

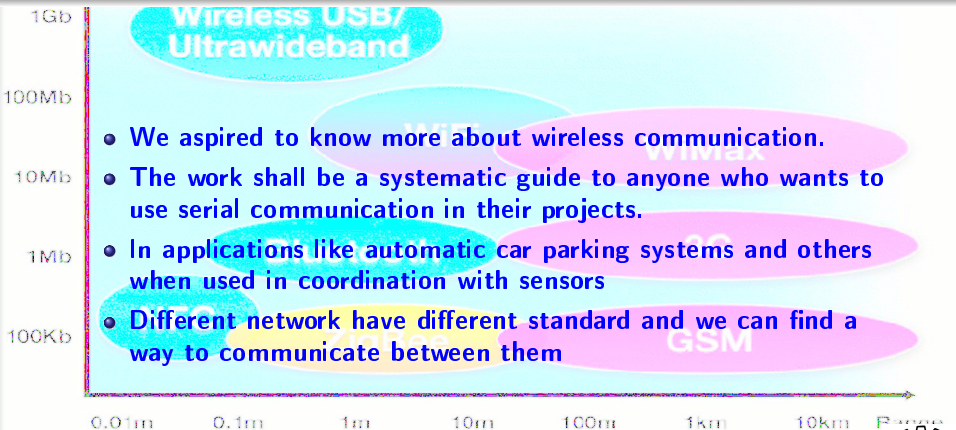
Communication module interfacing

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Objective of work



- We aspired to know more about wireless communication.
- The work shall be a systematic guide to anyone who wants to use serial communication in their projects.
- In applications like automatic car parking systems and others when used in coordination with sensors
- Different network have different standard and we can find a way to communicate between them



Scope of work

• Zigbee

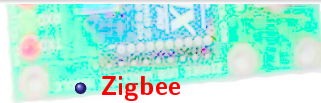
- communication between zigbee
- Different network configuration
- code for interfacing firebird V

• Bluetooth

- Video tutorial for serial communication
- interfacing bluetooth in AT mode and transparent mode

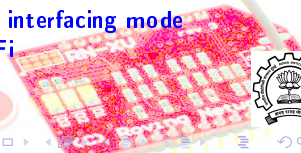
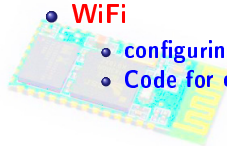
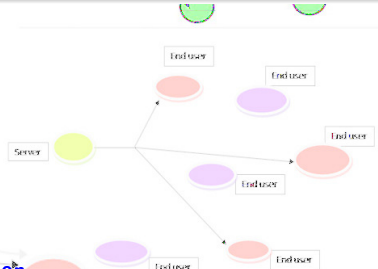
• WiFi

- configuring WiFi in access point mode and interfacing mode
- Code for controlling firebird V through WiFi



Server

End user



Completion status

① unicast mode



② Broadcast



③ Serial Comm.



④ RFID



⑤ Master-slave

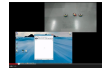


⑥ Zigbee book



⑦ Coordination

① Dynamic Address



② Analog-Digital data



③ Ring Topology



④ Bluetooth AT



⑤ WiFi AT AP



⑥ WiFi FB interface



Results and discussion

- We have made a clearly understandable and step by step procedural manual and video tutorial for wireless module like Bluetooth, X-bee and Wi-Fi and serial communication.
- We had several application to support various configuration in x-bee but we could not implement the same for Wi-Fi and Bluetooth because we had acute shortage of time and some components failure



Features and bugs

Features

- In case of X-bee almost all configurations are explained in detail, one need to go through this manual and video tutorial for easy understanding. This is extracted juice from various websites and manuals.
- In Wi-Fi and Bluetooth application are not discussed much, however various modes of configuration are explained in detail
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Bugs

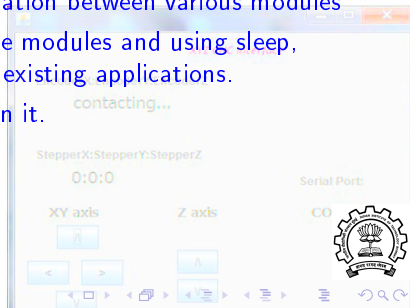
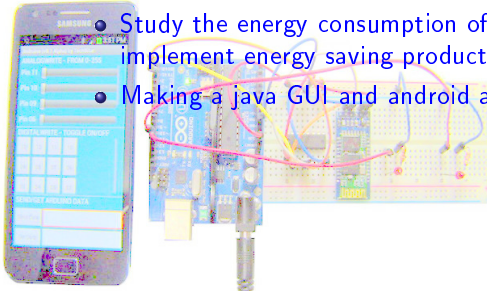
- we could not extract the data sent from the Bluetooth exactly in the robot we could receive only some Garbage value



Future work



- As the configuration are explained in detail next phase would be to develop application incorporating the various configurations.
- We can also work on finding a coordination between various modules
- Study the energy consumption of these modules and using sleep, implement energy saving products for existing applications.
- Making a java GUI and android app on it.



Objective of work
 Scope of the work
 Completion status
 Results and discussion
 Features and bugs
 Future work
 BE project idea

