# Week 02: Instructor Notes.

## Overview

Understanding the breadth of Software Testing will be a valuable part of software development and the different components. Students will explore Associations, Organizations, Magazines, websites, and other resources dealing with S/W Testing.

## Objectives

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

* Research Testing Associations, Organization, Magazines, and Web Site resources
* Discuss Testing professional field

## Before the Week Begins (Prepare)

### Preparation:

* Students will be finding an organization, association, or institute that deals with Testing. Have your favorite organization handy to also participate in the discussion.
* Students will also be working on a Mission Statement that they will use to integrate with the Prove Assignment and the Week 13 Test Plan.
* Students will be creating a brochure (poster, 1-page flier, or 3-fold handout) about why employees of H.E.L.P., Inc should take the company's Testing Training. The flier will then be posted on a professional networking site as part of their Portfolio.

### Partnership/Group work:

* Add/Drop dates are not until the end of the 2nd week, so to prevent additional work, the partnership will not be assigned until Week 03.

## During the Week (Teach)

### Labs:

* One of the features of [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html) is its ability to gather input quickly. It does this through several sensors. One of the primary sensors is the camera. The camera needs to be able to focus quickly.
* Your assignment is to determine three different ways to test a camera's autofocus and develop a method to determine which type of focus algorithm and how fast.
* This will be the students' first attempt at creating a test. The results will be all over the place in format and style.
* Reply to students on how they can improve and run through a couple of the tests the students publish to see if they work.

## Looking Ahead

Next week's announcements:

* Please create and post your Announcement for W03 by Friday of this week, at the least by Monday.

# Prepare

## Overview

This week students will get an introduction to the course and the first influence on Software Testing.

## Objectives

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

* Research different Testing Associations, Organizations, Magazines, and Web Sites resources, and
* Discuss the professional field 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 Materials](../Reading/Reading.html)

Additional Resources:

|  |  |  |
| --- | --- | --- |
| **Associations** | **Acc** | **Websites** |
| A1QA SW Testing Compnay | A1QA | https://www.a1qa.com/ |
| Agile Alliance |  | <https://www.agilealliance.org/> |
| American Society for Quality | ASQ | [www.asq.org](http://www.asq.org/) |
| American Software Testing Qualifications Board (ASTQB) | ASTQB | [https://www.istqb.org](https://www.istqb.org/) |
| Association for Software Testing | AST | <https://www.associationforsoftwaretesting.org/> |
| Association of Testing & Software Quality Assurance | AT\* S.Q.A. | <https://atsqa.org/> |
| B.C.S. The Charted Institute for I.T. |  | [https://www.bcs.org](https://www.bcs.org/) |
| deviQA |  | https://www.deviqa.com |
| DZONE |  | [https://dzone.com](https://dzone.com/) |
| International Institute for Software Testing | IIST | <https://testinginstitute.com/> |
| International Software Testing Qualifications Board | ISTQB | <https://www.istqb.org/> |
| ISO |  | [https://www.iso.org](https://www.iso.org/) |
| Micro Focus |  | [https://www.microfocus.com](https://www.microfocus.com/) |
| Official U.S. List of Certified Software Testers |  | [https://astqb.org](https://astqb.org/) |
| OWASP™ Foundation |  | [https://www.owasp.org](https://www.owasp.org/) |
| QA InfoTech |  | <https://qainfotech.com/> |
| QA Mentor |  | <https://www.qamentor.com/> |
| Qualcomm |  | <https://www.qualcomm.com/> |
| QualiTest |  | [https://www.qualitestgroup.com](https://www.qualitestgroup.com/) |
| QualityLogic |  | <https://www.qualitylogic.com/> |
| Stickyminds |  | <https://www.stickyminds.com/> |
| TestMatic |  | <https://testmatick.com/> |
| Testpoint |  | <https://testpoint.com.au/> |
| Tricentis |  | [https://www.tricentis.com](https://www.tricentis.com/) |
| CIGNITI |  | https://www.cigniti.com/ |

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# What Testing Organizations did you find?

## Overview

Provide a summary of the testing organizations, associations, or institutes.

## Instructions

### Research

You will need to answer the following questions:

* About:
  + What is its mission? Why do they exist?
  + What services do they provide? What do they publish? Training? Certifications?
  + What publications do they have? How often? Subject Matter? ? (i.e., A.C.M. – Monthly, Ethic Focused)
  + What certifications do they offer, and why?
* Community:
  + Who are their partners, i.e., companies, organizations, etc.?
  + Why should you join? How much? What is free, and what is not?
* Summary:
  + Provide a summary of how this resource helps test a professional, business, or project.
* References:
  + What resources did you find?  Where did you find your sources?
  + How many hours did you spend completing this task?

### Summary

Provide a summary of the organization that you researched.

### Follow-up Question

Create two questions about your organization and post those questions. Questions should be about the organization and are not in your summary. The questions should be open-ended and potentially provide added value to your summary.

### Answer Follow-up

Answer two other classmates' questions. You can't answer two questions from the same person.

## Rubric

Use the following rubric to help understand the expectation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Exceptional 100%** | **Good 90%** | **Acceptable 70%** | **Developing 50%** | **Missing 0%** |
| **Organization Summary 60%** | The student presented a professional summary. | The summary included all About and Community and Citation information. | The summary included all About or Community information | The summary included all About or Community information | No summary provided |
| **Followup questions  10%** | The student provided both questions that are open-ended and add value. | Provide both questions as open-ended. | Both questions are simple to answer. | Provide 1 of the two questions. | No provided questions. |
| **Answer questions 20%** | Answered two questions from two different posts and added new information. | Answered two questions from two different classmates | Answered two questions | Answered one of the required two questions | No Answer provided |
| **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. |

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

# Lab 02 - Camera's Autofocus Algorithm

## Overview

One of the features of [Dr. Mobile](https://byui-cse.github.io/cse270-course/Labs/DrMobil.html) is its ability to gather input quickly. It does this through several sensors. One of the primary sensors is the camera, which needs to be able to focus quickly.

As part of this assignment, you need to know a little about how a current-gen cell phone's auto-focus works. Read "How does autofocus work on your smartphone." (<https://www.giffgaff.com/blog/how-does-auto-focus-work-on-your-smartphone/> ). The article discusses how different cameras are in today's cell phones when using the focus feature. Your assignment is to determine three different ways you would test a camera's autofocus.

## Assignment

Your assignment is to determine three different ways to test a camera's autofocus and develop a method to determine which type of focus algorithm is best and how fast each works.

### Observations:

The first step is to notice how your camera works. Using your camera (phone, computer, personal) determines how quickly the camera can autofocus. Do this by moving an object back and forth or moving from one focal point to another. How far away does an object need to be to notice the difference?

Notice how many times your camera adjusts to different distances before it focuses. How did you detect it?

### Experiment:

Run one or more of the following experiments:

* Use a red filter or red light vs. a blue light to test focus.
* Determine the type of focus?:
  + Determine if your camera is using a phase by putting a cover on the lens.
  + Determine if your camera is using a laser. Check I.R. with another camera.
* Experiment with Distance? Too close, Too Far, Optimal
* How does light affect autofocus? Too dark, Too Light, Optimal
* How does color affect autofocus?
* Where the object is in view: Sides(Vertical vs Horizontal) vs Center
* How does movement affect the focus?
* How quickly can it adjust to two different distances?
* For cell phone, how does the front vs back camera differ?
* How does different textures affect the focus? Carpet vs Ceiling vs Wall or other
* Place a filter in front of the camera (sheet protector simulating smooges on the lens)

How you setup the experiment is up to you. The point of the assignment is to have you learn how to test something you are unfamiliar with and find thresholds of when something works or doesn't work anymore.

### Equation:

Using the equation found in the article and values determine the time for a Phase and a Laser,

* Distance traveled by laser beam = Speed of Light \* Time to receive reflection
* Distance to object = Distance traveled by laser beam / 2

Did your experiments come close to the time? What was a cause of the differences?

### Test:

Write up a test based on your findings that you could give to someone else, possibly a family member, a neighbor, or a friend. Do this so that if they followed your test, they could come up with the same results.

Make sure you address these questions in your test:

* How will the test be set up?
* What is the previous knowledge needed?
* What steps did you take to discover your results?
* What were the expected results?
* Were you able to break the camera's autofocus algorithm?

### Follow up:

Post a summary of your observation, experiment, equations, and tests, then answer the following questions:

* Which of the options would be best?
* Did your first attempt work successfully? Why or Why not? What did you learn for the non-success or success?

## Submission

Post your test as a separate post on the discussion board.

Reply to someone else's test by running through their test and let them know if you got the same results. Provide 1-2 suggestions on how to improve their test. Reply to someone else with results and improvement.

## Rubric

Use the following rubric to help understand the expectation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Exceptional 100%** | **Good 90%** | **Acceptable 70%** | **Developing 50%** | **Missing 0%** |
| **Assignment 70%** | Answered followup questions | Wrote a test | Provide evidence of the experiment | Provided summary of observation | No original post |
| **Reply 20%** | 1st & 2nd Reply with replies and suggestions. | 1st Reply with Suggestion and   2nd Reply with results | 1st Reply with Suggestion or   2nd Reply with results | 1st Reply with results | No Reply |
| **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. |

 The distribution of points starts at 50 percent for minimal expected participation; additional work results increase the score.

# Prove: Software Training Brochure

## Overview

You are creating a training flyer, poster, or 3-fold handout describing why an employee should care about Testing. Create a post on a professional networking site to provide a distribution means for your flier.

## Backstory

As part of C.M.M. Level 3 training, yearly competency training is a requirement for employees. According to a 3-party certification organization, H.E.L.P. Inc must periodically train all employees on Testing. A flier must be developed and distributed to introduce employees to the upcoming required training. Your team is assigned to create the flyer. The flier is a quick read that briefly provides the purpose, benefits, and resources needed to convince employees to take the training on Testing.

## Instruction

You will need to create a training brochure describing why an employee should care about Testing. The brochure can be in the form of a poster, a 1-page flier, or a 3-fold handout.

### Mission STATEMENT:

Create a mission statement for your Test Team. The mission statements will include three essential elements. You will have this in your flier. The following question will help you in making your mission statement:

* What is a good mission statement? Post a brief definition of what you feel a mission statement should represent. Or reply to a classmate's post by explaining how you would improve it.
* What types of problems are solved by Testing? What characteristics can mitigate these problems/risks?
* List three things that are essential in the testing mission statement? Why?
* Create a draft mission statement and then wordsmith it.

### Testing Team Flier:

The flier should have:

* Purpose of the flier
* The testing team mission statement
* Test Training opportunities
* Advantages of Testing
* Issues involved in or with Testing and how Testing mitigates the risk
* Format: Formating
* Citation: Resources

### Professional Post

Without proper distribution, your efforts will sit on the shelf. It would be best if you made sure others see it.

* Create a blog post that will use your flier. The blog post needs to be professional and introduce the reason for the flier
* You will publish this on your BYU-Idaho Portfolio account or on LinkedIn.
* Make sure you are professional and provide an explanation of the purpose of the flier.
* Have it review before you publish it – provide the reviewer's name in the submission commits.

## Make it your Own

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

Here is a list of possibilities

* Brochure
  + Add a Testimony you got from a Testing professional
  + Add a Quote from a published source
  + Add a Graphic that explains a point in your flier
* Post
  + Get your friends and relatives to post a meaningful comment on it.
  + Add it to your Portfolium, and provide a link.

## Submission

Make sure that you upload a copy of your document to iLearn.

* You will be required to publish the flier as a post on a Professional Network and provide a reference link for grading.

## Rubric

Use the following rubric to help understand the expectation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Exceptional 100%** | **Good 90%** | **Acceptable 70%** | **Developing 50%** | **Missing 0%** |
| **Brochure 40%** | Make it your own | Professional Formatted | Contains all required content | Missing Content | No answers to questions |
| **Professional Post 40%** | Make it your own | Review before published & Provide a link to post. | 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. | 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 | The citation contains 3-4 additional sources other than the reading. | Contains 1-2 more citations other than the reading | Contains citations from the reading | Mention this is part of C.M.M. or it is part of this class. |