



CST-120 Activity 7 Guide

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Advanced Web Development

Overview

In this activity, you will learn some advanced web development technologies, including the use of Bootstrap Forms and how to support reusable page content. The tutorials for this activity can be found by going to the [W3Schools home page](#) and by going to the [Bootstrap home page](#).

Execution

Execute this assignment according to the following guidelines:

1. Start VS Code.
2. Close any open workspaces.
3. Create a new workspace folder for this Topic by selecting the File > Add Folder to Workspace menu open. Create a new folder named *Topic 7*. Click the Add button. Select the File > Save Workspace As menu options and save the name of the workspace as *Topic7-Activities-workspace* inside the *workspaceCST-120* directory.
4. Copy all of the code files (*index.html*, *tando.html*, and *media.html* pages and *images* and *css* directories) from the Topic 6 assignment into the Topic 7 workspace.
5. Test the *index.html* page by deploying to the Live Server to ensure all assignment files were copied over properly.
6. Review the following from the [W3Schools HTML tutorials](#):
 - a. HTML Forms, HTML Form Elements, HTML Input Types, HTML Input Attributes, and HTML Input Form Attributes.
7. Review the following Bootstrap tutorials from "[Bootstrap Getting Started](#)" under the "Components" heading:
 - a. Forms

b. Input Group

8. Create a new page named *contact.html* with the standard boiler plate HTML content. Add some general text within the *body* tag just so something is displayed.
9. Add the latest jQuery Library and Bootstrap Library to the *contact.html* page *head* tag from the official [jQuery CDN website](https://code.jquery.com/jquery-3.5.1.min.js) and the official [BootstrapCDN website](https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css).

```
<script src="https://code.jquery.com/jquery-3.5.1.min.js"></script>
<link href="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min.css" rel="stylesheet">
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.min.js"></script>
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/js/bootstrap.bundle.min.js"></script>
<link rel="stylesheet" type="text/css" href="css/mysite.css">
```

10. Inspect the JavaScript console to ensure there are no errors on the page and the correct text is displayed in the DOM of the page. If the text is not displayed, make sure the jQuery Library was successfully retrieved from the CDN. The network tools in your developer tools can be used to diagnose any problems.
11. Delete all content from the body of the *contact.html* page.
12. Update the content for the *contact.html* page by using the following steps.
 - a. Add a *Div* tag to center all content and specify a Bootstrap Container, page Title in a *h1* tag, and an *Anchor* tag to navigate back to the *index.html* page.

```
<div class="container" align="center">
  <h1>Contact a Professor</h1>
  <br>
  <a href="index.html">Back to Main Page</a>
</div>
```

- b. Add a Bootstrap Contact form under the page title that allows the user to enter the Professor's Name, Name of the College, a list of Courses, and a multi-line Edit Control to enter a message that has a form *method* of *POST* and a form *action* of *https://postman-echo.com/post*. Make sure to set the *name* attribute for each field in the form. Note, after each form submit, simply hit the browser back button and refresh the page to get the Live Server to update again.

```

<form method="POST" action= "https://postman-echo.com/post">
  <div class="form-group row">
    <label for="professor" class="col-sm-2 col-form-label">Professor</label>
    <div class="col-sm-10">
      <input type="text" class="form-control" id="professor" name="professor">
    </div>
  </div>
  <div class="form-group row">
    <label for="college" class="col-sm-2 col-form-label">College</label>
    <div class="col-sm-10">
      <input type="text" class="form-control" id="college" name="college">
    </div>
  </div>
  <div class="form-group row">
    <label for="course" class="col-sm-2 col-form-label">Course</label>
    <div class="col-sm-10">
      <select class="form-control" id="course" name="course">
        <option>CST-105: Computer Programming I</option>
        <option>CST-120: Web Development</option>
        <option>CST-150: Programming in C# I</option>
        <option>CST-221: Operating Systems Concepts</option>
        <option>CST-239: Programming in Java II</option>
        <option>CST-250: Programming in C# II</option>
        <option>CST-323: Cloud Computing</option>
      </select>
    </div>
  </div>
  <div class="form-group row">
    <label for="message" class="col-sm-2 col-form-label">Message</label>
    <div class="col-sm-10">
      <textarea class="form-control" id="message" name="message" rows="3"></textarea>
    </div>
  </div>
  <div class="form-group row">
    <div class="col-sm-12">
      <button type="submit" class="btn btn-primary">Send</button>
    </div>
  </div>
</form>

```

13. Add the *contact.html* page to the NavBar of the *index.html* page.
14. Take a screenshot of your browser display with the updated NavBar menu. See Appendix for [Example 1a](#) browser display.
15. Take a screenshot of the Contact Form being rendered in a desktop browser, iPhone or mobile device, and iPad or Tablet device, and a form submission response by using the browser's developers responsive tools. See Appendix for [Example 1b](#) browser display.
16. Take a screenshot of your browser display with the Contact Form post response. See Appendix for [Example 1c](#) browser display.
17. Add a new folder to the root of the workspace named *fragments* and create a new file named *_copyright.html* in this folder. Add the following reusable copyright page content to the *_copyright.html* file:

```
<div align="center" style="text-align: center;position: fixed;bottom: 0;width: 100%;">
  <font color="purple"><h5>Copyright 2020 Grand Canyon University</h5></font>
</div>
```

18. Add a new folder to the root of the workspace named *js* and create a new file named *copyright.js* in this folder. Add the following content to the *copyright.js* file to load the copyright into a *div* tag with a *copyright* id:

```
$(document).ready(function(){
  $('#copyright').load("fragments/_copyright.html");
});
```

19. Include the *copyright.js* file in the *head* tag of the *index*, *tando.html*, *media.html*, and *contact.html* files.
20. Add the following *div* tag at the bottom of the *body* in the *index*, *tando.html*, *media.html*, and *contact.html* files that is the *div* tag where the reusable copyright page context will be inserted:

```
<div id="copyright"></div>
```

21. Take a screenshot of your browser display with the copyright. See Appendix for [Example 1d](#) browser display.

Research Questions

Online students will address these in the Discussion Forum and traditional on-ground students will address them in a Microsoft Word document for this assignment.

1. Draw a block diagram using Word, Draw.io, or another drawing tool that illustrates how the HTTP protocol, client-side web pages with HTML Forms, and server-side code are all used together to build powerful business applications.
2. Research the dynamic web application frameworks that you will learn in future courses in this program. Provide an example of 3 web frameworks you discovered and in 150–200 words, explain the programming language and features for each framework.

Submission

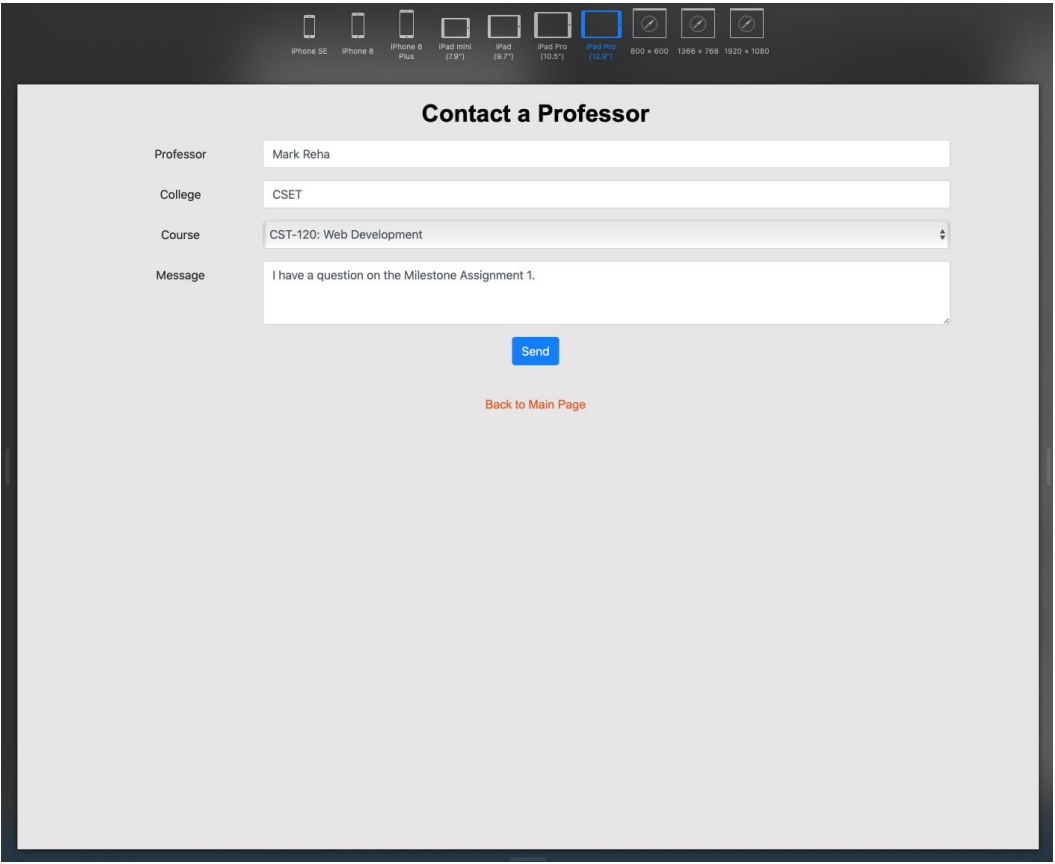
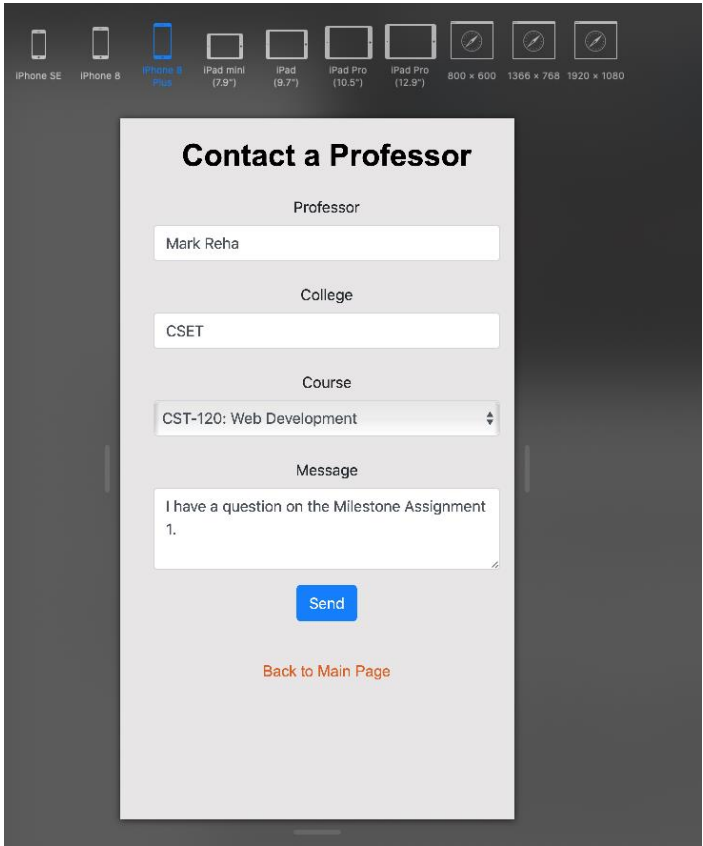
1. In a Microsoft Word document, complete the following for the Activity Report:
 - a. Cover sheet with the name of this assignment, date, and your name.
 - b. Section with a title that contains all the screenshots.
 - c. Section with a title that contains the answers to the Research Questions (traditional ground students only).
2. Submit the Activity Report to the digital classroom.

Appendix: Browser Displays

Example 1a



Example 1b



Contact a Professor

Professor: Mark Reha

College: CSET

Course: CST-120: Web Development

Message: I have a question on the Milestone Assignment 1.

[Send](#)

[Back to Main Page](#)


Example 1c

```
{
  "args": {},
  "data": "",
  "files": {},
  "form": {
    "professor": "Mark Reha",
    "college": "CSET",
    "course": "CST-120: Web Development",
    "message": "I have a question on the Milestone Assignment 1."
  },
  "headers": {
    "x-forwarded-proto": "https",
    "x-forwarded-port": "443",
    "host": "postman-echo.com",
    "x-amzn-trace-id": "Root=1-5eb44eaa-05fa712e5a0c531c7e51de52",
    "content-length": "123",
    "accept": "text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8",
    "content-type": "application/x-www-form-urlencoded",
    "origin": "http://127.0.0.1:5500",
    "accept-language": "en-us",
    "user-agent": "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_4) AppleWebKit/605.1.15 (KHTML, like Gecko) Version/13.1 Safari/605.1.15",
    "referer": "http://127.0.0.1:5500/contact.html",
    "accept-encoding": "gzip, deflate, br",
    "cookie": "sails.sid=s%3AasiGJGea0efdTrTCf3r7hu-bgE2GTlePG.ing8u03E6bN0rruP9aPPEXW%2B6F9WC2wvEqtX8jLG2ZI; _ga=GA1.2.811730594.1588426336"
  },
  "json": {
    "professor": "Mark Reha",
    "college": "CSET",
    "course": "CST-120: Web Development",
    "message": "I have a question on the Milestone Assignment 1."
  },
  "url": "https://postman-echo.com/post"
}
```

Example 1d

[GCU](#) [Home](#) [Course Matrix](#) [Media](#) [Contact Professor](#) [Topics](#) [▼](#)

CST-120 Web Development Syllabus



Course Description

This course introduces the fundamental concepts and syntax of the web development languages including HTML, CSS, and JavaScript. The course focuses on foundation required to build complex dynamic web applications. Prerequisite: none.

Credits

4

Required Course Materials

Textbook

There is no textbook for this class. Weekly readings are from the W3 Schools web site.

Microsoft Video Studio Code

Install this tool per the Activity 1 Guide and per the instructions as specified by your instructor

Bootstrap Studio

This course requires the use of BootStrap Studio.

Access the Bootstrap Studio website. Then, scroll down to the bottom of the Home Page to the FAQ link. Click on the FAQ link. Scroll to the bottom of the FAQ where the question is asked if there "Is a student license." Click on the Apply link.

Fill out the Application for the Student License form and submit the request.
Be sure to install as specified by your instructor.

Additional Materials

Laptop

This course requires students to have a laptop. Students will use their laptop to complete the course assignments. Technical specifications can be found in the University Policy Handbook.

CLC Project Guide

Refer to this resource when completing the course CLC Milestone assignments.

Activity Guide

Refer to this resource when completing the course activities.

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