



UNIVERSITY of  
RWANDA

College of Sciences and Technology

# African Center of Excellence in Internet of Things (ACEIoT)

## Virtual Research Seminar

### Enhancing the Priority for the Maintenance Activities of Hospitals' Mechanical Equipment Using the Fuzzy Expert System



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#### Abstract:

Decision making has been highlighted important in asset management. Various generic decision making models were proposed and highlight the necessity for continuous autonomous suggestion of actions. On side of Maintenance activities priority for complex equipment, maintainers are manually deciding on crucial action to be performed prior to others. We claim that the integration of knowledge based expert system might support an effective predictive maintenance through accurate maintenance priorities. With purpose to enhance the decision making on maintenance priority, this work proposes the Fuzzy logic based expert system for small and medium sized hospitals. It considers the expertise of maintainers in faults detection and classification through the various monitoring of the physical condition parameters from equipment's components. Parameters' condition severity in respect of the total equipment downtime are considered to suggest maintenance activities priority. The proposed system is evaluated using random data in respect with the operating parameters' values range and the results show that the created Fuzzy expert system is capable to provide the maintenance activities priority by evaluating the inputted variables.

#### DATE & TIME:

21st January 2022  
10h00 AM- 11h00AM