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| **Student Konnect** |
| ***Student Konnect project*** |
| ***Customer: Department of Education*** |

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**TABLE OF CONTENT**

[1. REQUIREMENT SPECIFICATION 4](#_Toc409476188)

[1.1 PURPOSE 4](#_Toc409476189)

[1.1.1 SCOPE 4](#_Toc409476190)

[1.1.2 PRODUCT PERSPECTIVE 4](#_Toc409476191)

[1.2 SYSTEM CAPABILITIES 4](#_Toc409476192)

[1.2.1 GRADE ACCESS 4](#_Toc409476193)

[1.2.2 PULL REPORT 5](#_Toc409476194)

[1.2.3 HOLD STUDENT 5](#_Toc409476195)

[1.2.4 HOLD TEACHER INFORMATION 5](#_Toc409476196)

[1.2.5 HOLD STUDY MATERIAL 5](#_Toc409476197)

[1.3 SYSTEM REQUIREMENTS (B) 5](#_Toc409476198)

[1.3.1 STUDENT 5](#_Toc409476199)

[1.3.2TEACHER ACCESS 5](#_Toc409476200)

[1.3.3 CHANGE QUESTIONS AND FORMULATE TESTS 5](#_Toc409476201)

[1.3.4 ACT AS A STUDY GUIDE 6](#_Toc409476202)

[1.3.5 PARENTAL/GUARDIAN ACCESS 6](#_Toc409476203)

[1.3.6 TO HAVE A SYSTEMATIC QUICK ACCESS EDUCATION SYSTEM 6](#_Toc409476204)

[1.3.7 MONITOR SCHOOL GRADE, STUDENTS AND TEACHER PERFORMANCE 6](#_Toc409476205)

[1..3.8 SAVE PAPER WORK AND BOOKS 6](#_Toc409476206)

[1.3.9 UP SKILL STUDENTS AND TEACHER MEMBERS 6](#_Toc409476207)

[1.3.10 SPEED UP SERVICES 6](#_Toc409476208)

[1.4 SYSTEM RULES (BR) 7](#_Toc409476209)

[1.4.1 TEACHER RULES 7](#_Toc409476210)

[1.4.2 STUDENT RULES 7](#_Toc409476211)

[1.4.3 PARENTAL / GAURDIAN RULES 7](#_Toc409476212)

[2.1 SCOPE DEFINITION 8](#_Toc409476213)

[2.2 PROJECT SCOPE STATEMENT 8](#_Toc409476214)

[2.2.1 Deliverables of this project are 8](#_Toc409476215)

[WORK BREAKDOWN STRUCTURE 9](#_Toc409476216)

[SYSTEM DESIGN 10](#_Toc409476217)

[DATA FLOW 10](#_Toc409476218)

**Table of Tables**

**Table of Figures**

# 1. REQUIREMENT SPECIFICATION

## 1.1 PURPOSE

This document will describe the Student Konnect system and user requirements as required by the Department of education. The system to be developed is meant to aid students, teachers invigilators but most importantly the Deparment of education in being able to check all school progress and analyse the data from the system.

Assist students with their work:

Acting as a study guide containing step by step information on answers given, as teacher will input the student’s grades on the system, from these grades the system should guide students on which category of the subject they need to focus more on in order to better understand. With the marks the system should also suggest extra activities that the student must complete as a test on their knowledge progress.

Assist teacher on yearly tasks:

Teachers will benefit from being able to receive their term and yearly planning and have it online to check progress, they will also update these records on weekly progress this in turn will also aid other teachers that might need to assist on being able to see where the lessons are currently. Marks for students will also be calculated by the system giving the teacher more time to work on daily planning and lessons and being able to check on students that have done their work. Lesson plans and activities online can be retrieved and used in class to reduce the research that a teacher might go through to find in-depth work for students. These notes and information online will serve as a pool containing questions and answers, making it easy to formulate questions for testes and exams.

Assist Curriculum Invigilators

Being able to formulate year planning’s and distribute them much easier, check on the system on the progress of each school, quickly cross check on the work done with the work progress online when visiting schools to do their yearly/term checks.

Assist the Department of Education

With the system holding information on all the schools using it, reports on school progress can be seen, being able to check schools that are doing poor and be able to research into why those schools are finding it hard to achieve good marks.

### 1.1.1 SCOPE

There are two software products as a client server system – the student Konnect web application and the Database. The web interface interacts with teachers and students for creating or updating any theory and practical works and being able to quickly create tests and exams based on the work done for that term. Students will register on the site and explorer all material for their specific subjects and in turn teachers can see how often a student accesses the study material and also view any completed online activities. Constraints will be implemented depending on the subjects being taught for teachers. The web application will interact with the database where all information is stored. With the use of a database (Curriculum Implementers) will also have the advantage of being able to quickly process teachers and student results when checking up on all schools that will have the system in place.

### 1.1.2 PRODUCT PERSPECTIVE

The product will be a web based system that interacts with web browsers. There might be a possible interaction with a system already in place depending on how well the systems can go hand in hand.

## 1.2 SYSTEM CAPABILITIES

### 1.2.1 GRADE ACCESS

An advantage for all students to have access to their grades anytime and be able to check their progress, manage how they can improve on their results,

### 1.2.2 PULL REPORT

Built with simplicity in mind the system will also pull reports allowing more focus on subjects that students are doing poor on, show continuous assessment (work from January to December), recordings (marks taken for all activities) lesson planning (Status of the work currently done and still to be completed) annual assessment year plan(dates of all the work done).

### 1.2.3 HOLD STUDENT

Hold the mark for the students as the teacher updated all records

### 1.2.4 HOLD TEACHER INFORMATION

Information for year and term planning can be accessed on the system and be updated each year accordingly

### 1.2.5 HOLD STUDY MATERIAL

Electronic books, notes created by other students and teacher and videos for tutorials can accessed on the system.

## 1.3 SYSTEM REQUIREMENTS (B)

### 1.3.1 STUDENT

While the application will give access to students from grade 8 till 12, it will be mandatory for all grade 10 students to be registered on the system based on subjects selected, managing the displayed content for the student based on selections and allowing teachers to keep track how often the students access the system and how many of the quizzes have been done.

### 1.3.2TEACHER ACCESS

Teacher will have access to the system enabling them to keep track on their weekly to yearly planning, they can store all student grades giving them the freedom of having to calculate all student marks by themselves; the system will grade all the marks as per term, and final grade. Teachers will also have access to a pool of information that they can use and share with each other regarding learning ideas, and study material. Teacher will be able to update annual assessments, yearly planning, continuous assessments and recordings.

### 1.3.3 CHANGE QUESTIONS AND FORMULATE TESTS

Teacher will be able to add and make changes to questions based on the subject being taught and grade and save a copy of the changes but not the original doc edited, these are the questions that are formulated by other teachers to test student knowledge and in turn these questions will also be accessible to all other teachers.

### 1.3.4 ACT AS A STUDY GUIDE

The system will host study material for each grade, students can find all guides for subjects including additional posted information (notes, videos and references) that will give a detailed step by step as to how and why the answer came to be. Based on student marks per subject category the system will be able to create a learning path for the student by checking which subject category the student is struggling to understand.

### 1.3.5 PARENTAL/GUARDIAN ACCESS

Parents or guardians will also have access to the system receiving latest updates from the school and see the progress of their student.

### 1.3.6 TO HAVE A SYSTEMATIC QUICK ACCESS EDUCATION SYSTEM

The main objective is to a new system efficiently automated, to guide all students, teachers and curriculum invigilators quicker and errorless with their work and objectives.

### 1.3.7 MONITOR SCHOOL GRADE, STUDENTS AND TEACHER PERFORMANCE

With progress updates, classes, subjects and schools doing poorly can be checked and monitored, proper measures to up skill or update can be taken based on findings for the cause.

### 1.3.8 SAVE PAPER WORK AND BOOKS

Paper work often goes missing, but if there is a backup on a system copies can be made. There is a even bigger limit towards paperwork if teachers are able to work directly on the system. Saving costs on paper work

### 1.3.9 UP SKILL STUDENTS AND TEACHER MEMBERS

This approach will require teachers to be trained for computer skills and how to use the program. Guided by teachers students can learn how the system works and how to see all work.

### 1.3.10 SPEED UP SERVICES

The system is to speed up services like calculations for student markings, access to study material for students, access to yearly planning, progress information and being able to analyse and monitor.

## 1.4 SYSTEM RULES (BR)

### 1.4.1 TEACHER RULES

Teachers can only access the subjects that they teach; changes to students regarding the subjects can only be made by the specific teacher, unless access is given to another teacher when the main teacher is unavailable for specific reasons. Changes can be made to the subject contents on specific pages which will be additional to the original contents.

### 1.4.2 STUDENT RULES

Students only have access to the subjects selected, students only view their marks and progress and no student can make changes to subject content.

### 1.4.3 PARENTAL / GAURDIAN RULES

Have only access to view the student’s progress marks and reports, show any update from the school.

# 2. SCOPE PLANNING

## 2.1 SCOPE DEFINITION

The scope for this project had been compiled using the requirements gathered by the team for the system to be built. The department is still to provide the specifications for the program once the initial proposal is accepted, these specifications should entail numerous functions the system should be capable of doing. A requirements document is to be drawn up by the team to summarize the contents of the specifications to ensure that the project will deliver a program that will suite all the needs for the client.

## 2.2 PROJECT SCOPE STATEMENT

This project aimed to accomplish the design, coding, testing and implementation of a new service delivery software application to aid the department of education, schools and teacher to monitor, assess, analyse and resolve any loop holes that might be found. This application should also be able to work on any operating system environment.

### 2.2.1 Deliverables of this project are

Service Delivery Software That:

Acts as a study guide for students

Hold lessons and activities for students

Hold student records on current progress

Acts as a blog where teachers can communicate

Allows teachers to monitor student, update work progress

Allow students to check their progress

Allow guardian/parents to check on child progress

Web based app that’s active 24/7

## WORK BREAKDOWN STRUCTURE

GUI design

Class Diagram

Activity diagram

Use case

Mapping

Normalization

Approve Charter

Project Charter

Requirements specification

Information gathering

**Initiation Phase**

**Planning Phase**

**Execution Phase**

**Control Phase**

**Closing**

**STUDENT-KONNECT SYSTEM**

ERD design

Risk management plan

Cost management plan

Communication Plan

Scheduling

Project Scope

Transfer plan

Performance Report

Risk Management

Monitoring Project

Cost Control

User training

System presentation

Documentation

System prototyping

Integration testing

Application coding

Database coding

Scope Verification

Contracts closed

Release project team

Archive Documents

Project debriefing

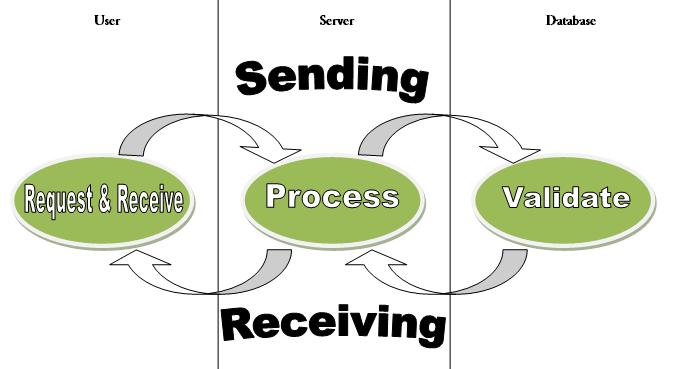
Approve Deliverables

Support

# 3 SYSTEM DESIGN

## 3.1 DATA FLOW

The simple diagram below shows how information flows within the system, there are two applications the user’s application and server’s application. From the simple diagram we can see that only the server application can access the information in the database and for the user application to work the server must be running in order for the user communicate with the database which is done using the server.



The Figure above conceptualizes the data model representing the business information requirements that the system database server will be using. The ERD will be tested using a normalization technique which will determine how each of the entities relate to one another and how they access information through using these relationship identities.