Feasibility Report

CSG Labs: CS Labs

1. Product: CS labs is a web application that allows users to choose a topic and the application spins up a VM and allows the user to train in a real environment. This meets the needs of business professionals and students alike to train with real machines in "live" environments.
2. The infrastructure will need to support the application in multiple ways.
    a. The infrastructure will need to be able to:
        i. Create and administer a database
        ii. Administrate and secure servers
        iii. Automate and Orchestrate the website, server config, application tasks, and monitoring, and backups.
3. We intend to allow users to come and go at their own pace and use this product to learn. There will be no need to relocate or retrain any workers as work can done remotely. All material allows user to train on topics they do not know and will be training the workforce itself.
4. The organization that is supporting this product already has all the equipment we need to produce this. All software used is free and the only cost that will be incurred is the cost to host backups offsite and a proxy to get to see the web application at IUS. Once the product is online, we plan to operate on a free to use basis for IU students.
5. The only other product like this is NDG they do something very similar but require you to pay a subscription per one of their classes. The need for this project comes from a need to train in a large virtual environment with multiple people. For example, if a group of 10 people in groups of 5 need to work together in the same virtual environment they will have to do a lot of networking to set everything up correctly or find an machine that is large enough to run it all and set it up. This is were having a virtual platform were users can just hop into a preset environment that is managed by automation and do their training and work under a central environment that can scale to their largest needs.
6. Our main alternative solutions:
    a. Domain controller:
        i. Primary: IPA
        ii. Secondary: Active directory
        iii. Reason: IPA is free and does not need licenses keys to have valid windows
    b. Hypervisor:
        i. Primary: Proxmox
        ii. Secondary: Vmware
        iii. Reason: Proxmox is free and has an API for automation
7. Some of the risks in this project include limited servers, IUS security, and maintenance. The reason limited servers are an issue is that the servers we are currently running our software on is all we have now if any one of these servers go offline then we have no ability to get more. Another risk, we have is that IUS security allows us to have a secure tunnel out of the building, so keeping a good relationship with them is a must. Lastly, due to operating on a limited budget we do not have any money to maintain this project if drives fail or other equipment is needed.