | 15 | 20% | N/A |  | High  Importance |
| Felony Registration Module | Law Enforcement | A module that’s used for registering individuals with felonies with the state and county. This information is used to track crime patterns and demographics. | 3 | 15 | 20% | N/A |  | High Importance |
| Gangs Module | Law Enforcement | Intelligence app for tracking gang members. Provides key identifiers for known gang members as well as provide listings of gangs and their crimes. | 3 | 15 | 20% | N/A |  | High Importance |
| Crossmatch LiveScan | Law Enforcement | Biometric livescan solutions that verifies and double checks fingerprint capturing. It is physical identity tool. | 3 | 15 | 20% | N/A |  | High Importance |
| CentralSquare - Freedom handheld app | Law Enforcement | A mobile app for public safety, SunGard Public Sector's Freedom extends core CAD and RMS functionality to authorized employees' smartphones and tablets. | 3 | 15 | 20% | N/A |  | Medium Importance |
| Clear | Law Enforcement | Used to track, manage, and report on law enforcement investigations and activities conducted by Fulton County staff. | 3 | 15 | 20% | N/A |  | Medium Importance |
| Portal XL | GCIC | Provides a unique user interface solution for today’s justice and public safety professional. Portal XL is a zero-footprint browser independent client, requiring only a web browser. There are no files maintained on the client PC. | 2 | 15 | 13% | N/A |  | Medium Importance |
| RADAR | Law Enforcement | Speeding compliant management system. Captures speed data and other analytics on the road | 2 | 15 | 13% | N/A |  | Low Importance |
| Flock Safety | Law Enforcement | A public safety operating system that helps neighborhoods, businesses, and law enforcement in 2000+ cities work together to eliminate crime, protect privacy, and mitigate bias. | 1 | 15 | 7% | N/A |  | Low Importance |
| Superion - One Solution RMS | Law Enforcement, Jail | Allows public safety agencies to collect, store and access critical information gathered during the course of an incident or investigation. | 1 | 15 | 7% | N/A |  | Low  Importance |
| Property and Evidence Module | Law Enforcement, Jail | A complete solution for the tracking and management of all types of investigative property and evidence from submission through disposal. This module provides integrated bar coding and indexing of inventory and a streamlined disposal process for the efficient removal of inventory that is no longer relevant. | 1 | 15 | 7% | N/A |  | Low Importance |
| Georgia Electronic Accident Reporting System (GEARS) | Law Enforcement | Used to report on motor vehicle accidents statewide as well as accessing data and documents related to crashes occurring in Georgia. | 1 | 15 | 7% | N/A |  | Low Importance |

## Appendix B: Jail table that contains service descriptions and their criticality scores

Jail Division

Ranked by Criticality Title in descending order (refer to criticality scale)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Service | Department | Description | # Of Correlated Functions | Total # of Department Functions | Criticality Percentage | Constitutional Responsibilities | Constitutional Weight | Criticality Title |
| Odyssey Courts | Jail, Administration, Courts | A cloud-based legal case management solution that enables justice/court agencies to streamline operations related to electronic filing, petitions, finances, jury selection, and other administrative processes. | 3 | 11 | 27% | Protection of Confidential Information | +15% = 42% | Mission Critical |
| South Annex Jail Camera System | Jail | Manages live video feeds and recording of jail operations and events | 3 | 11 | 27% | Inmate Welfare | +15% = 42% | Mission Critical |
| Commissary and Inmate Accounts | Jail | Manages store provisions and inmate money balances | 2 | 11 | 18% | Inmate Welfare | +15% = 33% | Mission Critical |
| West ProLex (Library) | Jail | Manages availability of books and magazines used in the county jails | 1 | 11 | 9% | Inmate Welfare | +15% = 24% | High Importance |
| Tech-Care | Jail | Allows direct procurement of medical records in corrections | 1 | 11 | 9% | Inmate Welfare | +15% = 24% | High Importance |
| Identix-PID | Jail | A Personal Identification system. Provides secure access to Jail facilities using biometric sensors | 2 | 11 | 18% | N/A |  | Medium Importance |
| Mug Shot Imaging | Jail | Identifies suspects using digitized pictures. Keeps records of missing persons, police employees, and wanted persons | 2 | 11 | 18% | N/A |  | Medium Importance |
| Iris-Biometrics | Jail | Provides accurate legal identification of citizens even without ID. Enhances ID systems and assists in identifications of subjects | 2 | 11 | 18% | N/A |  | Medium Importance |
| LiveScan and AFIS Interface | Jail | Automated fingerprint identification system and other biometrics and DNA capture methods | 2 | 11 | 18% | N/A |  | Medium Importance |
| Keytracer | Jail | Key control system that helps manage, track, and secure keys throughout day-to-day operations | 2 | 11 | 18% | N/A |  | Medium Importance |
| Securus | Jail | Technology communications for safer and encrypted telecommunications | 2 | 11 | 18% | N/A |  | Medium Importance |
| Note Active | Jail | Note taking logbook entries. | 1 | 11 | 9% | N/A |  | Low Importance |

## Appendix C: Administration table with service descriptions and criticality scores

Administration Division

Ranked by Criticality Title in descending order (refer to criticality scale)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Service | Department | Description | # Of Correlated Functions | Total # of Department Functions | Criticality Percentage | Constitutional Responsibilities | Constitutional Weight | Criticality Title |
| Employee self-serve (ESS) | IT | Allows employees to directly complete job-related tasks that were traditionally handled by HR, such as updating contact information, downloading pay stubs, requesting time off, enrolling in benefits. | 4 | 15 | 27% | Protection of Confidential Information | +15% = 42% | Mission Critical |
| Access Database | IT | Database management software | 4 | 15 | 27% | Protection of Confidential Information | +15% = 42% | Mission Critical |
| QuickBooks Enterprise | Admin | All in one solution for integrated account for all business needs | 3 | 15 | 20% | Protection of Confidential Information | +15% = 35% | Mission Critical |
| Kronos | IT | A system that accurately tracks employee time, streamlines the payroll process, and gives employees a view of their time and leave information. | 3 | 15 | 20% | Protection of Confidential Information | +15% = 35% | Mission Critical |
| PowerDMS | Agency-wide | A software platform designed to recruit, train, equip, and protect employees across their careers. | 2 | 15 | 13% | Protection of Life and Property | +15% = 28% | Mission Critical |
| Quartermaster Module | Admin | Manage all important equipment and assets such as officer equipment, firearms, fixed assets, fleet assets, training assets, and special unit assets such as SWAT and K9. | 2 | 15 | 13% | Protection of Life and Property | +15% = 28% | Mission Critical |
| Fleet Management Module | Admin | Used to monitor fleet activities and make decisions about proper asset management, dispatch and routing, and vehicle acquisition and disposal.  Involves operational cost-effectiveness, vehicle maintenance, driver and asset management, vehicle safety and compliance, and operational efficiency. Effective fleet management helps you reduce fuel costs, optimize routes, increase productivity, and enhance customer satisfaction. | 4 | 15 | 27% | N/A |  | Mission Critical |
| Nixle | Admin | Notification service for emergency weather events, road closing, public safety advisories. Internal Use | 1 | 15 | 6% | Protection of Life and Property | +15 = 21% | High Importance |
| Everbridge | Admin | Alerting management system for severe weather, violence, crime, outages and other emergencies. External use | 1 | 15 | 6% | Protection of Life and Property | +15% = 21% | High Importance |
| Secure Communications | Agency-wide | Encrypted and secure voice communication between members within the agency. | 3 | 15 | 20% | N/A |  | High Importance |
| RemedyForce | IT | Comprehensive IT service management that allows to combine IT operations management and cognitive capabilities | 3 | 15 | 20% | N/A |  | High Importance |
| Workforce | IT | Local workforce development system encompasses the organizations and activities that prepare people for employment, help workers advance in their careers, and ensure a skilled workforce. | 2 | 15 | 13% | N/A |  | Low Importance |
| Professional Standards Module | Admin | Learning modules for employees to make operations more efficient and compliant | 2 | 15 | 13% | N/A |  | Low Importance |
| Training Module | Admin | Learning system and module to keep workforce up to date with the latest updates, laws, and regulations | 2 | 15 | 13% | N/A |  | Low Importance |
| AMS | County-wide, HR | Software designed to run an association by providing functionality for processing membership applications and collecting dues, running events, soliciting donations, and managing committees, chapters, etc. | 2 | 15 | 13% | N/A |  | Low Importance |