Week 6 Quiz

Quiz, 10 questions

10/10 points (100%)

Congratulations! You finished!

Next Item

1 / 1 point

1.
Which of the following is more correct about the processes of dialog design and task analysis in user interface design?

- Dialog design is performed before task analysis.
- Task analysis is performed concurrently with dialog design.
- Task analysis is performed before dialog design.

Correct
That's correct!

- Dialog design is performed independent of task analysis.

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1 / 1 point

2.
Which of the following is the first step of a task analysis?

- Decompose the task into individual user steps.
- Decide what user interface elements should be used.
- Study the way a person performs the task.

Correct
That's correct!

Determine whether the user or computer initiates interaction.

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3.

Which of the following best demonstrates the principle of affordance in user interface design?

- [x] A button appears raised to show it can be pressed.

Correct

Correct! An affordance is a hint in the appearance of an object to its function, and for a button, the fact that it appears raised implies that it can be depressed.

- [ ] A button is large to make it easier to mouse over.
- [ ] A button is colored yellow to draw attention to it.
- [ ] A button calls a JavaScript function when pressed.

1 / 1 point

4.

Which of the following is the first step of dialog design?

- [ ] Decompose the task into individual user steps.
- [x] Determine whether the user or computer initiates interaction.

Correct

That's correct!

- [ ] Decide what user interface elements should be used.
- [ ] Study the way a person performs the task.

1 / 1 point

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5.
Events come from which element of the Model-View-Controller (MVC)?

- The DOM
- The model
- The view
- The controller

Correct
Correct! The controller is responsible for user input.

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1 / 1 point

6.
Using D3 version 5, suppose we set up a web page with the html:

<body onload="init()"> ... </body"

and we have some previously declared function **display(data)** that renders a chart of the data. Which of the following best characterizes how a standard web browser executes the JavaScript code in the function **init()**?

```
1  functon init() {
2      data = d3.csv("https://some.domain.io/file.csv");
3      display(data);
4  }
```

- d3.csv() initiates the process of loading file.csv but returns before the data is loaded. The function display(data) may be called before data contains the contents of file.csv.

Correct
In order for this to work, we would have needed to insert "async" before "function init()" and "await" before "d3.csv" to ensure the data was loaded before display() was executed.

- The function d3.csv() initiates the load of file.csv and sets an event to be run upon completion of that load. That way other events can be processed while waiting for file.csv to be loaded. Once file.csv is loaded, then its contents are stored in the variable data and the next command, display(data), is executed.

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The function d3.csv returns a Promise which prevents display() from running until the promise has been fulfilled and the data has been loaded from file.csv, returned and stored in the variable data.

The functions d3.csv() and display() are run simultaneously as parallel threads, so the variable data passed to display() won't have been loaded with the contents of file.csv at the time display is called.

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1 / 1 point

7.

The code below uses **setTimeout(function,time)** which waits for **time** milliseconds and then adds a call to **function** to the event queue. So the statement:

setTimeout(timedout,0);

instantly adds an event to the event queue to call timedout(). Given what you know about JavaScript execution, what will the following code output?

```
1  function timedout() { console.log("timed out"); }
2
3  setTimeout(timedout,0);
4  for (i = 0; i < 1000000000; i++);
5  console.log("next statement");
```

Unknown, because of a race condition

Unknown, becuase it depends on processor speed.

timed out

next statement

next statement

timed out

Correct

Even though the call to timedout() is instantly added to the event queue, the current code is run to completion, so "next statement" is output and then once the current code has completed, the next event in the queue will be processed and "timed out" will be output.

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1 / 1 point

8.

In a force-directed graph layout, which force keeps nodes from overlapping?

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- [x] The electrostatic force

Correct

Correct! The electrostatic force repels nodes away from each other.

- [ ] The centering force
- [ ] The force of gravity
- [ ] The spring force

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1 / 1 point

9.

In a force-directed graph layout, edges are represented by which physical simulation?

- [ ] Node-to-node gravitation
- [x] Node-to-node springs

Correct

Correct! The rest length of the spring is set to the ideal edge length.

- [ ] Node-to-node electrostatics
- [ ] None of the above.

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1 / 1 point

10.

In a collection of data points, which of the following best describe the Voronoi cell of a data point?

- [ ] The set of points equidistant to the data point and a second nearby data point
- [x] The set of points closer to the data point than to any other data point

Correct

Correct!

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The set of points in the convex hull of the other data points nearby the data point

The set of points on a line segment between the data point and a second nearby data point