

THE UNIVERSITY OF DODOMA
COLLEGE OF INFORMATICS AND VIRTUAL EDUCATION



DEPARTMENT OF INFORMATION SYSTEMS AND TECHNOLOGY (IST)
FINAL YEAR PROJECT CONCEPT NOTE

PROJECT TITLE: INTELLIGENT DECISION SUPPORT SYSTEM TO SUPPORT
REMOTE TEACHING AND LEARNING IN HIGHER EDUCATION.

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PROBLEM STATEMENT

Ideal situation

In an ideal situation, when the interruptions occur, there is a need for higher education boards to smoothly handle the challenges to support remote teaching and learning in higher education. Having a smart system that quickly gathers the right information, allowing them to make informed decisions is inevitable. Communication is seamless, even when everyone is working remotely. This system helps them figure out where to put their resources best and balance keeping classes going with making sure students and staff are doing okay. It's like having a super assistant that helps them stay ahead of the curve, predicting and preparing for whatever might come their way.

Real situation

In reality, when interruptions hits, higher education boards face numerous challenges. They don't have a unified system to quickly get the information they need to make decision. Communication is a bit complex and overwhelmed especially with everyone working from different places. Deciding where to put resources can be tricky, and it's tough to strike the right balance between keeping education progressive and making sure everyone is fully participating. The lack of a systematic approach to contingency planning can leave institutions vulnerable to unexpected challenges and the boards will find it hard to predict and get ready for what's coming, making the decision-making process slower and more challenging.

The Specific problem

Absence of an intelligent decision support system that cause Accounting Officers who make decisions for universities face a tough time when interruptions like pandemic hits. They struggle with messy and slow information, communication issues, and problems deciding where to put their resources. Moreover, they can't really predict what might happen next. So, the way they make decisions isn't as fast or smart as it needs to be in these tough situations. We need a better system to help them out during these big challenges in accordance with Artificial Intelligence modules.

MAIN OBJECTIVE

To develop a system that facilitates and enhances decision making to support remote teaching and learning in higher education and gain insight in various aspects of the teaching and learning process. This includes features like real-time analytics and adoptive support system tailored to the needs of students and educators in a remote setting.

SPECIFIC OBJECTIVES:

1. Designing an intelligent system capable of analyzing various data points to support decision-making in the context of remote teaching and learning.
2. Implementing features that cater to the specific needs and challenges of higher education institutions engaged in remote education.
3. Establishing a system for collecting feedback from educators and students to iteratively enhance the effectiveness of remote teaching and learning strategies over time.
4. Enhancing the adaptability and responsiveness of the system to address dynamic situations in the remote learning environment.
5. Integrating technologies that support educators in making informed decisions for effective.
6. To establish the situation of the existing policies and regulations that support preparedness for remote teaching and learning in higher education in response to pandemics.
7. To appraise the emerging policy and regulatory best practices for supporting remote teaching and learning during pandemics.
8. To diagnose the gaps in existing policy and regulatory mechanisms by benchmarking with the best practices appraised in (7) above.
9. To develop a multi-level decision support framework for remote teaching and learning during pandemic.
10. To develop a decision support system prototype for remote teaching and learning during pandemic.

SIGNIFICANCES OF THE PROJECT

- An intelligent decision support system can offer tailored solutions to optimize the remote learning experience, it can adapt to various learning styles, provide personalized content, and offer real-time support, thereby enhancing the overall educational experience for students.
- The system can assist educators in designing effective teaching strategies for remote environments. It might provide insights into student performance, suggest teaching methodologies, offer resource recommendations, or even automate certain administrative tasks, allowing instructors to focus on high-impact teaching practices.
- During the situations of crisis such as the COVID-19 pandemic, an intelligent decision support system can act as a vital tool to seamlessly transitioning traditional education to remote learning. It enables continuity in education delivery while ensuring minimal disruptions.

- This system will often utilize continuous feedback and iterative improvements so as to enhance a smooth learning and teaching methods including technological advancements, and changing educational needs, ensuring ongoing enhancement and adaptation.
- Administrators can use the DSS to access the overall effectiveness of remote teaching and learning initiatives at the institutional level. This led to more strategic decision-making improved planning and better outcomes for the entire educational community.
- The DSS shall prioritizes the security and privacy of educational data, ensuring compliance with regulations and standards. This instills confidence in stakeholders regarding the confidentiality and integrity of sensitive information.

METHODOLOGY

The methodology to be used in the system development is iterative methodology which results to a development of different prototypes. Each prototype has to be reviewed by the stakeholders and the feedback is incorporated into the next prototype version.