

Progress Presentation-I

e-Yantra Summer Internship-2016
Raspberry Pi Hardware Development and Tutorials

Aditya Kumar
Prithish P Salunke
Mentor: Rutuja E
Deepa A

IIT Bombay

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Overview of Project

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Pritish P Salunke
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E
Deepa A

Overview of Project

Overview of Task

Task Accomplished

Challenges Faced

Future Plans

Thank You

- Project Name: Raspberry Pi Hardware Development and Tutorials
- Objective
 - 1 Test available modules of Raspberry Pi
 - 2 Generate new modules
 - 3 Communication between Firebird V and RPi
 - 4 Design stackable PCB for each module
- Deliverables
 - 1 Hardware along with circuit schematics and PCB
 - 2 Code and Documentation to interface each components
 - 3 Video tutorials explaining individual module

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Task No.	Task	Deadline
1	Learn available Modules on RPi. Create video tutorials.	4 days
2	Zigbee and Bluetooth Communication. Create video tutorials and documentation	5 days
3	Communication between RPi and Firebird V using I2C, UART and SPI. Create video tutorials and Documentation	4 Days
4	Interface LCD. Create video tutorials and documentation.	3 Days
5	Mapping of all Firebird V example programs in Python	5 Days
6	PCB Design	5 Days
7	Challenge Activity	3 Days

Task Accomplished

- Accessing GPIO pins on RPi
- Interfacing port expander
- Communication between Rpi and devices using I2C, SPI protocol
- ADC interfacing
Temp. Sensor, Sharp sensor MCP3008

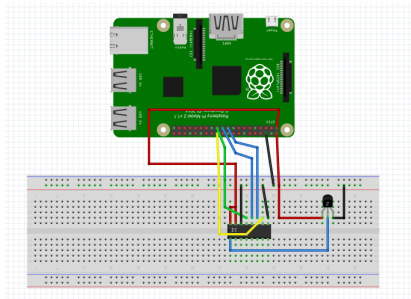


Figure: Connection for interfacing LM35

Task Accomplished

■ Interfacing dc and servo motor

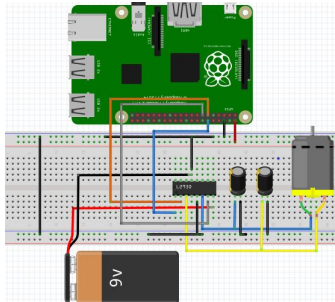


Figure: Connection on breadboard for dc motor

Task Accomplished

■ Zigbee and Bluetooth Communication



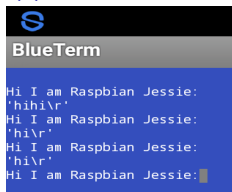
```
Console log

Hi I am Raspbian Jessie:hih

'hih \r'
Hi I am Raspbian Jessie:hi this
is me

'hi this is me\r'
Hi I am Raspbian Jessie:
```

(a) Output on XCTU



```
BlueTerm

Hi I am Raspbian Jessie:
'hihi\r'
Hi I am Raspbian Jessie:
'hi\r'
Hi I am Raspbian Jessie:
'hi\r'
Hi I am Raspbian Jessie:
```

(b) Output on Blueterm

Challenges Faced

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Task Accomplished

Challenges Faced

Future Plans

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- List challenges faced while accomplishing the task.

Future Plans

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Task Accomplished

Challenges Faced

Future Plans

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- List deliverables for next progress presentation
- PCB shields for each module
- Documentation for communication between Rpi and FireBird V
- Example programs in python
- Video Tutorial for all the tasks

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THANK YOU !!!