**CHAPTER FOUR**

**SYSTEM DESIGN AND IMPLEMENTATION**

**4.0 Introduction**

This chapter focuses on system design, system requirements, and justification of programming languages, system implementation, system testing, evaluation and discussion of results.

**4.1 System Design**

This is the process of defining the element of a system architecture, components, interfaces, module and data, to satisfy specific requirements. System design is also the application of system theory to product development and the system configuration that meets an identified or required set of requirements.

## 4.1.1 Input Design

When designing a system, it is very essential to that data are inputted into the computer for processing. The crime incident reporting system accepts input using web forms. The form is make up of various input fields and a submit button which trigger the action for the data on the form for processing. The various input screenshots is below:

## 4.2 Database Design

A database is a structured collection of records. Databases make retrieval and manipulation of data fast and easy. In this system we will be making using of MySQL database. Below is the database schema for our online crime incident reporting system.

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **FIELD** | **DATA TYPE** | **ACTION** |
| 1 | Id | Bigint(10) | Primary key |
| 2 | Full Name | Varchar(255) | - |
| 3 | Email | Varchar(255) | - |
| 4 | Password | Varchar(255) | - |
| 5 | Status | Bool | - |

Table 2: User table schema

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **FIELD** | **DATA TYPE** | **ACTION** |
| 1 | Id | Bigint(10) | Primary key |
| 2 | User\_id | Bigint(10) | Foreign key |
| 3 | Gender | Varchar(7) | - |
| 4 | Phone\_Number | Varchar(15) | - |
| 5 | Address | Varchar(100) | - |
| 6 | Photo | Blor | - |

Table 2: Profile table schema

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **FIELD** | **DATA TYPE** | **ACTION** |
| 1 | Id | Bigint(10) | Primary key |
| 2 | User\_id | Bigint(10) | Foreign key |
| 3 | Agency\_Name | Varchar(100) | - |
| 4 | Agency\_Number | Varchar(15) | - |
| 5 | Address | Varchar(100) | - |
| 6 | Email | Varchar(100) | - |
| 7 | Website | Varchar(100) | - |

Table 2: Agency table schema

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **FIELD** | **DATA TYPE** | **ACTION** |
| 1 | Id | Bigint(10) | Primary key |
| 2 | User\_id | Bigint(10) | Foreign key |
| 3 | Crime\_Category | Varchar(100) | Foreign key |
| 4 | State\_of\_incident | Varchar(15) | - |
| 5 | LGA\_of\_incident | Varchar(100) | - |
| 6 | Address\_of\_incident | Varchar(100) | - |
| 7 | Incident\_description |  | - |
| 8 | Evidence\_photo |  |  |
| 9 | Evidence\_video |  |  |
| 10 | Status |  |  |
| 11 | Progress\_remark |  |  |

Table 2: Incident table schema

|  |  |  |  |
| --- | --- | --- | --- |
| **S/N** | **FIELD** | **DATA TYPE** | **ACTION** |
| 1 | Id | Bigint(10) | Primary key |
| 2 | Category\_Name | Varchar(50) | - |

Table 2: Crime Category table schema