Tracking Employee

Introduction

The project is about tracking employees. The idea is to have a number of transceivers inside the building and the employee will carry a small device that is communicate with the transceivers in order to localize him. It can be used to localize the employees in emergency cases like fires and so on.

Problem Statement

As mentioned in the introduction, this project is about solving the localization of employees and it could be so helpful in the emergency cases. This solution can be viewed from two ways, one way is that it may increase the efficiency of the employees if they know that they are tracked. Or it may be viewed as spying which will affect the moral of employees.

Project Specifications

The project should be able to show the position and the direction of the employee in the real time.

The most important specifications are the speed since it is tracking in a real time. Accuracy also is important and that's why we are using lines from the transceivers to the employee that can be shown to make it accurate.

Task Schedule

Week #	Task name	Status	Description	Owner
3	Study the Requirements and make the plan	Completed	We were provided with some files to read them.	Both of us.
4	Study about DERFMEGA 128-22A00 & Transceiver	Completed		
5				
6	Designing the GUI	Completed	It is finish and ready to use but needs some editing.	Abdullah
7	Serial communication in java	Completed	Ability to read serial data using rxtx library in java.	Mohammad
8	Tools expected to be arrived. Deploying the microcontrollers and starting existing phases.	Not started		
9	Intercepting Zigbee working to GUI.	Not started		
10				
11	Field visit to Aramco.	Not started		
12	Final testing and presentation.			

Completed Tasks

GUI :

Using eclipse, we draw some lines as initial map and we going to work on a better one using AutoCAD. Then we made the calculation needed in order to draw lines from the transceivers to the employee. We are using a random numbers for now to test it and it works fine. there is no difficulties until now.

Serial Communication:

In the actual project, we are expected to receive the information from the hardware components by serial data communication. Therefore, we need to be able to read the serial communication and process receiving data using JAVA code. Since we didn't receive the actual hardware yet, Arduino microcontroller capable of sending a serial data that we used for testing and process with displaying the result. That is done successfully by add and import rxtx library in JAVA.

Problem faced:

some difficulties faces when trying to add the library to JCreator libraries but it works correctly at the end.