Trainee's Project Report

Job Code	PH119
Department	PH
Discipline	Computing
Supervisor	BENINCASA Gianpaolo

Description

Description (Human Machine Interface) ATLAS is the only detector in the world where persons will go inside during shutdown periods. During the maintenance periods it is expected that up to 150 people could be present in the cavern at the same time, most of them working inside the intricacies of the detector and completely hidden and invisible from outside. In case of emergency, it could be extremely difficult and dangerously long for a rescue team to locate every person who could be in danger. Under these circumstances, a granular system for finding persons is then mandatory. The system must cope with the harsh environment and must be totally passive (no badges or other active equipment should be worn) to avoid voluntary or casual deactivation. FPIAA (Finding Persons Inside ATLAS Areas)is based on a large number (at the present about 400) of PIR (Passive InfraRed) sensors, each one detecting the presence of a person in a relatively small volume (~ 30 m3) and distributed to cover the most critical locations in the cavern. The sensor data will be acquired by a CAN fieldbus and stored in a real time database. The goal of this job is to analyze the real time database, provide to the control room an human machine interface, based on the existing ATLAS drawings that clearly indicated where are the persons inside ATLAS areas, as well as generating alarms if someone is not moving. To understand the goals of ATLAS experiment see http://atlas.ch/movie/index.html.

Special Requirements

Computer Science Engineering or Phisicist with similar experience Special Requirements Basic knowledge about general programming, realtime databases, supervision systems like PVSS, OPC server and clients.

Training Value

The applicants will work in a very competitive, international and of the most advanced computing environments.