Information Technology Environments

Module 2

Module 2 Agenda

- Introduction to IT-Environments
- Environment Purpose and Design
- ISEAGE-ISELab Overview
- To Do

Introduction to IT-Environments

Introduction

- An IT-environment is a collection of network components, both physical and virtual that collectively assist an organization with its daily technology-driven operations.
- Almost every organization, company or university supports and maintains an IT-Environment. The purpose and function of their environment will of course, vary.

Introduction

IT-Environment Ownership:

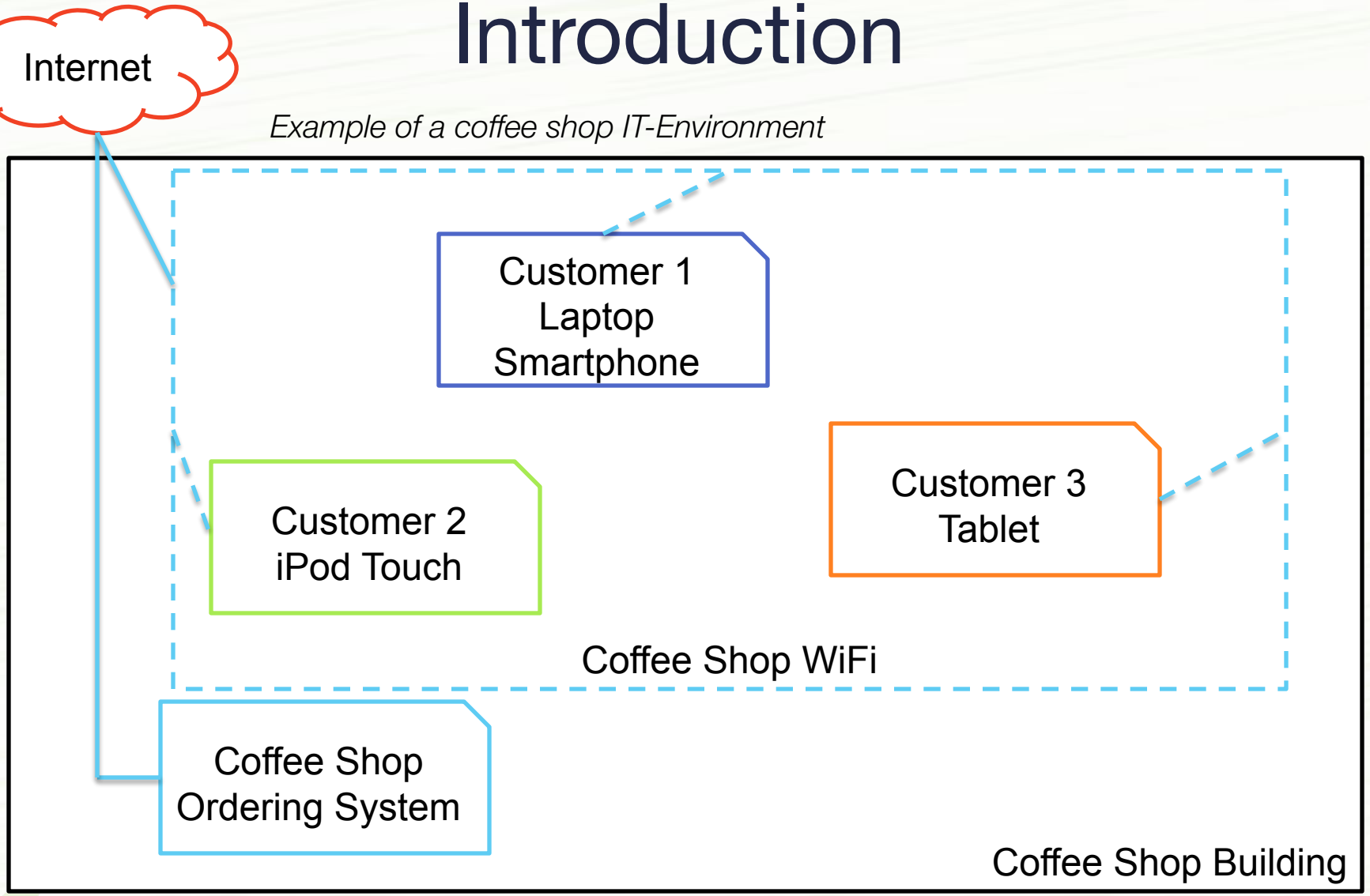
- Ownership tends to mean:
  - The individual responsible for all bills
  - The individual responsible of all legal matters
  - The people in charge of routine maintenance
- IT-Environment user:
  - A student at a University
  - An employee at a corporation
  - A consumer of a virtual product or service

Introduction

- An IT-environment has a virtual border similar to property lines around your home
- Often, common ownership across a set of components is an important quality that distinguishes one IT-environment from another

Introduction

Example of a coffee shop IT-Environment



Introduction

IT-Environment Components:

- Computers, Servers
- Applications, Software
- Some Form of Connectivity
  - WiFi
  - Wired Ethernet
  - Cellular
- Security Measures: Firewalls, Intrusion Detection Systems, etc.

Environment Purpose and Design

Purpose and Design

- An owner of an IT-Environment has a reason for investing in, and maintaining it.
- Depending on the setting the purpose will vary
  - Home: Be able to manage family finances, do school work, work from home, stream TV shows, purchasing etc.
  - School: Manage curriculum and for learning.
  - Business: commercial use.

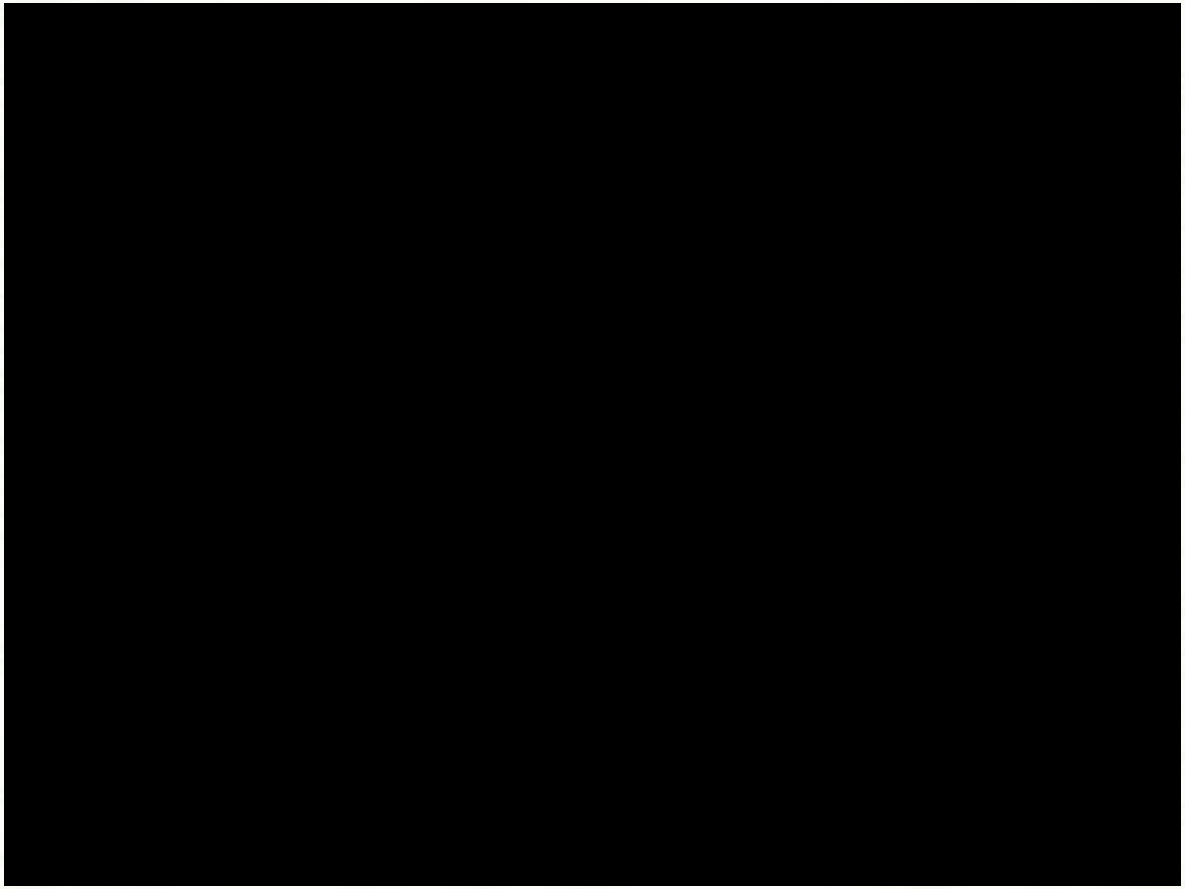
Purpose and Design

- Functionality of IT-Environment must address the purpose
  - If it doesn't, IT-Environment is essentially useless
- IT-Environments must be affordable
  - Otherwise, the owner will have to prioritize other expenses, redesign, or stop using environment.
- IT-Environments must be reliable
  - Otherwise, the owner will spend more money on additional technology or different solutions

ISEAGE-ISELab Overview

ISEAGE-ISELab Overview

- Watch the following video...
- It will be explained in the next few slides



Video:
ISERink Overview

ISEAGE-ISELab Overview

- The next slide contains a diagram of the ISERink playground, which contains ISELab.
- It is a testing environment used to learn about cyber security.
- Everything you do within ISELab is cut off from the rest of the internet.
- This is to protect the greater internet or your network from any “oopsies”.
- You will only be using the “student network” branch of ISELab. Everything else is inaccessible to you, but don’t worry you don’t really need it.
- Occasionally, you’ll connect to the internet with a proxy.

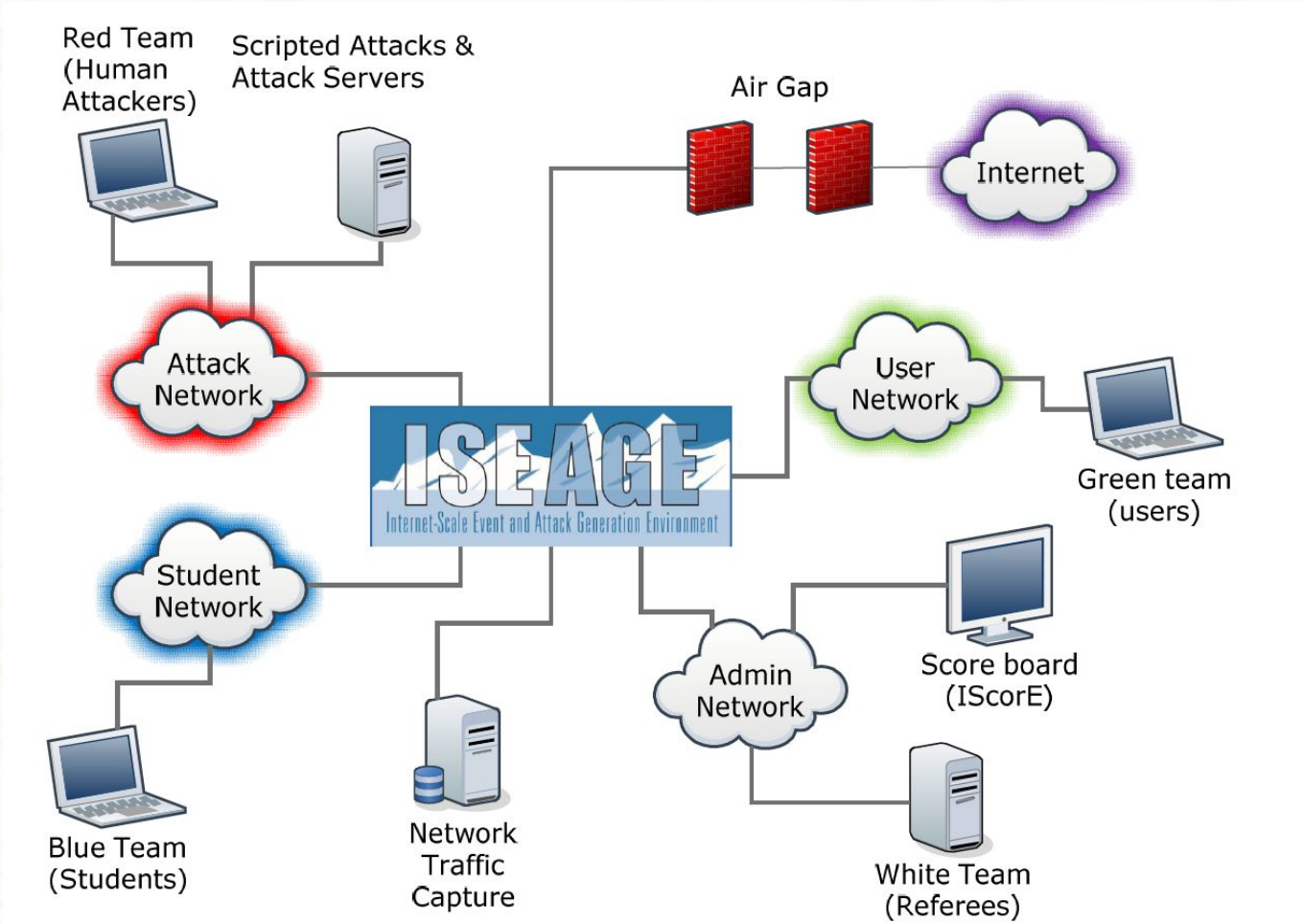


Figure 1 ISERink playground

ISEAGE-ISELab Overview

Disambiguations:

- ISERink: Internet-Scale Event Rink
- ISEAGE: Internet-Scale Event and Attack Generation Environment
- ISELab: Internet-Scale Event Lab

Additional details:

- ISERink and ISELab may sometimes be used interchangeably.
- ISERink is built upon an internet testbed named ISEAGE, a subcomponent that provides a real-world networking environment for students.

ISEAGE-ISELab Overview

ISERink is for hands on activities and the Cyber Defense Competition and should not be used for...

- Online shopping
- Personal use of social media
- Doing homework for other classes
- Any other purpose other than for IT-Adventures related use.

To Do

- Module 2 Activity 1
- Module 2 Check your Knowledge! Worksheet

End of Module 2!

What questions do you have?

Next Module Topic:

Virtual Machine Setup

Questions?

Contact IT-Adventures support staff!

email:
ita@iastate.edu

Your school's IP-Range can be found at:
http://www.it-adventures.org/ip-ranges/