

# Functional Spec

# Manual

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# Abstract

The purpose of this document is to provide a detail of the functional specification of the Mobile Forensics Tool. The functionalities are outlined as core components on the Application and describe each function in detail.

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# 1. Introduction

The Increase in Mobile phone usage in our society grows daily, with ever advancing technologies related to mobile phones. These advancements have led to greater computing power, increased functionality, and longer battery life along with the size of the devices remaining small and easily portable. This has also led to mobile phones becoming portable data carriers, which in turn has increased the potential storage a device can have stored. To develop a single application which would allow the user to search a device and copy all of its data without damaging or losing any. During the process of data transfer, the application will allow the user to search for Keywords. If keywords are identified the application will make a second copy and transfer it into a separate folder for further investigation. There will be options to grab the Geodata from every image, or from selected images. Within the folder the application will place the image beside a text file which holds its Geodata for use in the future. There will be an option for the application to attempt to open any locked files using a Brute force technique on the copied files, keeping the original files intact for any further investigation that may be required.

The aim of this application is to be very user friendly and visually clear on its instructions.

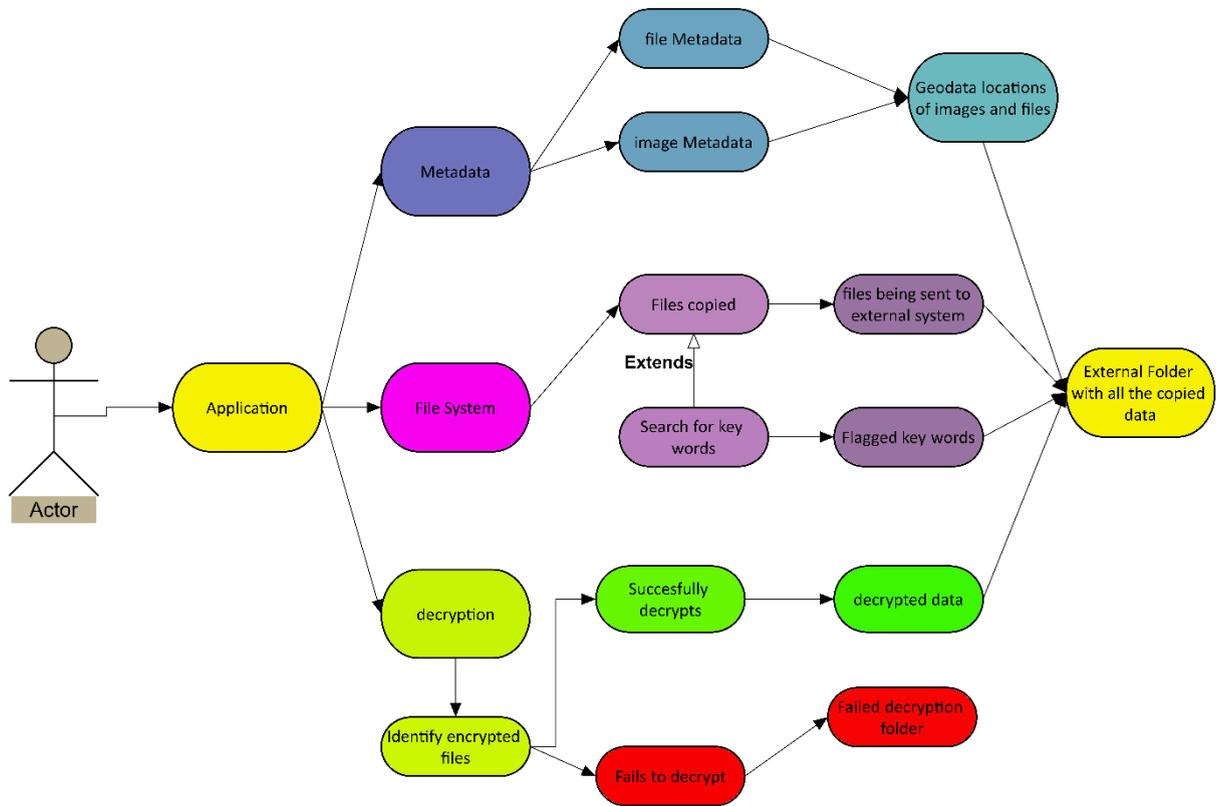
## 2. Overview

This application will allow for systems to be copied to a storage area and key words to be flagged. It will find the location of images and files through the usage of Metadata. The application will also attempt to decrypt any encrypted files it finds.

### 2.1 Goal

The goal of this application is to be very user friendly and visually clear on its instructions. Allowing for faster and cleaner Mobile Forensic investigations.

## 2.2 Structure



## 2.3 Function list

### 2.3.1 Application

- Provide a user-friendly GUI for the application
- Provide a secure application
- Provide file exploration
- Provide file copying and transferal
- Provide minor decryption
- Allow multiple users with separate accounts

### 2.3.2 File Selection

- Be able to traverse the file explorer
- Open the selected File

### 2.3.3 Directory Copying

- Be able to traverse the file explorer and select a file
- Choose a destination to copy the selected file to

### 2.3.4 Decryption/Encryption

- Encrypt the chosen file such as the register database
- Be able to decrypt these encrypted files so a user can login

### 2.4.5 Hashing

- Gets the Hash of a file
- Use this hash to compare to a file if you believe it has been edited in anyway

### 2.4.6 Logging

- Records a log of which user logs in and which function they use, Also provides a timestamp

## 2.4 User Characteristics and Objectives

### 2.4.1 Target Market

This Mobile Forensics Application is aimed at Police force, Private investigators, and Forensics teams. It is designed to have a user-friendly GUI and easy to learn how to use the application.

### 2.4.2 Objectives

Desirable characteristics for the Application

- A user-friendly interface
- Easy installation
- Secure
- Compatible with Windows and Linux

### 2.4.3 Operational scenarios

#### *Initial setup*

- The user will visit the website
- The user will then download the application installer
- The user boots up installer and the application will download
- The user will the create an account within the application

#### *General usage*

- The user will boot up the application
- The user will log in
- The application will then allow the user access to all their data

## 3. Functional Requirements

#	Functions	Description	Criticality	Dependencies
1	Registration/Login	Allow a user to register/log in	High	
2	File Selection	Allow the user to search the desired device for a file to open	High	#1
3	Directory Copying	Allow the user to search the desired device and copy all files to a different location	High	#1 #2
4	Hashing	Gets the Hash of a file to check for if a file has been edited	High	#1 #2
5	Encryption/Decryption	Be able to encrypt and decrypt files	High	#1 #2
6	Logging	Records Logs of which user does which function and the time it was performed	High	#1

### 3.1 Usability

- System must be easy to use
- The system must work with Windows

### 3.2 Reliability

- The system must be secure
- The system must be updated to keep it working with OS requirements

### 3.3 Performance

- The application should load quickly
- Only require a onetime set up
- Must be able to flag errors and recover
- Must store the data efficiently

### 3.4 Supportability

- A usage guide must be available
- The system must be easy to maintain and update
- Installation of the application must be simple

## 4. Difference from Existing Applications

Many mobile forensics applications are difficult to use and learn, and most only do one feature at a time meaning you could have to download many tools to perform some simple tasks. This is time consuming, so my aim was to create an application that could use multiple features and was both easy to use and learn, saving time and keeping the same standard of work making Mobile investigations faster.

## 5.Metrics

The success of the system will be gauged according to the following:

<b>Criteria</b>	<b>Description</b>
Quick Setup	A user can install the application easily
Usability	The application is easy to use
Usability	The user can log into their account
Reliability	The application works as intended
Support	The documentation explains the working of the system and is easy to understand
Security	The application is secure
Platform	The system works onWindows
File system	Can search the target device
File system	Can copy the files to an external location
File system	The copied data is presented well
Decryption	The encrypted files can be decrypted
Decryption	The application can encrypt the plaintext files
Hash	The Hash of the file is printed out