

The DaVinci Node: Behind the Node

Introduction

The main goal of the project is to create a functioning link between the *Raspberry Pi* and the *ESP2866* WiFi module. A secondary goal is to better explain the challenges and complications that are involved in project work. The sponsor for this undertaking is the Camosun College Electronics.

The Project

The DaVinci Node is a proof-of-concept project proving that it is feasible to use the *ESP2866* chip as a remote option for a home automation system hosted by a *Raspberry Pi*. The project uses an open-source operation platform called *OpenHAB*, and communicates over WiFi using the *MQTT* protocol. The project operates on a small scale, controlling three items: a fan, a light, and a set of blinds. The devices are controlled by a common electrical circuit, allowing a physical switch to be used as well as digitally controlled.

The People



Kyle Mollard

Kyle has a strong background in the Linux environment, especially with prototyping and troubleshooting. He has worked for the Centre of Applied Research and Innovation at Camosun College and PresiNET Systems in downtown Victoria. His project responsibilities include working with the *ESP2866* and setting up the GPIOs for communication with *OpenHAB*.



Thomas Hogg

Thomas has a background in project-based work from his experience working at Fleet Maintenance Facility Cape Breton for the Department of National Defence. While there, he worked on creating test systems for the steering systems of the *Halifax*-frigates of the Canadian Navy. Thomas' project responsibilities include setting up the *OpenHAB* runtime, and preparing the *Raspberry Pi* side of the operation.

Conclusion

We would like to thank Camosun College for the opportunity to work on this project while using the department's resources for its development. Our optimism, technical aptitude, and determination will make this project a success.