

CSC 102 ♦ HOW THE INTERNET WORKS  
ASSIGNMENT 5

**Part One: Quiz (20%)**

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Complete the fifth Moodle quiz with a grade of at least 8.5/10. (Note: some material in the quiz will not be covered until Monday's class.)

**Part Two: Email Headers (60%)**

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Below is the full text of an email I received a number of years ago. Please refer to it in answering the ten questions below.

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Received: from cesit1.unifi.it (cesit1.unifi.it [150.217.1.31]) by
cloyd.cs.cornell.edu (8.8.8/8.8.8/M-1.9) with ESMTP id
MAA20977 for <nihowe@cs.cornell.edu>; Wed, 20 May 1998
12:47:36 -0400 (EDT)
Received: from aguirre.dsi.unifi.it by CESIT1.UNIFI.IT (PMDF V5.1-10
#23168) with SMTP id
<01IX9LXREOUS0003EB@CESIT1.UNIFI.IT> for
nihowe@cs.cornell.edu; Wed, 20 May 1998 18:45:05 MET
Received: from ozon180.dsi.unifi.it by aguirre.dsi.unifi.it (4.1/SMI-
4.1) id
AA14320; Mon, 18 May 1998 14:38:33 +0200
Received: by ozon180.dsi.unifi.it (SMI-8.6/SMI-SVR4) id SAA05539; Wed,
20 May 1998 18:43:47 +0200
Date: Wed, 20 May 1998 18:43:47 +0200
From: icmcs99@ozon180.dsi.UNIFI.IT
Subject: IEEE Multimedia Systems
To: icmcs99@dsi.UNIFI.IT
Reply-To: icmcs99@dsi.UNIFI.IT
Message-ID: <199805201643.SAA05539@ozon180.dsi.unifi.it>
Status: U
X-Mozilla-Status: 8001
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IEEE MULTIMEDIA SYSTEMS '99, INTERNATIONAL CONFERENCE ON MULTIMEDIA
COMPUTING AND SYSTEMS (IEEE ICMCS'99)
CENTRO AFFARI, FIRENZE, ITALY
7-11 JUNE 1999
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To help you out, here are few abbreviations from above:

- ESMTP Extended Simple Mail Transfer Protocol
- EDT Eastern Daylight Saving Time
- MET Middle European Time

Please answer these ten questions concerning the email. (Not all the information will be in the header itself, but there should be enough that you can figure out the answers based on your other knowledge and the tools we have studied in class.)

1. At what institution did I receive this message?
2. In which country is the host cesit1.unifi.it?
3. What is the IP address of the host cesit1.unifi.it?
4. What is the IP address of the host aguirre.dsi.unifi.it?
5. What is the IP address of the host cloyd.cs.cornell.edu?
6. Which of the two hosts, cesit1.unifi.it or aguirre.dsi.unifi.it, processed the mail first, i.e., before the other?
7. How would you explain the date and time that aguirre.dsi.unifi.it claims to have received the message?
8. At what time EDT (Eastern Daylight Saving Time) do you think the mail was sent? Use hours:minutes:seconds. (You may use a converter such as <http://www.timezoneconverter.com/cgi-bin/tzc.tzc>, but check the results to be sure that they make sense.)
9. At what time EDT (Eastern Daylight Saving Time) do you think I received the email at cloyd.cs.cornell.edu? Use hours:minutes:seconds.
10. Finally, what was then the total transit time, from send to receive, in hours:minutes:seconds?

### **Part Three: Multimedia Files (20%)**

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Download the sound recording at <http://cs.smith.edu/~nhowe/102/Assign/poolshot.wav>. The .wav format is uncompressed and not supported by all browsers. You have two tasks:

- a. Identify a resource that will allow you to convert this audio file into other formats. This can be an online resource (web page), downloaded program, or app. Give me the name of the resource and how you found it.
- b. As discussed in class, there is no single audio format that will play on every major browser today. Identify two different compressed audio formats such that one or the other will be playable on all major modern browsers (Chrome, Safari, IE, Firefox, Opera). Convert the sound file into these formats. By comparing the file size of the original to the compressed format, report the compression ratio as a percentage. (In other words, tell me that the compressed file is \_\_% of the original.)