EMERGING TECHNOLOGIES IN TEACHING & LEARNING

Presented To

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Emerging Technology Overview

- Emerging Technology is **about creating instructional environments** that can **facilitate active engagement**, meet the specific and varying **learning needs** of the students, facilitate **collaborative problem solving**, providing students with **authentic learning environments**

Emerging Technology Overview ..

- There is a wide availability of new and **emerging technology tools** that can assist teacher in making teaching much easier and much more fun.

Emerging Technology Overview ..

- **Example of emerging Educational technology**

1. Augmented Reality
2. Virtual Reality
3. 3D Printing
4. Robotics
5. Adaptive Learning Algorithms
6. Asynchronous Learning and Microlearning
7. Live Streaming
8. Artificial Intelligence
9. Social Learning
10. Learning Games and Simulations

Emerging Technology integration

- **Emerging Technology integration in education**
  - ❑ Use of Technology resources in education
    - Computers, Laptops
    - Hardware tools: LCD, Printer, Scanner
    - Software applications
    - Internet
  - ❑ The world is therefore **forced to invest in the use of technology** into institutions to meet the needs of students.
    - E-learning

TECHNOLOGIES IN TEACHING & LEARNING (TEACHERS-STUDENTS PERSPECTIVE)

TEACHERS-STUDENTS PERSPECTIVE

- **Teaching (Teachers' Perspective)**

  ❑ To apply the use of technology in a seamless manner so that it supports and extends curriculum objectives and engages students in meaningful learning.

- **Learning (Students' Perspective)**

  ❑ Technology integration in education requires students to actively use technology, view technology-based content created by their teachers.

- All students and teachers in academic, industry, Government and education **are required to use technology.**

- The technology skills and knowledge that students gain in the classroom will create a foundation for the **technology skills and knowledge** they will need in the future.

  - ❑ Digital Economies
  - ❑ Job Perspective
  - ❑ Future Careers
  - ❑ Higher Education

EMERGING TECHNOLOGIES ACCEPTANCE

- The **acceptance of change** is a major requirement for technology integration since its an ongoing process, therefore it demands continual learning.

- Technology integration is achieved when **technology tools support the curricular goals**, and help the students to reach their goals.

  - ❑ Students are **more actively engaged in projects** when technology integration is crucial for the learning process.
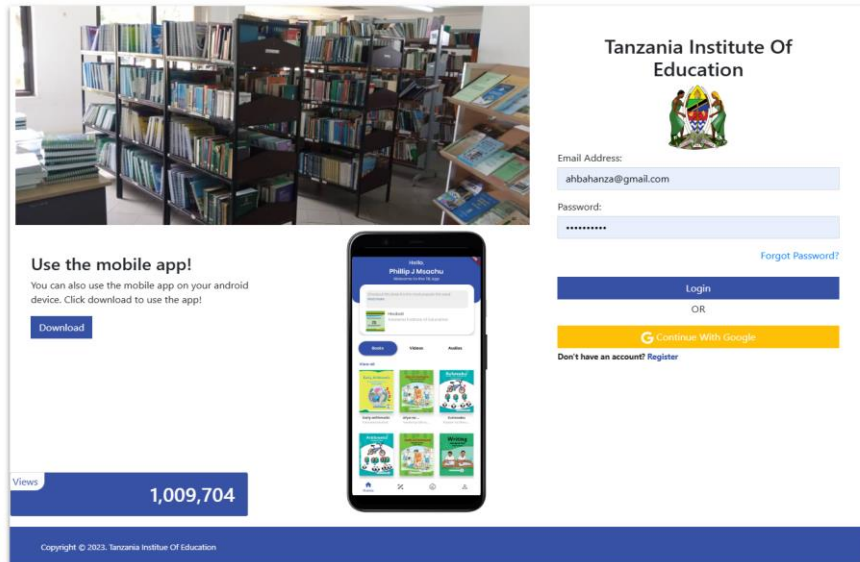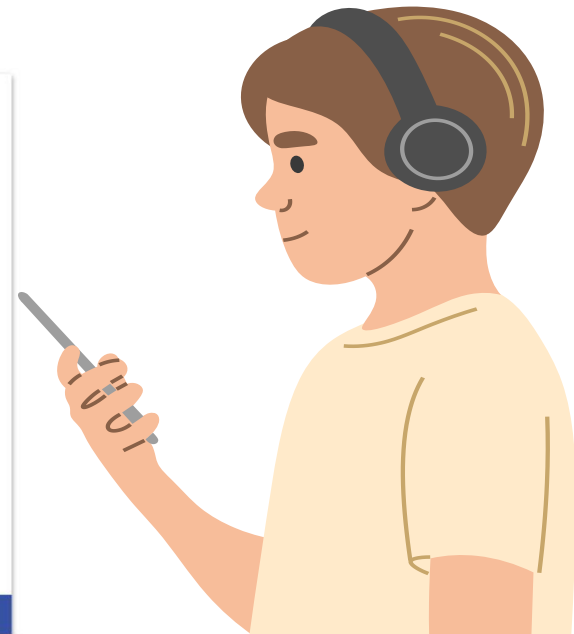
PROBLEMS PERSPECTIVE
(CASE STUDY – UVINZA DISTRICT)

- **Problem One**

  ❑ Rapidly Growth of population are threatening quality education and learning of students while there are limited Education resources at schools

  ❑ It increase Limited access to education materials and information

- **Problem Two**

  ❑ Over One million students graduate per year from primary, secondary and colleges without computer skills, resulting in a lack of many opportunities in today's World of Technology

- **Problem Three**
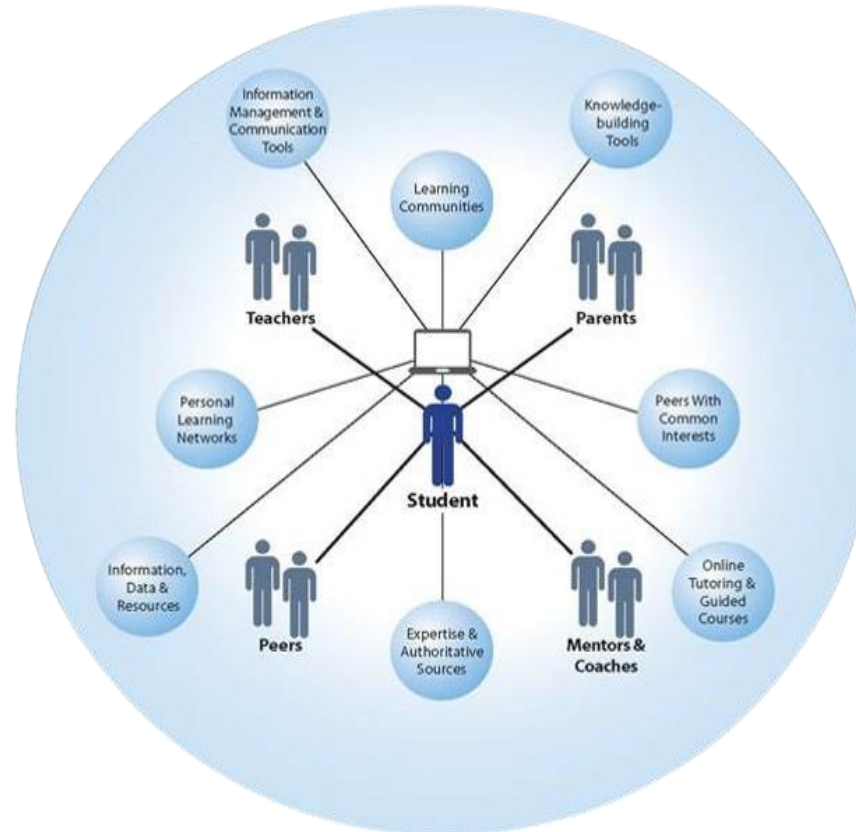
  ❑ Over 1000 students graduate per year from IT colleges (Certificate and Diploma colleges) with sufficient skills but become unemployment due to lack of sufficient IT jobs in Tanzania.
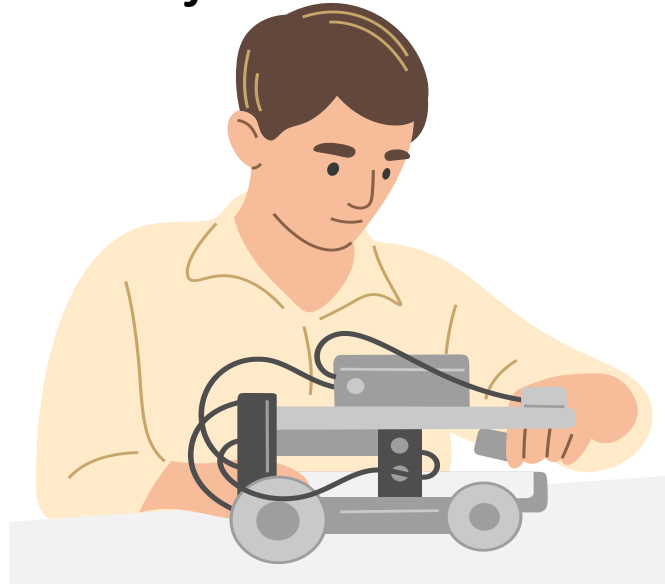
EDU-TECH SOLUTION
(EMERGING TECHNOLOGY SOLUTION)

EDU-TECH SOLUTION

- We focus on developing and deploying **Integrated Technology Solutions** for primary schools, secondary schools and colleges (Certificate & Diploma Level) in Tanzania

- Our flagship offering is **Edu-Tech Platform in Digital Economy Transformation (EPDET)** which provides a comprehensive and simple computing technology along with curriculum software tailored to the Tanzanian education system

EDU-TECH SOLUTION …

- **EPDET platform come with the following Objectives**

  ❑ To design, modify and develop appropriate equipment/aids suitable and relevant to the educational process.

  ❑ Development, application and evaluation of systems, techniques and aids to improve the process of human learning.

EDU-TECH SOLUTION …

- **EPDET platform come with the following Objectives**

  ❑ To plan teaching strategies, models and methods as per the need and objectives

  ❑ To offer greater opportunities for independent study

  ❑ To identify the educational needs of the learner

  ❑ To identify the necessary teaching learning materials

- **The EPDET platform offers the following features and benefits**

  ❑ **Computing Technology Features**

  ▪ Provision of computing technology infrastructure including desktops, projectors, and networking equipment to facilitate access to technology - enabled learning in schools

  ▪ The features uses an **open source Software** which allows to create **up to 8 workplaces** on a single PC

EDU-TECH SOLUTION …

- **The EPDET platform offers the following features and benefits**
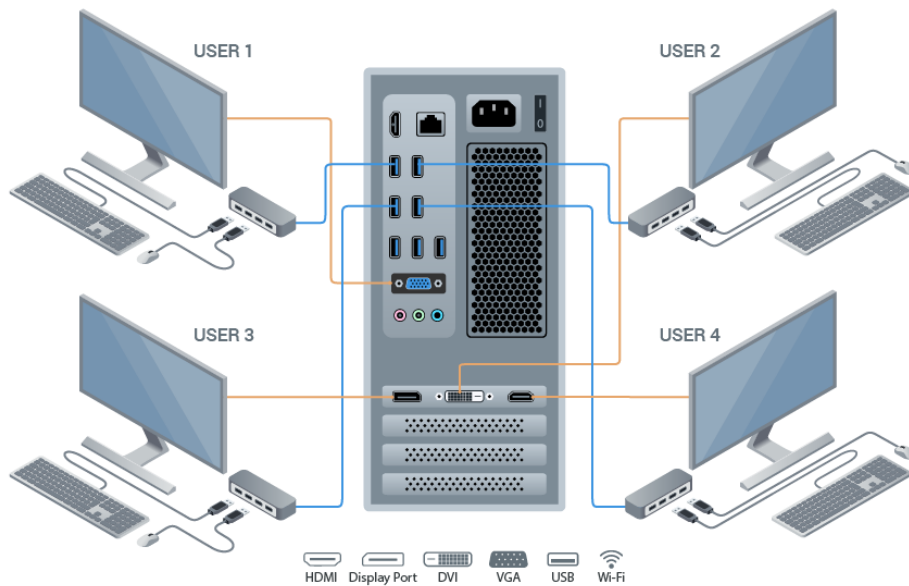
  ❑ **Computing Technology Features**

  - The feature does not use any thin clients and terminal stations, Monitors may be connected by VGA/DVI/HDMI/DP cables

  - The features can be implemented on computer classes, libraries, offices and Internet cafes

EDU-TECH SOLUTION …

- **The EPDET platform offers the following features and benefits**

  ❑ **Computing Technology Features**

- **The EPDET platform offers the following features and benefits**

  ❑ **Computing Technology Benefits**

  - ❑ Administration process can be simplified and time saved because only few system unit is being operated

  - ❑ There is no need to install a local network between the stations. All stations work from the same system bloc, while peripheral devices (e.g., printers) and Internet are automatically accessible from all workstations.

EDU-TECH SOLUTION …

- **The EPDET platform offers the following features and benefits**

  ❑ **Computing Technology Benefits**

  - ❏ Upgrading expenses are reduced to 80%. You will have to upgrade Eight times less computers than the number of workstations.

  - ❏ Electric power can be saved. It is no secret that it is the system unit which consumes the main part of the entire energy supplied to the computer system. Using the platform, you can cut down on Electric power consumption.

EDU-TECH SOLUTION …

- **The EPDET platform offers the following features and benefits**

  - ❑ **Computing Technology Benefits**

    - ❑ Lesser intensity of harmful radiation. The fewer computers there are, the smaller is the high-frequency electromagnetic radiation, which is a health hazard.

    - ❑ The entire system has a single IP-address, reduces the costs of Internet and local network connection

EDU-TECH SOLUTION …

- **The EPDET platform offers the following features and benefits**

  - ❑ **Learning Management System**

    A platform for teachers to create and share digital lesson plans, learning materials, assignments, and tests.

  - ❑ It enables interactive and engaging learning through rich media and multimedia content

EDU-TECH SOLUTION …

- **The EPDET platform offers the following features and benefits**

  ❑ **Educational Resources**

    A vast collection of locally-developed digital learning resources mapped to the Tanzanian curriculum including interactive lessons, simulations, assessments, and adaptive learning tools in all major subjects

EDU-TECH SOLUTION …

- **The EPDET platform offers the following features and benefits**

  ❑ **Student Information System**

  A fully integrated system to manage student records, enrollments, and academic progress monitoring. It includes modules for admissions,

  registrations, timetables, examinations, and report cards To modify the teaching learning process on the basis of feedback received.

EDU-TECH SOLUTION …

- **The EPDET platform offers the following features and benefits**

  ❑ **Productivity and Collaboration Tools**

  A suite of tools including word processing, spreadsheets, presentations, cloud storage, and communication platforms to enable collaboration between teachers, students, parents, and administrators

EPDET IMPLEMENTATION PLAN
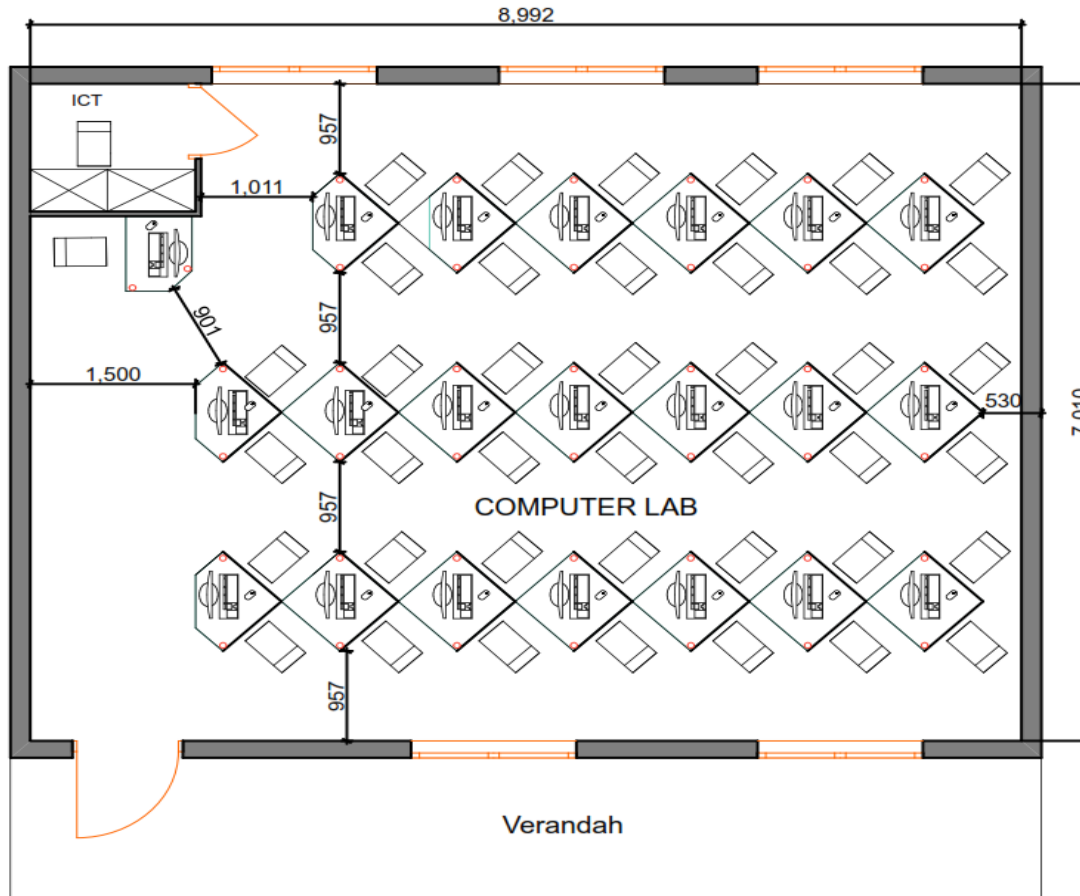## (MANUSHI SECONDARY SCHOOL AS PILOT)

- **The EPDET Classroom Layout**

EPDET IMPLEMENTATION PLAN

- **The EPDET Architectural Layout**

MODERN COMPUTER LAB

EPDET IMPLEMENTATION PLAN
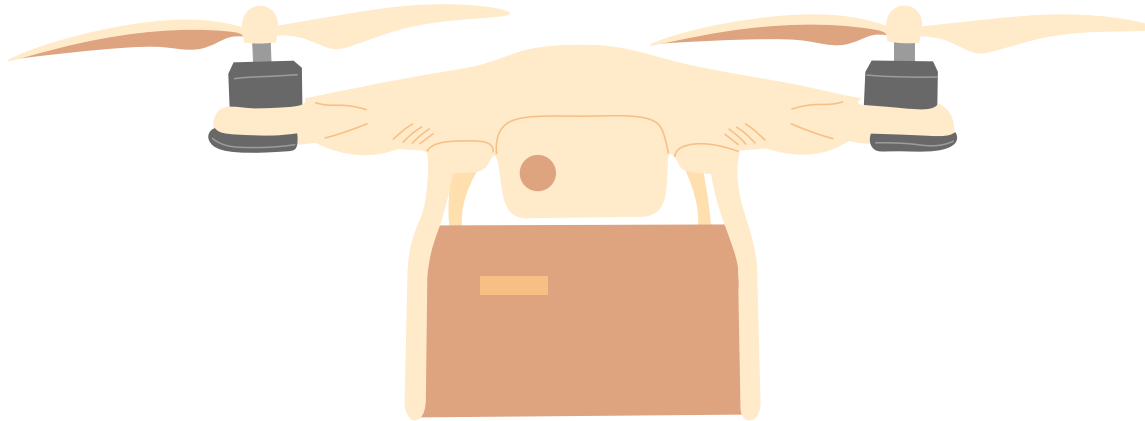
- **The EPDET Classroom Images:**

- ## The EPDET Summary Budget:

GENERAL SUMMARY				PAGE	TOTAL (TZS)
BILL No. 03 - COMPLETION OF EPDET					
a	ELEMENT No. 01 - CHAIRS, TABLES & SERVER ROOM			01	8,439,500.00
b	ELEMENT No. 02 - ELECTRICAL INSTALLATION			02	3,031,000.00
c	ELEMENT No. 03 - CCTV CAMERA INSTALLATION			03	1,294,500.00
d	ELEMENT No. 04 - SERVER COMPUTER AND ACCESSORIES			04	15,584,000.00
e	ELEMENT No. 05 - SYSTEMS LICENSE & INSTALLATION			05	2,830,000.00
		Sub-total	**TZS**		**31,179,000.00**
	Add Contingency @ 10% of the cost			TZS	3,117,900.00
	Add Labor Charges @ 30% of the cost			TZS	9,353,700.00
	Add materials Transport			TZS	500,000.00
	Add Staff remunuration			TZS	2,731,500.00
BILL No. 03 - COMPLETION OF EPDET (VAT EXCLUSIVE)				**TZS**	**47,000,000.00**

Thank You