

Computer Science 571 2nd Exam
Prof. Papa
Tuesday, April 28, 2016, 6:00pm – 7:20pm

Name:

Student ID Number:

- 1. This is a closed book exam.**
- 2. Please answer all questions on the test**

Frameworks and Agile Questions [10 pts]

Each question is worth 2 points.

Q1: What does the following code represent?

```
const http = require('http');
http.createServer(function (req, res) {
  res.writeHead(200, { 'Content-Type': 'text/plain' });
  res.end('Hello World CSCI571!\n');
}).listen(9090, '127.0.0.1', function () {
  console.log(`Server running at http://localhost:9090/`);});
```

A1:

Q2: What is AngularJS good for?

A2:

Q3: What layer of the MVVM pattern is Vue.js focused on?

A3:

Q4: What is the difference between waterfall and agile development regarding “testing” a software application?

A4:

waterfall:

agile:

Q5: In Agile Development what is the difference between “pigs” and “chickens”?

A5:

Web Security Questions [10 pts]

Each question is worth 2 points.

Q1: What are “brute force attacks”?

A1:

Q2: What are 2 easy ways to avoid “brute force attacks”?

A2:

1)

2)

Q3: What is an easy way to create a password that cannot be looked up in a dictionary, but that you can still easily recall?

A3:

Q4: Give 2 examples of “commonly used” weak passwords

A4:

Q5: Name one of the two ways to reduce the threat of Cross-site Scripting (XSS)?

A5:

HTML5 Questions [10 pts]

Each question is worth 2 points. There is no partial credit. You must select all the correct choices.

Q1: What is the current status of the HTML5 vocabulary, associated APIs and HTML Canvas specifications?

A1:

Q2: Which of the following are new features in HTML5?

- ☐ web page sections
- ☐ SQL Database API
- ☐ applet upgrade
- ☐ offline web applications
- ☐ network based storage
- ☐ persistent local storage
- ☐ ALL OF THE ABOVE

Q3: What is the benefit of using AAC vs. MP3 codec encoding?

A3:

Q4: What is the meaning of the “autoplay” attribute?

A4:

Q5: Name two popular HTML5 video codecs?

A5:

JQuery Questions [10 pts]

Consider the following example without JQuery:

```
<FORM>
<INPUT ID="counter1" STYLE="position:relative;
    left:0px" TYPE="button" VALUE="Move Button right once"
    onclick="document.getElementById('counter1').style.left = '500px';">
</FORM>

<FORM> <INPUT ID="counter2" STYLE="position:relative;
    top:0px" TYPE="button" VALUE="Move Button down Once"
    onclick="document.getElementById('counter2').style.top =
'15px';">
</FORM>
```

Rewrite it using JQuery. Fill in the missing code.

```
<FORM>
<INPUT ID="counter1" STYLE="position:relative;
    left:0px" TYPE="button" VALUE="Move Button right once"
    onclick=" XXXXXX1 " >

_____
</FORM>
```

```
<FORM> <INPUT ID="counter2" STYLE="position:relative;
        top:0px" TYPE="button" VALUE="Move Button down Once"
        onclick=" XXXXXX2 " >
```

</FORM>

Web Performance and Security Questions [10 pts]

Each question is worth 2 points.

Q1: In Public Key Encryption, when used for “privacy,” who generates the private and public keys? The sender or the receiver of the cipher text?

A1:

Q2: What is a “message digest” and where is it used?

A2:

What is?

Where is?

Q3: Why is the use of CSS sprites beneficial to the overall performance of a web page?

A3:

Q4: Why is it better to use GET instead of POST in AJAX requests?

A4:

Q5: List one role of a Certificate Authority (CA).

A5:

JSON Questions [10 pts]

Recently Yahoo provides access to the Flickr API using YQL, the Yahoo! Query Language. For example, the YQL query to “Get user info from Flickr ID“, looks like this:

```
select * from flickr.people.info2 where user_id="26545327@N00" and
api_key="92bd0de55a63046155c09f1a06876875";
```

Results can be requested in JSON or XML. The XML REST call is:

```
http://query.yahooapis.com/v1/public/yql?q=select%20*%20from%20
flickr.people.info2%20where%20user_id%3D%2226545327%40N00%22%20
and%20api_key%3D%2292bd0de55a63046155c09f1a06876875%22%3B&diagn
ostics=true
```

And the result returned is:

```
<?xml version="1.0" encoding="UTF-8"?>
<query xmlns:yahoo="http://www.yahooapis.com/v1/base.rng"
  yahoo:count="1" yahoo:created="2013-04-27T19:55:50Z"
  yahoo:lang="en-US">
  <diagnostics>
    <publiclyCallable>true</publiclyCallable>
    <user-time>182</user-time>
    <service-time>179</service-time>
    <build-version>36288</build-version>
  </diagnostics>
  <results>
    <person datecreate="1132792566" iconfarm="1"
    iconserver="30"
      id="26545327@N00" ispro="0" nsid="26545327@N00"
    path_alias="fabiokung">
      <username>Fabio Kung</username>
      <realname>Fabio Kung</realname>
      <location>São Paulo, Brazil</location>
      <timezone label="Brasilia" offset="-03:00"/>
      <description>&lt;a
    href="http://fabiokung.com/about"
    rel="nofollow"&gt;fabiokung.com/about&lt;/a&gt;</description>

    <photosurl>http://www.flickr.com/photos/fabiokung/</photosurl>

    <profileurl>http://www.flickr.com/people/fabiokung/</profileurl
    >

    <mobileurl>http://m.flickr.com/photostream.gne?id=1805705</mobi
    leurl>

      <photos>
        <firstdatetaken>2003-01-01
00:00:01</firstdatetaken>
        <firstdate>1142015714</firstdate>
        <count>175</count>
      </photos>
```

```

<buddyiconurl>http://farm1.static.flickr.com/30/buddyicons/2654
5327%40N00.jpg</buddyiconurl>
    </person>
  </results>
</query>

```

The JSONP REST call is (notice &format=json and &callback=cbfunc):

```

http://query.yahooapis.com/v1/public/yql?q=select%20*%20from%20
flickr.people.info%20where%20user_id%3D%2226545327%40N00%22%20
and%20api_key%3D%2292bd0de55a63046155c09f1a06876875%22%3B&forma
t=json&diagnostics=true&callback=cbfunc

```

Complete the missing parts of the JSONP result:

```

cbfunc({
  "query": {
    "count": 1,
    "created": "2013-04-27T19:58:46Z",
    "lang": "en-US",
    "diagnostics": {
      "publiclyCallable": "true",
      "user-time": "186",
      "service-time": "182",
      "build-version": "36288"
    },
    "results": {
      "person": {

        "timezone": {

        },
        "description": "<a href=\"http://fabiokung.com/about\"
rel=\"nofollow\">fabiokung.com/about</a>",

```

```
        },  
        "buddyiconurl":  
        "http://farm1.static.flickr.com/30/buddyicons/26545327%40N00.jpg"  
    }  
    }  
    }  
    }) ;
```

JSON/AJAX Questions [10 pts]

Each question is worth 2 points. There is no partial credit. You must select all the correct choices.

Q1: The open() method of the XMLHttpRequest object has this syntax:

open(method, URL, flag, username, password)

with the last three parameters being optional. What is the purpose and the default value of the third parameter, “flag”?

A1:

Q2: What are basic technologies used in AJAX?

A2:

- ☐ HTML
- ☐ CSS
- ☐ JavaScript
- ☐ XML
- ☐ JSON
- ☐ XHTML
- ☐ XSLT
- ☐ Web Remoting
- ☐ DOM
- ☐ ALL OF THE ABOVE

Q3: What is the major problem with the “classic” web application model vs. the “Ajax” application model?

A3:

Q4: What property of the XMLHttpRequest object is used to retrieve JSON returned data?

A4:

Q5: What is the following?

```
(/^(\\s|[, : {} \\[\\]]|"(\\\\"|\\bfnrtu|[^\\x00-\\x1f"\\])*"|~?\\d+(\\.\\d*)?([eE][+-]?\\d+)?|true|false|null)+$/ .test(text))
```

A5:

Cookies and Privacy Questions [10 pts]

Q1: Write a JavaScript function that creates a cookie with a given value and expiration date. Use the method toGMTString() to produce a date in the correct format. Also assume that expiredDate has already been instantiated as a Date object. You do not have to check for the validity of the passed parameters. Remember to use escape() and unescape(), where appropriate.

Produces a cookie that looks like this:

```
name= value; path=/; expires= date;

function setCookie(name, value, expireDate) {

}

}
```

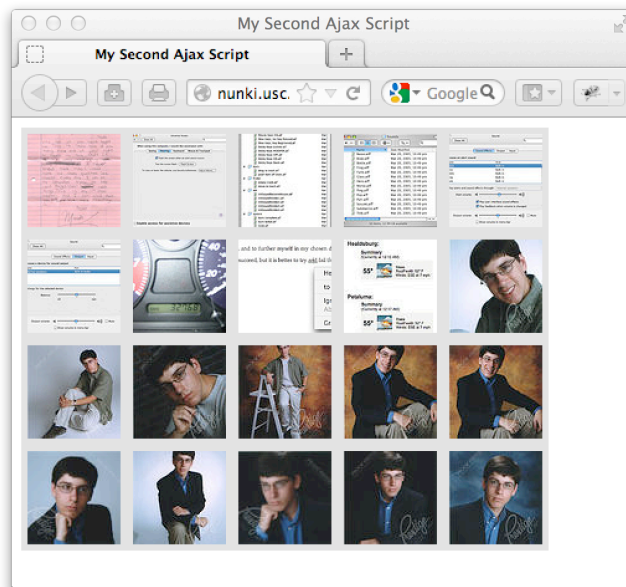
Q2: Write a JavaScript function that retrieves the value of a cookie, given its name. Complete the given function below.

```
function getCookie(name) {
    var re = new RegExp(name + "=(^[^;]+)");

}

}
```


JavaScript and Ajax Questions [10 pts]



Below is the HTML source code that produces the web page above.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN">
<html>
  <head>
    <title>My Second Ajax Script</title>
    <script src="script02.js" type="text/javascript"
language="Javascript">
    </script>
  </head>
  <body>
    <div id="pictureBar">
    </div>
  </body>
</html>
```

Below is the JavaScript source code, script02.js, that was imported into the HTML above, but some of the lines are missing, replaced by XXXXXXXs. Fill in the missing code. Notice that the XMLHttpRequest request invokes a file named “flickrfeed.xml” containing the picture data.

```
window.onload = initAll;
var xhr = false;

function initAll() {
  xhr = new XMLHttpRequest();
```

```

    if (xhr) {
        XXXXXXXXX1;
        

---


        XXXXXXXXX2;
        

---


        xhr.send(null);
    }
    else {
        alert("Sorry, but I couldn't create an
XMLHttpRequest");
    }
}

function showPictures() {
    var tempDiv = XXXXXXXXX3;
    var pageDiv = XXXXXXXXX4;

    if (xhr.readyState == 4) {
        if (xhr.status == 200) {
            XXXXXXXXX5;
            

---


            var allLinks =
tempDiv.getElementsByTagName("a");

            for (var i=1; i<allLinks.length; i+=2) {

                pageDiv.appendChild(allLinks[i].cloneNode(true));
            }
        }
        else {
            alert("There was a problem with the request " +
xhr.status);
        }
    }
}

```

Responsive Website Design Questions [10 pts]

Q1: Give 2 reasons why it is not recommended to use m.mysite.com website?

A1:

Q2: How do you implement “flexible images” in RWD?

A2:

Q3: Consider the following code.

```
<style>
.myCircle {
  width:200px;
  height:200px;
  border-radius: 50%;
  background:blue;
}

@media (max-width: 480px) {
  .myCircle {
    background:red;
  }
}

@media (max-width: 768px) {
  .myCircle {
    background:green;
  }
}

@media (min-width: 960px) {
  .myCircle {
    background:pink;
    width:400px;
    height:400px;
  }
}
</style>

<body>
  <div class="myCircle"></div>
</body>
```

What would be the color of the circle for a device of 512 (w) x 800 (h) pixels?

A3:

Q4: Consider the following code.

```
.sidebar { float: right; width: 250px; }
.complicatedFunctionality {
  background-image: url('img_flowers.jpg');
  lots of CSS settings }

@media all and (max-device-width: 600px) {
  .complicatedFunctionality { display: none; }
  .sidebar { float: none; width: auto; }
}
```

What are 2 problems with the above code on devices with width < 600 pixels?

A4:

Problem 1:

Problem 2:

Q5: Consider the following code.

```
h1 { margin-left: 14.575%; width: 70.85%; }
```

Is this code an example of fluid or adaptive grids?

A5: