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Software Requirements Specification (SRS)

COLLEGE OF EDUCATION MANAGEMENT INFORMATION

SYSTEM

FOR

T-TEL

Version 1.0

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Version	Details	Authors	Signature
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Document Approvals

Designation	Name	Signature	Date
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Contents

1. INTRODUCTION:

Transforming Teacher Education and Learning (T-TEL) Ghana is a six-year Government of Ghana Programme (2014 – 2020) to support the implementation of the new policy framework for Pre-Tertiary Teacher Professional Development and Management. This project, which started in November 2014, is funded by the UK Department for International Development (DFID) as part of its Girls Participatory Approaches to Students Success (PASS) Programme. T- TEL seeks to transform the delivery of pre-service teacher education in Ghana by improving the quality of teaching and learning through support to relevant national bodies and institutions and all 46 Colleges of Education.   The programme is managed by Cambridge Education in collaboration with the Ministry of Education (MoE) through the National Teaching Council (NTC) and the National Council for Tertiary Education (NCTE).

There are 46 public Colleges of Education of education in Ghana and a number of private colleges. The Government is in discussion with some of the private colleges with a view to

incorporating them in the existing public system. If this happens, they will use the same systems and procedures as those planned for the existing public colleges.

2. SCOPE

Essentially, the CMIS is expected to enhance information management by serving as:

    i.   User friendly, intuitive and reliable Solution

    ii.   College management and administrative module including a repository for data collection, processing, analyzing and reporting of Colleges information for leadership, student teachers, tutors and support staff, enrolments and teaching resources.

    iii.   College teaching and learning module including in an online platform that improves the visibility, availability and cross-sharing of resources among teacher education community in Ghana.

    iv.   College assessment module for student teachers, tutors, programme accreditation and quality assurance.

    v.   A business intelligence tool for robust and comprehensive data analysis for policy development.

    vi.   Backup, archiving and integration module including but not limited to application and enrolment data.

    vii.   Online System that enables offline on-college-premises system for data input and synchronizes when internet connectivity is available.

    viii. A system that is able Integrate with existing and other relevant applications in the future

    ix.   Aligns with financial reporting templates of Ghana Integrated Financial Management Information System

    x.   Seamless integration with QuickBooks financial system

    xi.   Integrated with existing online College of Education Admission system

xii.   Permit auto-archiving periodically and manual archiving as the need arises

xiii.   Secured connection between online and offline portal

xiv.   SSL certificates protection for the online portal

xv.   Audit trail to help keep track of user activities and monitor changes made to system data at any point in time

3. USERS CLASSES AND CHARACTERISTICS

ACTOR DESCRIPTION	FUNCTIONS
System admin	- User management - System setup - Data upload
Teacher	Complete student data form
Management	View relevant reports

4. TARGETED FEATURES:

The list of features for the CEMIS portal are listed below;

1. Login
2. Data feeds
3. Intuitive reporting system
4. System setup

5. SYSTEM ARCHITECTURE DIAGRAM:

(Provided by the Architect)

< Solution component, Architecture diagrams>

6. SYSTEMS ENVIRONMENT

(Provided by the Architect)

<Definition of the Operating systems with which the software will be compatible,

Technology framework to be used in developing and deploying the Application>

7. CHANNELS

(Provided by the Architect)

<The different modes that can be used by users to access the software Application: Web,

mobile, API.>

Provide Reference link to API documentations

8. DEPENDENCIES AND ASSUMPTIONS

i. **DEPENDENCIES**

   a. The project is dependent on the level of product understanding between Vatebra Technical team

ii. **ASSUMPTIONS**

   a. The end user target audience is readily available and will be technological savvy enough to understand and use the solution
   b. There is an assumption that NTCE will provide all necessary and relevant data for upload and integration into the system
   c. There is an assumption that the product will meet the expected business needs

9. CONSTRAINTS

Lack of Proper understanding of the Application scope that may hinder effective implementation of the project

10. SYSTEM SPECIFICATIONS (SOFTWARE USE CASES)

Use Case ID	**UC001**
Use Case Name:	**User Management**
Primary System Actor	System Admin
Description	This process describes how the System Admin manages the users of the system and assigns roles and functions to them
Precondition	N/A

Trigger	Admin login

Flow	The Admin is responsible for creating New, Update, Activate and Deactivate User profile & roles.
	When the admin logs in, he/she sees a list of all existing users and their roles
	• To create New User;
	    1. admin enters User's First name and Last Name
	    2. admin enters User's Username
	    3. admin enters User's password
	    4. admin selects User's role. These includes;
	        I. student
	        II. teaching staff
	        III. NCTE admin
	        IV. CoE admin
	        V. MoE admin
	        VI. NTC admin
	        VII. GES admin
	        VIII. T-TEL admin
	    5. admin saves User's details
	• To update Existing User;
	    1. admin selects User from the list of users
	    2. The system displays the User's details
	    3. admin makes changes to the required field of the User
	    4. admin saves and updates the User
	• To deactivate Existing User;
	    1. admin selects the User from the list of users
	    2. admin clicks on the Deactivate button
	    3. The system informs the admin that he/she is about to deactivate the user's access
	    4. admin confirms the action and the system deactivates
	    5. Upon deactivation the system sends the deactivated user to the list of deactivated users
	• To activate a user that has been deactivated;
	    1. admin selects the user from the list of existing users who have been deactivated
	    2. admin clicks on the Activate button to activate the account of the user
	    3. The system then sends the user details to the list of active users

Post Condition	User Login

Business Rules	1. When a new user is created, upon logging in to the system for the first time the system should enforce Password Change process for, the new user. Hence, the new user will be required to change the given password to a new one.
	2. When a user is deactivated, the system must retain the information of the user and the system must not delete the user information

Use Case ID	**UC002**
Use Case Name:	**Setup Management**
Primary System Actor	System Admin
Description	This process describes how the Admin manages the overall setup on the system
Precondition	Admin Logged in
Trigger	"Setup Management" button

Flow	Admin carries out the following setup activities;
	
	• College Leadership Data Setup: To setup the college leadership/council data feed, admin provides;
	   1. Name of council members
	   2. Gender
	   3. Contact information for council member
	      I. Phone number 1 & 2
	      II. Email address
	      III. Postal address
	   4. Sponsor of council members
	      I. Government
	      II. Community
	   5. Date appointed
	   6. Date left (historic data kept)
	   7. Role
	   8. Date of birth
	• Roles and Permissions: Admin sets the various roles for users in the system and their various permissions. The various roles and their permissions are;
	      I. student
	      II. teaching staff
	      III. NCTE admin
	      IV. CoE admin
	      V. MoE admin
	      VI. NTC admin

| | VII. GES admin
VIII. T-TEL admin
• Teaching Staff: The admin setup the grade and roles of teaching staffs on the system by providing;
  1. Lecturer grade
    I. Principal
    II. Vice principal
    III. Lecturer
    IV. Senior lecturer
    V. Teaching assistant
  2. Role
    I. Principal
    II. Vice principal
    III. Council member
• Non-teaching staff: Admin sets up the various non-teaching staff information on the system. The non-teaching staffs include;
  1. Secretaries
  2. Divers
  3. Securities
  4. Cleaners
  5. Care takers
  6. Handy men
• Colleges: To setup a college, the admin provides;
  1. Name of the college
  2. Address of the college
  3. Various contact information
    I. Principal
    II. Vice principal
    III. ICT system
    IV. Admin officer
  4. GIS
  5. Phone number
  6. Email address
  7. Services offered/course taught
• College facility: To setup facilities that will be mapped to colleges. The different facilities include;
  1. Toilets – teachers only/students
  2. Computers
  3. Library
  4. Laboratories
  5. Gym |

	6. Student boarding accommodation

	• Rooms: the admin setup different types of rooms that are available on the colleges. The types of rooms that are allowed are;
	    1. Classrooms
	    2. Staffrooms
	    3. Library
	    4. Offices
	    5. Laboratories
	    6. Store rooms
	    7. others

Post Condition	N/A
Business Rules	The system should ensure that all roles and permissions for users are well mapped and specified to display contents that are useful to the users

Use Case ID	**UC003**
Use Case Name	**User Login**
Primary System Actor	All users
Description	This process describes how users login to the system
Pre-Condition	Valid user login credentials
Trigger	Available on access
Flow	To login on the CEMIS application, users will be required to provide their username and password on the login page
Post-Condition	N/A
Business Rules	• If the user enters the wrong username/password on subsequent login, the system should grant the user the opportunity to request for new password. This request will be sent to the admin who will create a new password instance for the user.

Use Case ID	**UC004**
Use Case Name	**Student Enrollment**
Primary System Actor	Teacher/student
Description	This process describes how a student is enrolled on the CEMIS application
Pre-Condition	N/A
Trigger	"Student Enrollment" module

Flow	The enrollment process will require the user to complete the student enrollment data form in section 5.2.1 Student Enrollment Data Feed from PRINCOF as outlined in the Business Requirement Specification Document.
Post-Condition	Student data stored
Business Rules	- A unique ID is generated by the system for the new student enrolled. E.g. HCCE/0156/2018. The ID consist of three elements – college (HCCE), student number in the cohort (0156), expected year of graduation (2018) - the data on individual students will need to be maintained and updated during their time at college. Items such as change of address, contact phone number, marital status, next of kin etc. can all change. Where changes occur, there is a need to maintain a record of the previous data and who carried out the changes and when. Changes can only be made by authorized college staff trained in using the system.

Use Case ID	UC005
Use Case Name:	College Teaching Staff Data
Primary System Actor	Applicants
Description	This process explains how the teachers' data is being captured on the CEMIS application
Precondition	N/A
Trigger	Available on access
Flow	The user will need to complete the form in section 5.2.3 Lecturers/Staff/Tutors (Teaching staff only) as outlined in the Business Requirement Specification Document.
Post condition	N/A
Business Rules	user data must not be deleted. Hence, they should be maintained for historic record

Use Case ID	UC006
Use Case Name:	College Facility Data

Primary System Actor	System Admin
Description	This describes the information that the users can view from their dashboard when they login to the system
Precondition	N/A
Trigger	Available on access
Flow	The user will need to complete the form in section 5.2.5 College Facility Data and Data Contact on Facilities and capturing Classroom data as outlined in the Business Requirement Specification Document.
Post Condition	N/A
Business Rules	• the list can be expanded upon request as needs arises

Use Case ID	**UC007**
Use Case Name:	**Reports**
Primary System Actor	Management
Description	This process explains the various reports formats that should be available to different management stakeholders
Precondition	N/A
Trigger	Report module
Flow	The user will need to complete the form in section 5.2.10 End user requirement – CoE; 5.2.11 End user requirement – N.C.T.E; 5.2.13 End user requirement – MoE Dir of tertiary education; 5.2.14 End user requirement – PRINCOF; 5.2.16 End user requirement – T.TEL as outlined in the Business Requirement Specification Document
Post condition	N/A

Business Rules	• system should allow for sorting/filtering/searching by
	    o gender
	    o cohort
	    o specialism
	• system should allow for exporting of data in formats such as xlx
	• reports should be Realtime and intuitive

11. PROTOTYPES

(Optional and to be provided by the UX/UI team)

12. DATABASE SCHEMA

(Provided by the Architecture)