Senior project ideas

If you are solving a real-world problem, either work-oriented or personal, these ideas tend to work best. Talk
to people in industry, especially those that you would like to hire you. Perhaps they have a project you can
work on that could turn into a job when you are done.

Remember that while web development or programming projects might not be the best fit, projects that
involve scripting (BASH, BAT, etc.. are VERY appropriate)

- Infrastructure configuration, deploymnet
  - mirroring, pxe
- Management and monitoring

New and relevant technologies are awesome! We can’t cover everything in our program, but there are many
other things to learn!

It might be a good idea to look at some jobs for which you are interested and read the requirements list for
the job. Find a skill or set of skills that you are interested in learning more about.

Ideas for 2018

- Network monitoring
- Develop virtual machine system (like shakespeare) with Docker.
- Kubernetes
- Hadoop
- Openstack
- Amazon Web Services

What NOT to do

- Don’t try to just do something that you have learned in other courses. I have had students say, “I want
to do all the IT3100 assignments again, but in Windows.” That isn’t much of a stretch. The goal should
require you to significantly stretch.
- stuff that will cost alot. (One semester, I had a student waiting a significant amount of time for
  something to be shipped to him).
- Stuff that doesn’t do anything for you!

Past ideas:

2017

- web page to monitor student learning at local job
- Docker related
- Technical writing
- IT3100 with docker containers
- Portable network utility - student built hardware device with raspberry pi and loaded utilities on it for
  forensics
- Analysis of various databases

2016

- Network boot and imaging system
- VPN exploration
- Advanced Database usage and integration with Office apps
- Virtual Machine Farm and exploration
- Fog, clonezilla, dd (imaging)
- Samba4 and active directory integration
- Cisco emergency responder

2015
• Virtualization, DMZ (IT3100 services) (Using Hyper-v)
• Azure cloud platform
• LAMP ticketing system
• Ansible, vagrant, docker
• Home network (AD, freenas, raspberry pi)
• Tacacs authentication server
• Cisco intelligent services gateway
• Penetration testing
• Build and program a 3d printer
• Audience voting system

2014

• Forensics
• VMware horizon suite
• Automatically extract forensic info from cellphone
• Proxmox
• Raspberry pi VPN
• oracle
• Encryption comparison and benchmarks