Cornell Ranger Wireless Module
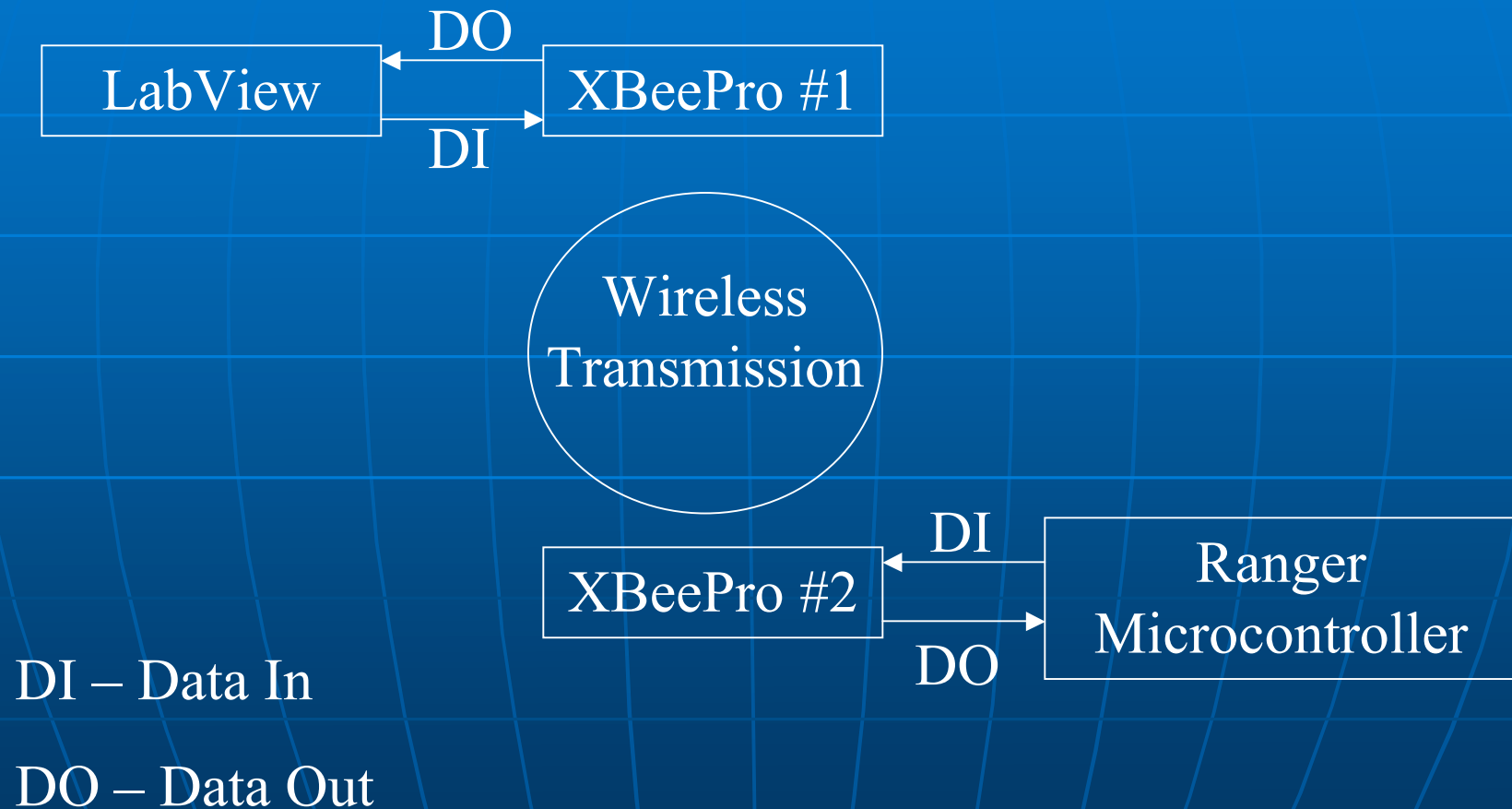
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Current and Future Wireless Modules – Key Specs

	Radiotronix WI232DTS	MaxStream XBeePro
Tx Frequency	902-928 MHz	2.4 GHz
Line-of-Sight Range	1500 ft.	1 mile
Max. RF Data Rate	152.34 kbps	250 kbps
Rx Sensitivity	-104 dBm	-100 dBm
Transmit Current	57 mA	215 mA
Idle/Receive Current	20 mA	55 mA
Tx Output Power	12 dBm	18 dBm

Data Transmission Block Diagram

DO

LabView ⟷ XBeePro #1

DI

Wireless Transmission

DI

XBeePro #2 ⟷ Ranger Microcontroller

DO

DI – Data In

DO – Data Out

How Data Is Sent

- XBeePro modules operate in transparent mode
- Data received through DI pin is kept in a queue and will only be sent out the DO pin if:
  - The queue becomes full (100 characters)
  - No data is sent for a specified period (timeout)
  - The command sequence GT+CC+GT is received

Progress

- So Far:
  - Established connection to USB XBeePro
  - Currently trying to send data between the USB XBeePro and the board XBeePro

- To Do:
  - Send data between the USB XBeePro and the board XBeePro
  - Connect the board XBeePro to the daughterboard