# Project Kildall
# Advanced Operating Systems Exercises

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## ABSTRACT

This project looks to refresh the content of the network and infrastructure class CS199 (Operating Systems). This was done by utilizing VMware to research and test implementation methods for the content specified by the industry supervisor, and tested with various test users to ensure the quality of the lab documentation.

**Keywords**: Kanban, Education, Linux, Windows, Scripting

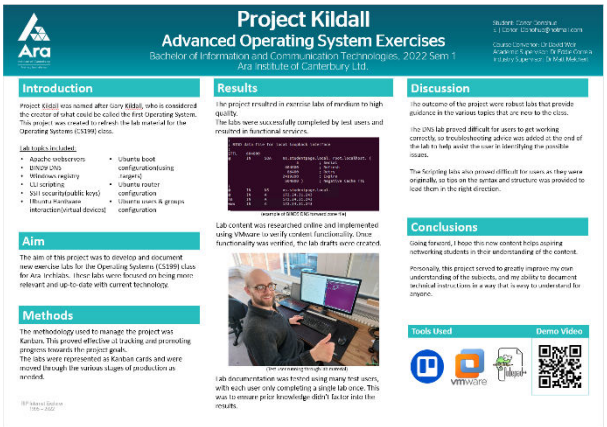
## 1. INTRODUCTION

Project Kildall was named after Gary Kildall, who is considered the creator of what could be called the first Operating System.

This project was created to refresh the lab material for the Operating Systems (CS199) class

Lab topics included:

- Apache webservers
- BIND9 DNS
- Windows registry
- CLI scripting
- SSH security(public keys)
- Ubuntu Hardware interaction(virtual devices)
- Ubuntu boot configuration(using .targets)
- Ubuntu router configuration
- Ubuntu users & groups configuration




## 2. AIM

The aim of this project was to develop and document new exercise labs for the Operating Systems (CS199) class for Ara Techlabs. These labs were focused on being more relevant and up to date with current technology.

## 3. METHODS

The methodology used to manage the project was Kanban. This proved effective at tracking and promoting progress towards the project goals.

The labs were represented as Kanban cards and were moved through the various stages of production as needed.

## 4. RESULTS

The project resulted in exercise labs of medium to high quality.
The labs were successfully completed by test users and resulted
in functional services.

Lab content was researched online and implemented using VMware to verify content functionality. Once functionality was verified, the lab drafts were created.

Lab documentation was tested using many test users, with each user only completing a single lab once. This was to ensure prior knowledge didn't factor into the results.

## 5. DISCUSSION

The outcome of the project were robust labs that provide guidance in the various topics that are new to the class. The DNS lab proved difficult for users to get working correctly, so troubleshooting advice was added at the end of the lab to help assist the user in identifying the possible issues.

The Scripting labs also proved difficult for users as they were originally, so tips on the syntax and structure was provided to lead them in the right direction.

## 6. CONCLUSIONS

Going forward, I hope this new content helps aspiring networking students in their understanding of the content.

Personally, this project served to greatly improve my own understanding of the subjects, and my ability to document technical instructions in a way that is easy to understand for anyone.

This quality assured poster paper appeared at the 13th annual conference of Computing and Information Technology Research and Education New Zealand (CITRENZ 2022) and the 35th Annual Conference of the National Advisory Committee on Computing Qualifications [hosted in Christchurch], October 4 - 7.