**Software Requirements Specification**

**For**

**Security Department Automation System**

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**Comp390**

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# 1. Introduction

## 1.1 Purpose

The software project deals with easing of employee allocation services, file sharing, file access and file storage automation product at Egerton University Department. This document covers the Overall description, System Features, Functional and Non-Functional requirements of the whole system.

## 1.2 Intended Audience and Reading Suggestions

This document is mainly intended to be of use to the Egerton University Security Department Employees who will be using the system so as to help the understand how the system works and what it can do. It’s also intended to help in easy of future system testing, modifications, upgrades and maintenance by the different professionals. It can also be used by future developers, project managers and document writers who may decide to venture into a related problem, as a reference and guide.

The rest of the document is divided into four main sections, which include, Overall description, System features, External interface requirements, and Non-Functional requirements.

For the users and testers of the system, the most important sections will be the Functional and the non-functional requirements of the system. While for the project managers and document writers they should always start from the introduction for understanding purposes.

## 1.3 Project scope

The software is developed in Java Web using Java Server Pages and Servlets. The purpose of the software is to automate the slow manual work at the security department of Egerton University so as to make it easier, convenient and faster. The System will enable the reporting of security cases by students from any locale, viewing of cases by security officers, investigation and finally attending to the cases.

So far there isn’t any other separate vision and scope document to this document. Once available, the relevant personnel will be updated accordingly.

# 2. Overall Description

## 2.1 Product Perspective

The Egerton University Security system is a new self-contained product that is meant to automate all the manual processes that are being carried out in Egerton University Security Department. The Software Requirements defined in this document were defined by Egerton University security Department staff, describing the processes that can be automated and the niche that the system can fill.

## 2.2 Product Features

The system allows the administrator (who in this case is the chief security officer) to login, then change the password for his or her account. The administrator has then have to add new users to the system. The users are the Security Officers. Students have a self-registry module where they register and then login in to the system. Students report cases by place, time and description. The administrator then views the cases and allocates to the available officers. The officers then view the allocations and will begin investigating the cases and will add reports and upload statements that are collected in the progress of the investigation. The administrator will then view the reports and decide whether a case is fit to be forwarded to higher authority, thus resolving the case. The administrator can also delete any existing user and reset their passwords.

## 2.3 User Classes and Characteristics

From the software requirements specifications there are several classes that can be anticipated to be part of the product. This section describes the user classes and provide some characteristics of the classes.

1. **User class**

This is a general user class serves all the users of the system. The class has the following functionalities:

* Create new user – this method enables the administrator to add a new user to the system, the users fall in two ranks; admin and security officer. Students have a self-registry module where they can register themselves.
* Delete user – this property allows the removal of a system user added to be removed from the system.
* Change Password – allows the user to change the current password to another desirable password.
* View users – this allows the administrators to view the users who are in the database.

The class also has the following characteristics:

* User Id / Staff Id
* Registration Number
* User Category
* User name
* User Phone number
* User email
* User gender
* User password

1. **Complaint class**

This class functions as the main definition of how complaints are handled by the relevant users. The complaint class has the following functionalities.

* Allocate – this is allocation of complaints to a specific officer by the administrator for the relevant action to be taken care of.
* Resolve case – changes the status of the complaint to “resolved’ meaning that the complaint has been dealt with accordingly and does not require further action.
* Create complaint – allows addition of a new complaint and its characteristics to the database for relevant action to be done.
* View complaints – users can view the complaints that have been stored in the databases.

The complaint class has the following characteristics.

* Case Id
* Reporter Id
* Category
* Details
* Date Reported
* Date Occured
* Location;
* Status;
* Allocation Id;
* Officer Allocated;
* Allocation Date;
* Allocation Remarks;

1. **Student**

The student class is a general class that provides a method that the department staff can be able to view the relevant student information that is useful to the department.

The class has the following characteristics:

* Registration Number– the registration number of the student whose information is being sought.

## 2.3 Operating environment

The system’s development deployment environment will be on apache tomcat server 8 or later the operating system can be either Windows or Linux operating system, and an runtime environment ; a Java Virtual Machine.

Operational deployment environment can be on any private or public or corporate web hosting server because a deployable jar file of the application can run on any server.

## 2.4 Design and Implementation constraints

The developers will face several limitations in the design and implementation of the product.

* Time constraints – there is limited time to map the requirements into a design model and finally implement the design at the specified period.
* Accessing the student information from the admissions department means that the system should be somehow compatible to the admissions department system.

## 2.6 User Documentation

A copy of user manual will be delivered along with the software; describing the basic procedures that can be used to easily access and use the product comfortably. The user manual is to be described in simple non-technical language that can be easily understood by the end user.

# 3 System Features

In this section, we discuss the functional requirements that are part of the system features and the major services that are provide by the software.

## 3.1 Functional Requirements

* ***Manage Users***

1. Administrator creates a new user.
2. Administrator deletes a user.

* ***Manage Cases***

1. Students create new cases.
2. Administrator allocates case to officer.
3. Officer checks allocated cases.
4. Administrator resolves a case.

* ***Manage Statements***

1. Officer uploads scanned statements.

* ***Manage Reports***

1. The officer uploads the reports to a case.
2. Administrator checks the uploaded reports.

* ***Show student information***

1. Officer views student’s information.
2. Administrator views student information.

# 4. External Interface Requirements

## 4.1 User Interfaces

The system consists of three basic user interfaces;

1. Login Interface which contains reset of password feature through email.
2. Admin Interface which is specifically meant for Admin users.
3. Students Interface that is meant for the students only for case reporting.
4. Officer Interface that is meant for the employed officers in the Security Department.

This user interfaces will be explained in more details in the Software Design Document.

## 4.2 Software Interfaces

This product requires different software components to work. They include;

1. Databases: MySQL database, version 1.1.8
2. Operating systems: Windows and Linux.
3. Environment: Apache Tomcat Servlet Engine
4. Libraries: Java, JSP and JSTL libraries.

# 5. Nonfunctional Requirements

This section describes the requirements that are not directly specified by the user and the business but are important for the system to function correctly and enable the users to comfortable when using the system.

* ***Operational Requirements***

1. The system will operate on any Server environment.
2. The system will be access through web browsers (Microsoft Internet Explorer from version 3.0, Firefox, Opera, Safari, Google Chrome, and any other browser).
3. The system should back up at the end of each date.

* ***Performance Requirements***

1. The system will persist a new user in at most 3 seconds.
2. The system will persist a new case in at most 3 seconds.
3. The system will fetch the list of users and cases in 2 seconds or less.
4. The system will store the case allocation in less than 2 seconds.

* ***Security Requirements***

1. Only the administrator/security department manager can create a new security officers in the system.
2. Students are allowed to only register and report cases
3. Only the administrator can allocate the cases to the available officers.
4. Only the administrator and the security officers can view student information.
5. Once a case has been saved into the database, it cannot be deleted.
6. Only the security officer in charge of a case upload statements and reports.

* ***Cultural and Political Requirements***

1. There are no special cultural and political requirements that are expected.