**University of Mines and Technology**

**(Tarkwa)**



**DATABASE MANAMENT SYSTEMS**

**PROJECT REPORT BOOK**

SUBMITTED BY

GROUP NAME: **GROUP 6**

CLASS: **CE\_2**

DATE OF SUBMISSION: **6TH APRIL, 2022**.

FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

P. O. BOX 237 TARKWA, WESTERN REGION GHANA

**University of Mines and Technology**



**DATABASE MANAGEMENT SYSTEM CE 279**

**GROUP MEMBERS**

**PROJECT REPORT SUBMITTED BY:**

**NAME: INDEX NUMBER:**

1. **GHARTEY GEORGE BS424104620**
2. **BLAY CORRIE ADELAIDE BS424102620**
3. **AKASI OSEI EMMANUELLA**
4. **GYAMFI JACOB KYEI BAFFOUR BS424104720**

Contents

[VOTING SYSTEM DATABASE MANAGEMENT. 4](#_Toc100160487)

[ENTITIES AND THEIR ATTRIBUTES WITH CONSTRAINTS. 5](#_Toc100160488)

[ATTRIBUTES AND CONSTRAINTS FOR THE VOTER TABLE. 5](#_Toc100160489)

[ATTRIBUTES AND CONSTRAINTS FOR THE VOTER LISTTABLE. 5](#_Toc100160490)

[ATTRIBUTES AND CONSTRAINTS FOR THE CANDIDATE TABLE. 6](#_Toc100160491)

[ATTRIBUTES AND CONSTRAINTS FOR THE POLLING STATION TABLE. 6](#_Toc100160492)

[ATTRIBUTES AND CONSTRAINTS FOR THE BALLOT BOX TABLE. 6](#_Toc100160493)

[ATTRIBUTES AND CONSTRAINTS FOR THE BALLOT PAPER TABLE. 6](#_Toc100160494)

[ATTRIBUTES AND CONSTRAINTS FOR THE ADMINISTRATOR TABLE. 6](#_Toc100160495)

[ENTITY-RELATIONAL DIAGRAM. 7](#_Toc100160496)

[THE RELATIONSHIPS IN THE DIAGRAM: 7](#_Toc100160497)

# VOTING SYSTEM DATABASE MANAGEMENT.

**PROJECT DESCRIPTION**

**VOTING SYSTEM DATABASE**

**Voting** is the process through which individuals convey their opinion and has the freedom to elect a leader of the choice to signify and address the student's or the citizens issues. In today's technological and knowledge age, computerized related matters have stretched around the world.

**Electronic voting** is one of the things and it is capable to deliver appropriate, less costly, fast and secure services to an administrative council.

Our aim is to design a voting database system which is robust and tamper-resistant. It also ensures voter anonymity and provide the correct tallying of results. And also has a faster query response to facilitate the voting process.

**PROJECT SCOPE:**

A database is an organized collection of data stored and accessed electronically. Small databases can be stored on a file system, while large databases are hosted on computer clusters or cloud computers.

Elections allow the populace to choose their representatives and express their preferences. Therefore, the election system must be sufficiently robust to withstand a variety of fraudulent behaviors.

We have developed a voting system database with application Microsoft Structured Query Language (MS SQL). Where in the database system itself can canvass the vote of the students or candidates, easily distinguish the winner and can provide printable results.

Most of the time the paper-based voting system succumb to these fraudulent activities which includes ballot stuffing, incorrect tallying of votes by the insiders of the election.

The management system involved in the Structured Query Language where the developer develops an application to those user students or the citizens.

The approach targets all the phases of system design, implementation and testing in the system.

# ENTITIES AND THEIR ATTRIBUTES WITH CONSTRAINTS.

**ENTITIES/TABLE.**

VOTER TABLE.

VOTER LIST TABLE.

CANDITE TABLE.

POLLING STATION TABLE.

BALLOT BOX TABLE.

BALLOT PAPER TABLE.

ADMINISTRATOR TABLE.

# ATTRIBUTES AND CONSTRAINTS FOR THE VOTER TABLE.

|  |  |
| --- | --- |
| **ATTRIBUTES** | **CONSTRAINTS** |
| VOTER ID | PRIMARY KEY |
| POLLING STATION | FOREIGN KEY |
| FIRST NAME | NOT NULL |
| MIDDLE(OTHER) NAME | NULL |
| LAST NAME | NOT NULL |
| DATE OF BIRTH | NOT NULL |
| AGE | NOT NULL, CHECK |
| PLACE OF BIRTH | NOT NULL |
| GENDER | NOT NULL |
| MARITAL STATUS | NOT NULL |
| DIGITAL ADDRESS | NOT NULL |
| JOB | NOT NULL |
| SERIAL NUMBER | NOT NULL, UNIQUE CONSTRAINT |

# ATTRIBUTES AND CONSTRAINTS FOR THE VOTER LISTTABLE.

|  |  |
| --- | --- |
| **ATTRIBUTES** | **CONSTRAINTS** |
| VOTER LIST | PRIMARY KEY |
| VOTER LIST NAME | NOT NULL |
| POLLING STATION ID | FOREIGN KEY |
| POLLING STATION NAME | NOT NULL |
| VOTER ID | FOREIGN KEY |
| SERIAL NUMBER | UNIQUE CONSTRAINT |

# ATTRIBUTES AND CONSTRAINTS FOR THE CANDIDATE TABLE.

|  |  |
| --- | --- |
| **ATTRIBUTES** | **CONSTRAINTS** |
| CANDIDATE ID | PRIMARY KEY |
| CANDIDATE NAME | NOT NULL |
| CANDIDATE POSITION | NOT NULL |
| CANDIDATE PARTY | NOT NULL |
| BALLOT ID | FOREIGN KEY |

# ATTRIBUTES AND CONSTRAINTS FOR THE POLLING STATION TABLE.

|  |  |
| --- | --- |
| **ATTRIBUTES** | **CONTRAINTS** |
| POLLING STATION ID | PRIMARY KEY |
| POLLING STATION NAME | NOT NULL |
| POLLING STATION LOCATION | NOT NULL |
| POLLING STATION TYPE | NULL |

# ATTRIBUTES AND CONSTRAINTS FOR THE BALLOT BOX TABLE.

|  |  |
| --- | --- |
| **ATTRIBUTES** | **CONSTRAINTS** |
| BALLOT BOX TAG | PRIMARY KEY |
| DESCRIPTION | NOT NULL |
| POLLING STATION | NOT NULL |
| POLLING STATION ID | FOREIGN KEY |

# ATTRIBUTES AND CONSTRAINTS FOR THE BALLOT PAPER TABLE.

|  |  |
| --- | --- |
| **ATTRIBUTES** | **CONSTRAINTS** |
| BALLOT ID TYPE | PRIMARY KEY |
| BALLOT TYPE | NOT NULL |

# ATTRIBUTES AND CONSTRAINTS FOR THE ADMINISTRATOR TABLE.

|  |  |
| --- | --- |
| **ATTRIBUTES** | **CONSTAINTS** |
| ADMIN ID | PRIMARY KEY |
| ADMIN NAME | NOT NULL |
| ADMIN ROLE | NOT NULL |
| POLLING STATION ID | FOREIGN KEY |

# ENTITY-RELATIONAL DIAGRAM.

The ER diagram for the projects cover all the entities and attributes and constraints of the voting system database.

# THE RELATIONSHIPS IN THE DIAGRAM:

**BELOW IS THE ER DIAGRAM:**

