SCHOOL OF TECHNOLOGY

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

UNIT: BIT 04105

TITLE:KCAU ONLINE VOTING SYSTEM

KAREN NJOKI KIARA

23/04687

Email: 2304687@students.kcau.ac.ke

(SYSTEM REQUIREMENT SPECIFICATIONS (SRS))

SUPERVISED BY: DR. EDWIN OMOL

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This* PROJECT PROPOSAL *is submitted IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF the award of BACHELORS OF SCIENCE IN INFORMATION TECHNOLOGY in KCA University

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1. INTRODUCTION

- **Purpose:** To provide a clear and comprehensive description of the KCAU Online Voting System, including its functionality, design, and constraints.
- **Scope:** The system will facilitate secure and accessible online voting for KCAU students,
- enabling them to vote remotely via personal devices.
- **Definitions, Acronyms, and Abbreviations:**
    - **OTP:** One-Time Password
    - **SRS:** System Requirements Specification

2. GENERAL DESCRIPTION

- **Product Perspective:** The system is a standalone application developed to replace the current manual desktop-based voting system.
- **Product Features:**
    - Secure user authentication
    - Candidate information display
    - Vote casting
    - Real-time vote tallying
    - Administrative tools for election management
- **User Classes and Characteristics:**
    - **Students:** Users who will cast their votes.
    - **Delegates and SAKU:** Users who are candidates or have special roles.
    - **Administrators:** Users who manage the voting process and view results.

3. FUNCTIONAL REQUIREMENTS

1. **User Registration and Authentication:**
    - Users must register online using their student IDs.
    - The system will verify users via OTP sent to their student email.
    - Users must create a password for secure login.
2. **Candidate Information Display:**
    - The system will display profiles and information of all candidates.
    - Students can view detailed information about each candidate.
3. **Vote Casting:**
    - Registered students can cast their votes securely and anonymously.
    - The system will ensure each student can vote only once.
4. **Real-Time Tallying and Results:**
    - The system will tally votes in real-time.
    - Regular results will be generated and made available for viewing.
5. **Administration and Reporting:**
    - Administrators can manage elections, including adding or removing candidates.
    - The system will generate reports on voter turnout, election results, and system usage.

4. NON-FUNCTIONAL REQUIREMENTS

- **Performance:**
  - The system must handle up to 10,000 concurrent users.
  - Response time for any transaction should not exceed 2 seconds.
- **Security:**
  - All data transmissions must be encrypted.
  - The system must comply with relevant data protection regulations.
- **Usability:**
  - The user interface must be intuitive and accessible on various devices, including smartphones and tablets.
- **Reliability:**
  - The system must have a 99.9% uptime during the voting period.
  - Data backup mechanisms must be in place to prevent data loss.
- **Maintainability:**
  - The system architecture should allow easy updates and modifications.

5. SYSTEM DESIGN AND ARCHITECTURE

- **Architecture Overview:**
  - The system will use a three-tier architecture: frontend (user interface), backend (logic processing), and data tier (database).
  - The application will be developed using Android Studio and will utilize Firebase Store for data storage.

6. EXTERNAL INTERFACE REQUIREMENTS

- **User Interfaces:**
  - Web-based interface for students and administrators.
- **Hardware Interfaces:**
  - Personal devices (laptops, smartphones, tablets) used by students for accessing the system.
- **Software Interfaces:**
  - Integration with KCAU student database for user verification.

7. CONSTRAINTS

- The system must be developed within a three-month timeframe.
- Budget constraints must be adhered to as outlined in the project proposal.

8. REFERENCES

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