

**ECE435: Embedded Systems – Homework 9**  
e-mail, www

**Due: Wednesday, 30 November 2016, 3pm**

For this homework short answers will suffice.

To submit, create a document with your answers (text, pdf, libreoffice, MS Office if you must) and e-mail them to *vincent.weaver@maine.edu* by the homework deadline. Title your e-mail “ECE435 Homework 9” and be sure your name is included in the document.

1. You receive an e-mail claiming to be from a bank. You turn extended e-mail headers on and below is what you see.

```
Return-Path: <starwood@dental.ufl.edu>
Delivered-To: vince@deater.net
Received: from pop.deater.net [64.26.60.216]
    by pianoman.cluster.toy with POP3 (fetchmail-6.3.26)
    for <vince@localhost> (single-drop); Wed,
    16 Nov 2016 21:48:21 -0500 (EST)
Received: from stor32.mfg.siteprotect.com ([192.168.31.39])
    by stor15.mfg.siteprotect.com (Dovecot) with LMTP id
    uahOABj4LFjrQQAA9Krtqg
    for <vince@deater.net>; Wed, 16 Nov 2016 18:21:44 -0600
Received: from mx.siteprotect.com (unknown [192.168.33.227])
    by stor32.mfg.siteprotect.com (Postfix) with ESMTMP id 8C23A1001FED
    for <vince@deater.net>; Wed, 16 Nov 2016 18:21:38 -0600 (CST)
Received: from smtp.ufl.edu (smtp-prod06.osg.ufl.edu [128.227.74.254])
    (using TLSv1.2 with cipher ECDHE-RSA-AES256-GCM-SHA384 (256/256 bits))
    (No client certificate requested)
    by mx.siteprotect.com (Postfix) with ESMTPTS id 3905955C087
    for <vince@deater.net>; Wed, 16 Nov 2016 18:21:38 -0600 (CST)
X-UFL-GatorLink-Authenticated: authenticated as starwood () with LOGIN
    from 69.70.91.146
Received: from localhost (modemcable146.91-70-69.static.videotron.ca
    [69.70.91.146])
    (authenticated bits=0)
    by smtp.ufl.edu (8.14.4/8.14.4/3.0.0) with ESMTMP id uAH0K1dd032514
    (version=TLSv1/SSLv3 cipher=DHE-RSA-AES256-GCM-SHA384 bits=256
    verify=NOT);
    Wed, 16 Nov 2016 19:20:20 -0500
Message-ID: <0603B5E6ED391784585D14AA1EA70F57@dental.ufl.edu>
From: "Maybank2u.com" <starwood@dental.ufl.edu>
Subject: Transaction alert
Date: Wed, 16 Nov 2016 19:20:18 -0500
MIME-Version: 1.0
Content-Type: multipart/mixed; boundary="0c69c634b31bc1d0b1050909ca80"
X-Proofpoint-Virus-Version: vendor=fsecure engine=2.50.10432,,
    definitions=2016-11-16_07,,
    signatures=0
X-Proofpoint-Spam-Details: rule=notspam policy=default score=1 spamscore=1
    suspectscore=10
    malwarescore=0 phishscore=0 adultscore=0 bulkscore=0 classifier=spam
    adjust=0 reason=mlx scancount=1 engine=8.0.1-1609300000
    definitions=main-1611170005
```

X-Spam-Level: \*  
X-UFL-Spam-Level: \*  
X-CTCH-RefID: str=0001.0A020205.582CF817.018C,ss=3,re=0.000,recu=0.000,  
reip=0.000,vtr=str,vl=0,cl=3,cld=1,fgs=0  
X-Mail-Filter-Gateway-ID: 8C23A1001FED.A1639  
Mail-Filter-Gateway: Scanned OK  
X-Mail-Filter-Gateway-SpamDetectionEngine: NOT SPAM,  
MailFilterGateway Engine (score=2.318, required 3,  
autolearn=disabled, CTASD\_SPAM\_BULK 4.00, MISSING\_HEADERS 1.21,  
RP\_MATCHES\_RCVD -2.90, T\_OBFU\_PDF\_ATTACH 0.01)  
X-Mail-Filter-Gateway-SpamScore: \*\*  
X-Mail-Filter-Gateway-From: starwood@dental.ufl.edu  
X-Mail-Filter-Gateway-To: vince@deater.net  
X-Spam-Status: No  
Parts/Attachments:  
1 Shown ~9 lines Text (charset: windows-1251)  
2 156 KB Application

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An incoming transaction to your account was declined.

- (a) Is this likely a legitimate e-mail? Why or why not?
- (b) The e-mail had a .pdf file attached. Should you open it? Why or why not?

2. You use a browser to try to connect to a webserver.

- (a) A webserver returns error code 404. What is wrong?
- (b) A webserver returns error code 418. What is wrong?
- (c) A webserver returns error code 451. What is wrong?

3. You use telnet to connect to a web server, and this is the top part of the results you get:

```
telnet www.maine.edu 80
Trying 130.111.33.23...
Connected to umswb2013lb.its.maine.edu.
Escape character is '^]'.
GET / HTTP/1.1
Host: www.maine.edu

HTTP/1.1 200 OK
Date: Fri, 18 Nov 2016 21:50:22 GMT
Server: Apache/2.2.22 (@RELEASE@)
X-Powered-By: W3 Total Cache/0.9.4.1
Last-Modified: Fri, 18 Nov 2016 21:10:14 GMT
Expires: Fri, 18 Nov 2016 22:10:14 GMT
Pragma: public
Cache-Control: max-age=1192, public
Etag: 997a240b2b6a53d6c5e8b3bdb5dc782f
X-Pingback: http://www.maine.edu/xmlrpc.php
Vary: Accept-Encoding
Content-Type: text/html; charset=UTF-8
Set-Cookie: avr_3786590994_0_0_4294901760_400191362_0=2028572619_28159379;
max-age=300;path=/
Transfer-Encoding: chunked
```

4000

```
<!DOCTYPE html>
<!--[if lt IE 7 ]>                <html lang="en" class="no-js ie6"> <![endif]-->
<!--[if IE 7 ]>                  <html lang="en" class="no-js ie7"> <![endif]-->
<!--[if IE 8 ]>                  <html lang="en" class="no-js ie8"> <![endif]-->
<!--[if IE 9 ]>                  <html lang="en" class="no-js ie9"> <![endif]-->
<!--[if (gt IE 9) || (IE)]><!--> <html lang="en" class="no-js"> <!--<![endif]-->
<head>
<meta charset="utf-8" />
<meta http-equiv="X-UA-Compatible" content="IE=edge,chrome=1">
...

```

- (a) What web-server is the maine.edu website running?
- (b) Can you directly connect to a HTTP/2 server with telnet as we did here with a HTTP/1.1 server? Explain.

#### 4. HTML design

On the course website next to this assignment there is a test.html file that is very simple. Download it to your local machine, and make the following changes:

- (a) Change the title to “ECE435 Homework 9”
- (b) At the top of the page should be a size-1 header, centered, saying “ECE435 Homework 9”
- (c) Immediately below that should be your name, as a size-2 header, centered.
- (d) Next have a horizontal rule (horizontal line)
- (e) Have a clickable link to a website of your choice (although, keep it safe for work please). Have some surrounding text that briefly describes it, and bolds or italicizes at least one word.

You can make these changes with a text editor. You can view the file with your browser locally by using a file URL, something like `file:///home/vince/test.html` or equivalent. You can press reload after making changes.

Attach the finished version to your homework submission e-mail.

#### 5. Something Cool

Do something fancy with your webpage. Colors. A table. An ordered list. Javascript.