Rajiv Gandhi Institute of Technology Kottayam

Collaborative Research and Learning (CORaL) Centre

PROJECT PITCHING CONTEST

28th March 2023

Prizes Worth 5K, Certificates for participants

Possibility of translating into strong academic projects

Registeration Link: https://forms.gle/uSR2AcnsNYzzNcb97

(One of the team members needs to register on or before 26th March)

Contact details

Dr. Dhanya BS (9940102991, Dr. Swapnesh S. (9446217873)

Guidelines

- **The pitching should be based on any of the given problems**
- **Each team may include a maximum of 4 student members from RIT (Excluding final year students)**
- **Pitching time is 10 min using power point/pdf presentation**
- **The presentation may include an introduction, proposed methodology for solving, solution approach etc.**

Problem 1
Rubber Mat Drawing Automation

The pulling of the rubber mat from the mat making machine is currently being done manually. This poses many difficulties which include loss of productivity due to involvement of more than one manual labour, difficulty in holding the hot mat material from the machine etc. Need to develop a mechanism wherein the pulling of the mat is automated to the possible extent.

For a video on the exisiting system contact:
Dr. Swapnesh S (Mob:9446217873, mail - swapnesh.s@rit.ac.in)

Problem 2
Patient Trolley

Development of Patient trolley for shifting the patient from bed to another unit . The shifting of patients from the bed is being done manually which poses difficulties to the nursing staff. After the completion of the project the group will be able to develop a device that facilitates the shift of patients from one unit to another in an automated/semiautomated way. Needsprovision for adjusting height so that the equipment can be aligned to the bed of the patient.

Problem 3
Locomotive Scheduling

The coaching trains which run as per fixed railway timetable are run by Locomotives. We need to optimise the requirement of locomotives for running trains as per railway Train Timetable. For Electric traction, the locomotive should visit trip inspection points in 4500 KM or one round trip whichever is later. The electric Locomotive should Visit the home shed in 45 days or 90 days based on loco type. Trip Inspection Takes 2 Hours. Diesel locomotives should visit the home shed every 15 days or 5000 KM whichever is earlier. Fuelling point assignment is needed for diesel locomotives. Given data include loco duties which consist of source station, destination station, departure time, arrival time and distance covered, stations that have trip inspection facilities.

Problem 4
Rain Water Harvesting & Water Shed Managementfor RIT Campus

The geography of RIT campus is hilly in nature. The campus receives very heavy rainfall during rainy season. However, there is acute water shortage in almost all summer seasons. Furthermore, a minor damage in the water supply system at any point is sufficient to make shortage of water in all the buildings in the campus. It is also understood that the campus is relying on a single water source and there are no local collection points. This indicates the need for a proper decentralized water management system for our campus, which should encompass the possibility of rainwater harvesting.