1 November 2019

**Project Work Diary**

# Tasks

* Establish communication between laptop and Raspberry Pi. Objective is to receive simple text messages from Raspberry Pi on my Laptop. In future these messages will be actual data sent from Pi.
* Decide whether laptop is going to host a server or use online web server (research)

# Reflection

* Have researched many online resources on how to establish communication between laptop (server) and Pi(Client), this resulted in lots of confusion. Have totally put me off the track, where I did not know what to do.
* I feel very ‘rusty’ working with Raspbian OS, as I have spent most of my time working with Windows OS.
* Have decided to test connection using sample code from the Java book. Spent some time figuring out functionality of BlueJ Java IDE which I pre-installed with OS. Finally, I used server part code from book on my laptop running in IntelliJ and Client part running in BlueJ Java on my Raspberry Pi. Changed client code to IP address of my server – as outcome I started to receive messages I was typing in in Pi , and received them on Server laptop. These procedures established connection between devices within my private network.
* Found out about very good service online called FreeDNS . This service assigns hostname for my dynamic IP address. Therefore while my dynamic IP is changing , hostname will be automatically updated with new IP.

# Issues:

*Hardware:*

1. None

*Software:*

1. Currently Raspberry Pi is “talking” to server, but only within private network. Have to try establishing connection from outside. From behind router firewall.
2. Currently my IP address is allocated using DHCP. It is trying to stay static, but if connection is not used for long time it will change. This will result in bug in code.

# Solutions

*Hardware:*

1. None

*Software:*

1. Might try to send request from server first, this will mean that I am requesting data from somewhere, not someone requesting data from me.
2. Created account with FreeDNS. Can use hostname <arvidsetcserver.ddns.net> instead of my public IP address any time I need.