

Technical Vocational Livelihood

11

QUARTER

2

Computer Programming



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Computer Programming (ICT) – Grade 11

TECHNICAL VOCATIONAL LIVELIHOOD



Quarter 2 – Module 3 CSS Transition and Animation First Edition, 2020

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Development Team of the Module

Writer: Jenessy Joy T. Pinga

Editors: Ma. Lerma Cantanero

Reviewer: Rowena O. Dimagiba

Illustrator:

Layout Artist:

Management Team: Ma. Evalou Concepcion A. Agustin

Assistant Schools Division Superintendent

OIC-Schools Division Superintendent

Aurelio G. Alfonso, Ed. D.

OIC-Assistant Schools Division Superintendent

Victor M. Javena, Ed. D.

OIC – Chief Curriculum Implementation Division

Chef School Governance and Operation Division

Education Program Supervisor

Wilma Q. Del Rosario, LRMDs

Dr. Libranda L. Agon, Ed. D., EPP/TLE

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Department of Education – Division of Pasig City

Office Address: Caruncho Avenue, San Nicolas, Pasig City

Telefax: 641-88-85 / 682-2819

E-mail Address: divisionofpasig@gmail.com



Computer Programming

11

Quarter 2

Self Learning Module 3

CSS Transition and Animation

Writer: Jenessy Joy T. Pinga

Editors: Ma.Lerma I. Cantanero

Validator/ Reviewer: Rowena O. Dimagiba



Introductory Message

For the Facilitator:

Welcome to the Computer Programming for the ICT Module on CSS Transition and Animation!

This module was collaboratively designed, developed and reviewed by educators from Schools Division Office of Pasig City headed by its Officer-In-Charge Schools Division Superintendent, Ma. Evalou Concepcion A. Agustin in partnership with the Local Government of Pasig through its mayor, Honorable Victor Ma. Regis N. Sotto. The writers utilized the standards set by the K to 12 Curriculum using the Most Essential Learning Competencies (MELC) while overcoming their personal, social, and economic constraints in schooling.

This learning material hopes to engage the learners into guided and independent learning activities at their own pace and time. Further, this also aims to help learners acquire the needed 21st century skills especially the 5 Cs namely: Communication, Collaboration, Creativity, Critical Thinking and Character while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:



Notes to the Teacher

This contains helpful tips or strategies that will help you in guiding the learners.

As a facilitator you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Moreover, you are expected to encourage and assist the learners as they do the tasks included in the module.



For the Learner:

Welcome to the Computer Programming for the ICT Module on CSS Transition and Animation!

The hand is one of the most symbolized part of the human body. It is often used to depict skill, action and purpose. Through our hands we may learn, create and accomplish. Hence, the hand in this learning resource signifies that you as a learner is capable and empowered to successfully achieve the relevant competencies and skills at your own pace and time. Your academic success lies in your own hands!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning material while being an active learner.

This module has the following parts and corresponding icons:



Expectation - These are what you will be able to know after completing the lessons in the module



Pre-test - This will measure your prior knowledge and the concepts to be mastered throughout the lesson.



Recap - This section will measure what learnings and skills that you understand from the previous lesson.



Lesson- This section will discuss the topic for this module.



Activities - This is a set of activities you will perform.



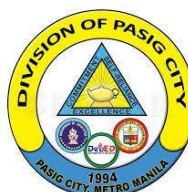
Wrap Up- This section summarizes the concepts and applications of the lessons.



Valuing-this part will check the integration of values in the learning competency.



Post-test - This will measure how much you have learned from the entire module. Ito po ang parts ng module.





EXPECTATION

At the end of the module the learner is expected to:

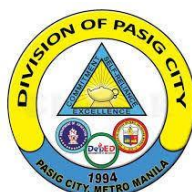
1. understand CSS Transition and Animation.
2. perform and apply the use of CSS Transition and Animation when designing webpage.
3. cite the importance of CSS Transition and Animation in designing webpage.



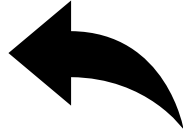
PRE-TEST

Instruction: Select the letter that corresponds to the correct answer.

1. A value of transition-timing-function property that specifies a transition effect with a slow start, then fast, then end slowly.
 - A. ease
 - B. linear
 - C. ease-in
 - D. ease-in-out
2. A value of transition-timing-function property that specifies a transition effect with the same speed from start to end.
 - A. ease
 - B. linear
 - C. ease-in
 - D. ease-in-out
3. A value of transition-timing-function property that specifies a transition effect with a slow start and end.
 - A. ease
 - B. linear
 - C. ease-in
 - D. ease-in-out
4. A value of animation-timing-function property that specifies an animation with a slow end.
 - A. ease-out
 - B. linear
 - C. ease-in
 - D. ease-in-out



5. A value of animation-timing-function property that specifies an animation with a slow start and end
- A. ease-out
 - B. linear
 - C. ease-in
 - D. ease-in-out



RECAP

Module 2 discussed CSS transform, now describe the following below on how you understand the lesson.

- rotateX()
- rotateY()
- translate()
- rotate()
- scale()
- skewX()
- skewY()
- matrix()



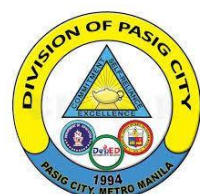
LESSON

CSS Transitions

Transitions allow you to change property values from one value to another, over a given duration. To create a transition, you must specify at least two things, the name of the CSS property to which you want to apply the transition effect using the transition-property and the duration of the transition effect using the transition-duration. Other transition properties are optional.

Below are the transition properties;

- transition – defines a shorthand property for setting all the four transition properties into a single property.
- transition-delay - specifies when the transition will start.
- transition-duration - defines how many seconds or milliseconds a transition effect takes to complete.
- transition-property – define the names of the CSS properties to which a transition effect should be applied.



- transition-timing-function – specifies how the intermediate values of the CSS properties being affected by a transition will be calculated.

The **transition-timing-function property** can have the following **values**:

- ease - specifies a transition effect with a slow start, then fast, then end slowly.
- linear - specifies a transition effect with the same speed from start to end.
- ease-in - specifies a transition effect with a slow start.
- ease-out - specifies a transition effect with a slow end.
- ease-in-out - specifies a transition effect with a slow start and end.

Example 1: (to see what happens try it with your PC)

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    width: 100px;
    height: 100px;
    background: yellow;
    transition: width 2s;}
#div1 {transition-timing-function: linear;}
#div2 {transition-timing-function: ease;}
#div3 {transition-timing-function: ease-in;}
#div4 {transition-timing-function: ease-out;}
#div5 {transition-timing-function: ease-in-out;}
div:hover {width: 400px;}
</style>
</head>
<body>
<div id="div1">linear</div><br>
<div id="div2">ease</div><br>
<div id="div3">ease-in</div><br>
<div id="div4">ease-out</div><br>
<div id="div5">ease-in-out</div><br>
</body>
</html>
</html>
```

Example 2: using four properties (to see what happens try it with your PC)

```
div {
    transition-property: width;
    transition-duration: 2s;
    transition-timing-function: linear;
```




```

    transition-delay: 1s;
}

```

Or using shorthand property

```

div {
    transition: width 2s linear 1s;
}

```

CSS Animations

An animation allows an element gradually change from one style to another. To make an animation, you must first specify keyframes for the animation. Keyframes hold what styles the element will have at the certain times.

@keyframes

When you specify CSS styles inside the @keyframes, the animation will gradually change from the current style to the new style at certain time.

@keyframes starts with a percentage (%) or the keywords **from** same as **0%** or **to** same as **100%**. The selector is used to specify where a keyframe is constructed along the duration of the animation.

@keyframes rule and animation properties

- @keyframes - specifies the animation code.
- animation – defines a shorthand property for setting all the animation properties.
- animation-delay - specifies a delay for the start of an animation.
- animation-direction - specifies whether an animation should play in reverse direction or alternate cycles.
- animation-duration - specifies how many seconds or milliseconds an animation takes to complete one cycle.
- animation-fill-mode - specifies a style for the element when the animation is not playing or when it is finished or when it has a delay.
- animation-iteration-count - specifies the number of times an animation should be played.
- animation-name - specifies the name of the @keyframes animation.
- animation-play-state - specifies whether the animation is running or paused.
- animation-timing-function - specifies how the animation will progress over the duration of each cycle.

The **animation-timing-function property** can have the following **values**:

- ease - specifies an animation with a slow start, then fast, then end slowly.
- linear - specifies an animation with the same speed from start to end.
- ease-in - specifies an animation with a slow start.



- ease-out - specifies an animation with a slow end.
- ease-in-out - specifies an animation with a slow start and end.

Example1: (to see what happens try it with your PC)

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
    width: 100px;
    height: 100px;
    background-color: yellow;
    font-weight: bold;
    position: relative;
    animation: sample 10s infinite;
}
#div1 {animation-timing-function: linear;}
#div2 {animation-timing-function: ease;}
#div3 {animation-timing-function: ease-in;}
#div4 {animation-timing-function: ease-out;}
#div5 {animation-timing-function: ease-in-out;}
@keyframes sample {
    from {left: 0px;}
    to {left: 300px;}
}
</style>
</head>
<body>
<div id="div1">linear</div>
<div id="div2">ease</div>
<div id="div3">ease-in</div>
<div id="div4">ease-out</div>
<div id="div5">ease-in-out</div>
</body>
</html>
```

Example2: (to see what happens try it with your PC)

```
div {
    animation-name: sample;
    animation-duration: 5s;
    animation-timing-function: linear;
    animation-delay: 1s;
    animation-iteration-count: infinite;
    animation-direction: alternate;
}
```

Or using shorthand property



```
div {
  animation: sample 5s linear 1s infinite alternate;
}
```



ACTIVITIES

Complete the code below according to the given instructions.

```
<!DOCTYPE html>
<html>
<head>
<style>
div {
  width: 100px;
  height: 100px;
  position: relative;
  background-color: yellow;
  animation-name: example;
  animation-duration: 5s;
}
@keyframes sample {
}
</style>
</head>
<body>
<div></div>
</body>
</html> </html>
```

1. Add the following 5 steps to the animation "sample" (using 0%, 25%, 50%, 75%, and 100%):
 - 0% - Set background color to "yellow", left position to "0px", top position to: "0px"
 - 25% - Set background color to "pink", left position to "0px", top position to: "200px"
 - 50% - Set background color to "black", left position to "200px", top position to: "200px"
 - 75% - Set background color to "blue", left position to "200px", top position to: "0px"
 - 100% - Set background color to "red", left position to "0px", top position to: "0px"

```

<!DOCTYPE html>
<html>
<head>
<style>
div {
    width: 100px;
    height: 100px;
    background: yellow;
}
div:hover {
    width: 300px;
}
</style>
</head>
<body>
<div></div>
</body>
</html>

```

2. Using the transition shorthand property, specify width changes for the <div> element should have: "5" second duration, transition effect with a slow start, and a "1" second delay before starting.
3. Using four transition properties, specify width changes for the <div> element should have: "5" second duration, transition effect with a slow start, and a "1" second delay before starting.

*Answer the Worksheet number 2 and submit a soft copy/hard copy of your completed activity to your subject teacher on the following meeting.



WRAP-UP

Instructions: Based on how you understood the lesson describe the difference between CSS transition and CSS animation.



VALUING

Instructions: Read and answer the following questions carefully in two to three sentences each number.



1. What do think is the importance of using CSS transition and CSS animation?

2. How will you use the knowledge you acquired in this module?



POST TEST

Instructions: Select the letter that corresponds to the correct answer.

1. A value of transition-timing-function property that specifies an animation with a slow end.
 - A. ease-out
 - B. linear
 - C. ease-in
 - D. ease-in-out
2. A value of transition-timing-function property that specifies an animation with a slow start and end
 - A. ease-out
 - B. linear
 - C. ease-in
 - D. ease-in-out
3. A value of animation-timing-function property that specifies a transition effect with a slow start, then fast, then end slowly.
 - A. ease
 - B. linear
 - C. ease-in
 - D. ease-in-out
4. A value of animation-timing-function property that specifies a transition effect with the same speed from start to end.
 - A. ease
 - B. linear
 - C. ease-in
 - D. ease-in-out



5. A value of animation-timing-function property that specifies a transition effect with a slow start and end.
- ease
 - linear
 - ease-in
 - ease-in-out



KEY TO CORRECTION

5. D	5. D
4. B	4. B
3. A	3. A
2. D	2. D
1. A	1. C
Pre-test:	Post-test:

Activity	1	0% {background-color: red; left:0px; top:0px;} 25% {background-color: blue; left:0px; top:200px;} 50% {background-color: green; left:200px; top:200px;} 75% {background-color: yellow; left:200px; top:0px;} 100% {background-color: red; left:0px; top:0px;}
	2	transition: width 2s ease-in 1s;
	3	transition-property: width; transition-duration: 2s; transition-timing-function: ease-in; transition-delay: 1s;

REFERENCES

- Accessed September 14, 2020 1:00pm <https://www.w3schools.com>
- Accessed September 14, 2020 2:00pm <https://www.tutorialrepublic.com>

