# Week12: Instructor Notes

## Overview

Looking at the broader view of the software testing, students will explore and address security, liability, legal regulation, and ethical issues.

## Objectives

By the end of the week, each student will be able to:

* Break down Security/Risk/Legal aspects of Testing

## Before the Week Begins (Prepare)

### Preparation:

* Reading

### Partnership/Group work:

* Work with partners to complete the Lab and Ponder assignments.

## During the Week (Teach)

### Labs:

* Risks of [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html): Identify different risks associated with [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html) address mitigation solutions and develop tests that will verify that the risks have been addressed.
* Check Canvas “groups” to verify that all students are enrolled in a group.

## Looking Ahead

Things to be aware of

Next week's announcements:

* Please create and post your Announcement for W13 by Friday of this week, no later than Monday.

# Prepare

## Overview

Looking at the software's broader view, does it address security, liability, legal regulation, and ethical issues. How do you test for that?

## Objectives

By the end of the week, each student will be able to:

* Break down Security/Risk/Legal aspects of Testing.

## Preparation Material

To be prepared for this module's activities, please read the following and be prepared to start or complete activities for Teach One Another and Prove assignments.

### Reading

* [See Reading.](https://webmailbyui-my.sharepoint.com/personal/wac3_byui_edu/Documents/GitHub/cse270-course/Reading/Reading.html)

As you read, try to answer the following questions:

* What type of issues does testing overcome?
* What is risk mitigation?
* What is the process of Causal Analysis?
* Give any two of the following influences, what testing issues arise when they cross domains:
  + Medical
  + Open Source
  + Government
  + Politics
  + Academia
  + Corporations
  + Military
  + Religion

# Lab 12 - Risks of [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html)

## Overview

Identify different risks and mitigation solutions associated with [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html) and develop tests to address and verify the management of those risks.

## Assignment

As with any application, there are certain issues and risks. Identify the risks, mitigate them, and prove resolution through tests.

### Identify Issue Category

With your partner, pick two of the major influences that might be affected by [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html).

* Medical - insurance, services, and payments of a health civilization
* Government - local, city, state, and federal government policies and laws
* Politics - people, dealing with hierarchy and authority of power
* Academia - schools, education and learning, and standard of living
* Corporations - all domain knowledge (markets and trade) and business types (profit to non-profit)
* Military - protection of civilization
* Religion - the wellbeing of civilization

### Brainstorm Issue

Pick five issues that are associated with the influences that you picked. Be careful, and we are not necessarily talking about risks associated with the Application but with the conflict between the Influence and the Application.

For example, if you picked Medical,

* Not an Issue: [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html) has a bug that loses patient's data.
* Issue: How will [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html) keep patient information secure to follow HIPPA.

Issues can be associated with Legal, Security, Regulations, Standards, etc.

### Identify the risk

For each of the Issues:

* Identify at least two different variables that might be contributing factors. Create a two-dimension chart, identifying the two input variables, assigning Low, Medium, or High for the crossing data points.
* You need to identify the risk level of each of your issues, Low, Medium, or High.

One way risk is measure by how often it occurs and what the severity is.

* If it occurs often and is severe, it is considered high risk.
* If it does occur often or is not highly severe, then it is medium risk, and
* If it doesn't occur often and is not severe, then it is a low risk.

This example's scale is binary but works on different scales from 1 to 3 to 1 to 10 depending on the problem's detail. Not all risk uses these two variables.

### Brainstorm Mitigation

For each of your questions, identify what mitigation type would be good to resolve the issue.

* Prevention
  + Prevention mitigation is the process of putting up a defense to prevent it from happening. This is usually in the form of a mitigation plan. For example, to mitigate the risk of your car being stolen, you look at the doors, have a loud security alarm, and store it in the locked garage.
* Transference
  + Transference typically has an insurance policy that will cover the costs that might happen from the fall out of the risk. For example, to prevent paying for replacing your car and having to pay others and your medical bill, you have car insurance that lowers that payment to a manageable deductible.
* Acceptance
  + Acceptance is holding a reserve to handle the risk, and you know it is going to happen, and it is just part of the business. For example, you accept that driving on the highway may cause death or injury or getting a tune-up on the car as parts wear out.
* Avoidance
  + Avoidance is changing the activity, process, or policy that will not all the risk to happen.  For example, you avoid driving at night if you have night vision problems or avoid driving during bad weather if your tires are not new.

### Test for Mitigation

Identify what you could do to test that the mitigation plan you have for each issue.

* What would you do to measure it?
* Write a test that would identify the results.

## Submission

Post summary of the lab assignment to the discussion board.

## Rubric

Use the following rubric to help understand the expectation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Exceptional 100%** | **Good 90%** | **Acceptable 70%** | **Developing 50%** | **Missing 0%** |
| **Assignment 90%** | Test Identified and questions answered | Mitigation Identified | Risk Identified | Influence & Issues Identified | No original post |
| **Professionalism 10%** | The paper is easy to read and communicated. | Properly cited, there are no grammar or spelling errors, and the writing style is "professional." | Found an instance of a spelling error, grammar error, incomplete citation, overly verbose wording, poor formatting, or poor writing. | A citation is missing where one is needed (plagiarism alert!). | Gross spelling/grammar errors or other aspects of the writing that make the paper difficult to read. |

# Prove: Testing Issue

## Overview

Being able to provide professional contributions to the testing community is vital to networking and sharing information. You will be creating a blog post that you will put on a professional network, such as LinkedIn, Stack Overflow, or Reddit.

## Instruction

Create a blog post on the current issue in the media relating to ethical issues and software testing.

### Identify Issue Category

Use one of the articles you researched in Week 1 Teach Articles and did a complete analysis that you did in the lab, or use an issue about Testing from one of the following categories.

* Medical - insurance, services, and payments of a health civilization
* Government - local, city, state, and federal government policies and laws
* Politics - people, dealing with hierarchy and authority of power
* Academia - schools, education and learning, and standard of living
* Corporations - all domain knowledge (markets and trade) and business types (profit to non-profit)
* Military - protection of civilization
* Religion - the wellbeing of civilization

### Brainstorm Issue

You need to pick five issues that come up with the Influence that you picked. Be careful; we are not necessarily talking about the Application's risks but with the conflict between the Influence and the Application.  
For example, if you picked Medical,

* Not an Issue: [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html) has a bug that loses the patient's data.
* Issue: How will Applications keep patient information secure, so they follow HIPPA

Issues can be associated with Legal, Security, Regulations, Standards, etc.

### Identify the risk

For each of the Issues:

* Identify at least two different variables that might be contributing factors. Create a two-dimensional chart, identifying the two input variables, assigning Low, Medium, High for the crossing data points.
* You need to identify the risk level of each of your issues, Low, Medium, or High.

One way risk is measure by how often it occurs and what the severity is.

* If it occurs often and is severe, it is considered high risk.
* If it does occur often or is not highly severe, then it is medium risk, and
* If it doesn't occur often and is not severe, then it is a low risk.

This example's scale is binary but works on different scales from 1 to 3 to 1 to 10 depending on the problem's detail. Not all risk uses these two variables.

### Brainstorm Mitigation

For each of your questions, identify what mitigation type would be suitable to resolve the issue.

* Prevention
  + Prevention mitigation is the process of putting up a defense to prevent it from happening. This is usually in the form of a mitigation plan. For example, to mitigate the risk of your car being stolen, you look at the doors, have a loud security alarm, and store it in the locked garage.
* Transference
  + Transference typically has an insurance policy that will cover the costs that might happen from the fall out of the risk. For example, to prevent paying for replacing your car and having to pay others and your medical bill, you have car insurance that lowers that payment to a manageable deductible.
* Acceptance
  + Acceptance is holding a reserve to handle the risk, and you know it is going to happen, and it is just part of the business. For example, you accept that driving on the highway may cause death or injury or getting a tune-up on the car as parts wear out.
* Avoidance
  + Avoidance is changing the activity, process, or policy that will not all the risk to happen.  For example, you avoid driving at night if you have night vision problems or avoid driving during bad weather if your tires are not new.

### Test for Mitigation

Identify what you could do to test that the mitigation plan you have for each issue.

* What would you do to measure it?
* Write a test that would identify the results.

Measuring mitigation techniques can use the same methods as measuring risk or a variety of them. Did it lower it from high or medium to a lower state, or did it reduce the cost (severity) or reduce the occurrence?

### Post your write up

* Post your write-up to a website, social media, or your portfolio.
* Provide a link.

## Make it your Own

The completion of the core of this assignment is 89%. The project needs additional personalized work to achieve 100%.

* Identify an additional security issues
* Identify an additional legal or regulatory issues
* Identify an additional foreign trade, policy, or regulations issues
* Identify an additional industry or organizational engineering standards issues

## Submission

Make sure that you provide an accessible link to your blog.

## Rubric

Use the following rubric to help understand the expectation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Exceptional 100%** | **Good 90%** | **Acceptable 70%** | **Developing 50%** | **Missing 0%** |
| **Blog Post 40%** | Make it your own | Provide a link to the professional portfolio | Contains all required content | Missing Content | No answers to questions |
| **Professional Post 40%** | Make it your own | Properly cited, there are no grammar or spelling errors, and the writing style is "professional." | Found an instance of a spelling error, grammar error, incomplete citation, overly verbose wording, poor formatting, or poor writing. | A citation is missing where one is needed (plagiarism alert!). | Gross spelling/grammar errors or other aspects of the writing that make the paper difficult to read. |
| **Citations 20%** | One of the citations is a primary source | Contains 3-4 citations other than the reading. | Contains 1-2 more citations other than the reading | Contains citations from the reading | Mention this is as par oft this class. |

The distribution of points starts at 50 percent for the minimal participation expectation, and additionally stated expectations increase the percents.