

Trainee's Project Report

Job Code	PH118
Department	PH
Discipline	Electronics Engineering
Supervisor	BENINCASA Gianpaolo

Description

Description (Control Module) 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 goal of this job is to acquire all sensor data from a CAN fieldbus timestamp it and stored in a real time database which should be kept alive for years without interruption. The FPIAA application would access to this data and generate the necessary alarms, but the system should be built in such a way that even if FPIAA software crashes, the data acquisition and storing would never be interrupted. To understand the goals of ATLAS experiment see <http://atlas.ch/movie/index.html>.

Special Requirements

Also Electrotechnical, Computer Science Engineering, or Physicist with similar experience Special Requirements Basic knowledge CAN fieldbus, OPC server and clients, realtime databases, supervision systems like PVSS.

Training Value

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

