Work in Progress

23/02/2009

We have taken a new coarse for our master test. First, we were reading a lot of papers to investigate existing algorithms to get better RSSI readings and better positioning information. We gained knowledge about the existing algorithms, but it takes a lot of statistics knowledge to really understand the better algorithms and takes a lot of time. We stopped our research for now, to create a proximity application. This application will tell you in which room u are currently being present.

The application will contain:

* Suitable application that runs on the telosb motes. For performance reasons, this application will exist out of different messages:
  + Sensormeasurements message, this will be send to the controller to report about the measurements of the sensors, this message exists out of:
    - Battery (voltage)
    - Light
    - Humidity
    - Temperature
    - Button pressed?
    - Mote ID
    - Type (integer for the type of message)
  + Status message, this will be send to the controller to report about the status of the network, this can happen when the user makes use of the GUI to put a LED on. This message exists out of:
    - Mote id
    - Type (of message)
    - Active (participating in the localization or not?)
    - AN
    - Posx ( x coordinate, set by the GUI)
    - Posy (y coordinate, set by the GUI)
    - Samplerate (for the sensors)
    - locRate (rate for transmitting RSSI)
    - leds (what leds need or are on)
    - power (transmit level)
    - frequency
    - conn (contains the number of motes the BN is connected to)
  + Localization message, this is namely used to transmit the coordinates of the blind nodes and their RSSI, this message exist out of:
    - Mote id
    - ANmoteid
    - Type (type of message)
    - Posx (calculated x coordinate of mote)
    - Posy (calculated y coordinate of mote)
    - RSSI

Further, the adaption of the parser is needed to transmit these different messages correctly to the controller and we also added a panel to set the ip of the controller and the listen/send port.

The final step is the creation of a GUI. This GUI will help us a great deal with testing the different algorithms. Like selecting anchor nodes, there frequency, coordinates, samplerates…