**509 Project**

This semester you will build a company based on housing projects. However, it must be unusual. Either the construction materials are strange, or the target customer is not human.   
  
For my example, I am building luxury cardboard homes for people who cannot afford land. Your business will be different.

Each assignment in the project will build upon itself, so you are allowed to maintain one single document and just add each week's work to the same file. This allows you to have one title page and multiple sections.

Your title page will occupy the first page alone, and then your first assignment will be on page 2. The title page will follow this format:

Title of Your Project

your name

Your github URL

Your SQL environment (Linux, Windows, or Apple)

You will need to create a free github account to store your various files.

For Week #1, you will submit 2 components.

**Part 1**

Briefly describe your business, estimated company size in terms of people and locations, and your supply chain. Your supply chain consists of:

1. What your raw materials are (need at least 3)

2. Where you get your materials from (two sources per material)

3. Where your primary office is, and how many cities do you operate in?

Keep in mind that this assignment is PURE FICTION, and there is no wrong answer! Make stuff up, and you get points. How easy is that? If this part takes you more than 5 minutes then you're doing something wrong.

**Part 2**

Your company features a website that allows customers to select various designs of the home you build. After they log in to your site, they can place an order. This order checks the database and requests the appropriate materials. We could get much more complicated, but right now we are just designing the architecture.  
  
Therefore, for this component please design a model of your network using Draw.io. However, it must contain the following components:  
 Web server

External firewall

Application Server (sales tool, employee apps)

Email server

Employee Server

IDS/IPS Server (Intrusion Detection System and Intrusion Protection System)

DBMS server

Database

Please use Draw.io to build a model of your office network that includes all 8 of the components listed on the previous page. Please use appropriate drawings and not rough circles and squares. Think about what tier or tiers each component is on.   
  
For example, the webserver is the 'front end' of the company. Your clients begin their connection with the webserver. You should filter connections from the webserver with an external firewall.

The application server goes inside the company network and contains most standard applications including serving the API's to the website. Fortunately, the firewall is configured to allow those API's to go through. The email server and employee server likewise are inside the company network.   
  
The employee server should branch out to a LAN where internal clients connect. Draw at least two clients.

The IDS/IPS machine is a protection device that should connect all of the tiers together. Specific names for this device might be SecurityOnion or pfSense, or it may just be a SIEM. You can label it as an IDS/IPS if you prefer.  
  
The DBMS server and database itself should be well-protected inside the network. Fortunately, it is behind the IDS/IPS layer which provides a lot of protection.

Please draw the model as described above. Your job is to research appropriate icons for the various devices (client, server, database, LAN, firewall) and connect with wires. Learning to use Draw.io may take a few minutes as you get comfortable using the tools and finding the right set of icons, but it's fast to build once you get the hang of it. I am not looking for details about IP addresses, subnets, or anything like that. Just label the basic machines, and connect them as I described.

**Scoring**

5 points for the correct title page

5 points for business description and company size

15 points for supply chain details

(remember, this part is all from your imagination! All you have to do is produce ideas!)

15 points for the model drawing of your network

TOTAL: 40