

Wifi-Extender

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Importance of Wifi Extender

- In today's world of technology, internet is the most important tool to share information.
- Wifi and mobile data are the two methods for accessing internet where the latter is not as convenient a method.
- Setting up wifi at every place is not very convenient so, using a wifi extender is a much better option.
- It is also cost effective and easier to maintain as compared to an actual router.
- It can also help connect a complete institute to a single network making it convenient to manage.
- This can also lead to an important tool making automation possible in India.

Existing Solutions

- Speaking of existing solutions, we can use a router with bigger range or conventional wifi extender.
- In case of stronger router, the router costs more than a standard router and the power drawn is greater. Also, the waves emitted are stronger than a standard router making it more harmful.
- In case of a conventional wifi extender, the power drawn is greater than our solution and it is a stationary device. Whereas, our solution can be used as a mobile version of the conventional device.

Design Specifications

- The solution that we propose is mobile wifi extender formed with a raspberry pi circuit board.
- It is a repeater which replicates the network of Wifi after receiving it wirelessly.
- Raspberry pi need 5V energy input which is very less compared to both conventional wifi extender and stronger router.
- Our version of the wifi extender is also wireless which ends up cutting the cost of wiring as compared to the existing solutions.
- Also, a raspberry pi circuit board is a multipurpose mini CPU which can be used for many other function in addition to working as a wifi extender. It can be made a remotely controlled movable device which can be used to replicate Wifi signal from any place.

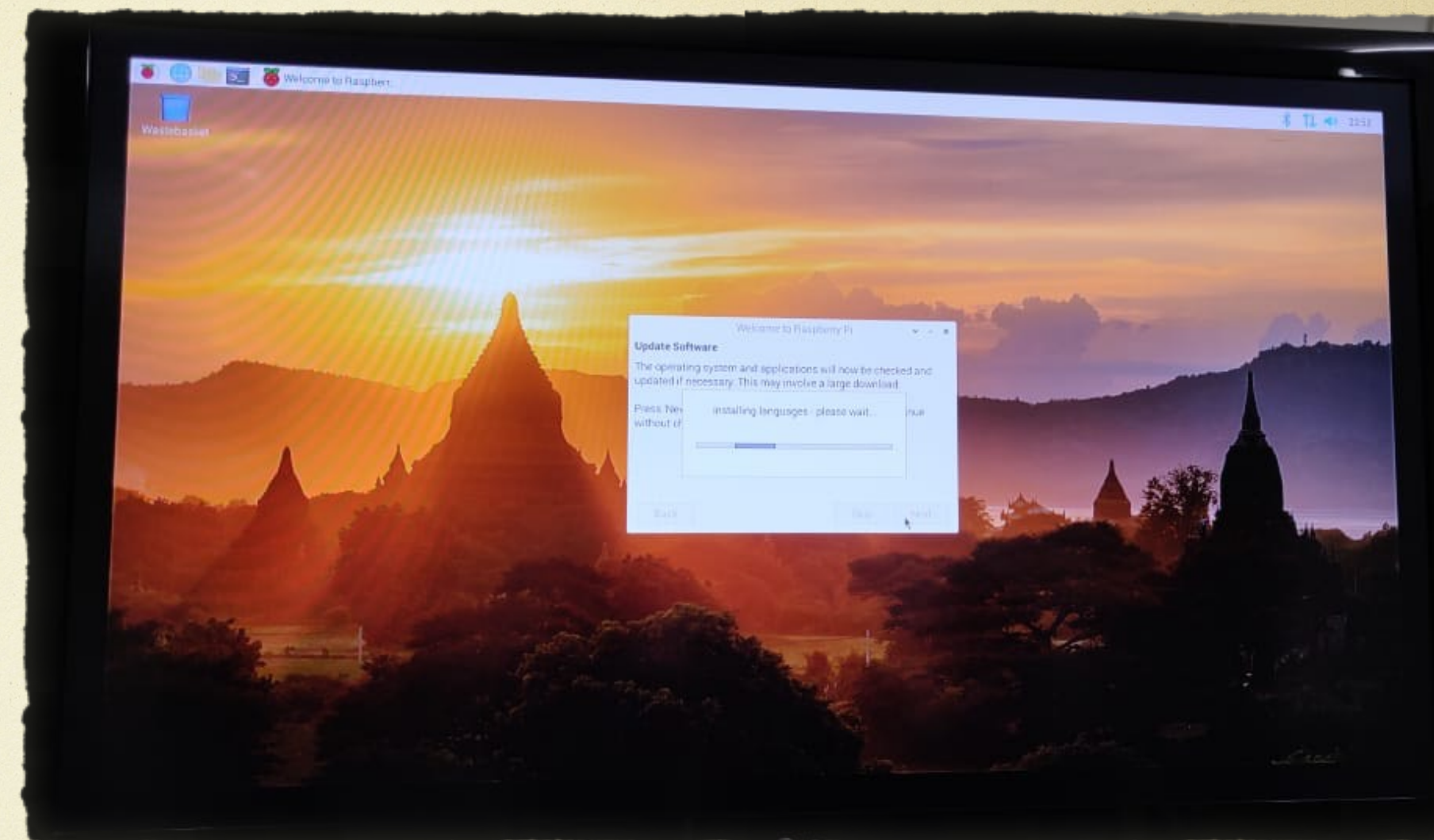
Work Done

- The raspberry pi circuit was set up and installed with as OS before being used as a CPU.
- We learned many things about networking and internet as our project is related to it. Internet access through mobile phones was also a crucial part of learning.
- The wifi extender was ready and was demonstrated in the class before the commencement of vacations in March.
- The components that were used are raspiberry pi circuit, jumper cables, mini antenna, wifi dongle to create secondary wifi port.

Conclusion

- We were able to completely create a working model of wifi extender with team effort and help from seniors and concerned faculty members.
- We gained not complete but enough knowledge about internet and wifi, which we used to make this project possible, also being the only group in the class to complete the project before vacations.
- We also gained some understanding of mobile networking and raspberry pi circuit itself.
- These were the milestones we accomplished in the course of engineering design.

Some images of our project



Thank You.