Jonathan Woong
804205763
CS 118 – DIS 1A

Homework 2

1. Consider an e-commerce site that wants to keep a purchase record for each of its customers. Describe how this can be done with cookies.

When a customer first visits the e-commerce site, the server will send a unique cookie to the user that will be stored on the user's machine. Each time the user visits the site again or makes a purchase, the user's browser can send a cookie to the site with information regarding the purchase. By storing these cookies, the server essentially keeps a purchase record of the user.

2. List types of HTTPS certificates and highlight their differences.

Domain Validation: certificate authority checks the right of the applicant to use a specific domain name, but no other verification is made. Only encryption information is displayed on the secure site seal.

Organization Validation: like domain validation, but the certificate authority also does more verification about the applicant organization. This information is displayed on the secure site seal.

Extended Validation: like organization validation, but verification of the organization is put through vigorous and well defined guidelines. The certificate authority must verify the legality of the company, identity against official records, exclusivity to the domain, and authorization.

3. There is a file in the FTP server, you download this file using FTP protocol. Is there a guarantee that the file you have downloaded is exactly the same as the file stored on the server? Justify your answer, give suggestions how to address if there are no guarantees.

There is no guarantee that the file you download is exactly the same as the file stored on the server. Some of the ways that the file could not be the same as the the file on the server is if some malicious third party does packet sniffing or port stealing. Since FTP servers do not always encrypt data, it can be easy for attackers to break into the servers and alter data. One way to make this more secure is by integrating SSL or by requiring the use of public/private keys in file exchange.

4. List at least three similarities between HTTP and SMTP.

Both protocols are used to transfer files from one host to another.
Both protocols use persistent connections during file transfer.
Both protocols use en empty line to separate header and body.

5. Given the source of received email message below, give analysis of how many times the mail was moved from one SMTP to another. If possible, give your interpretation of why each move happened.

Delivered-To: someemail@gmail.com
Received: by 10.157.5.104 with SMTP id 95csp541615otw;

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Tue, 5 Apr 2016 20:09:51 -0700 (PDT)
X-Received: by 10.67.1.65 with SMTP id be1mr67403234pad.46.1459912191121;
Tue, 05 Apr 2016 20:09:51 -0700 (PDT)
Return-Path: boost-bounces@lists.boost.org
Received: from tx0-csb1.smtp.ucla.edu (tx0-csb1.smtp.ucla.edu. [2607:f010:3fe:102:0:ff:fe01:ae])
by mx.google.com with ESMTPS id 23si1315046pft.23.2016.04.05.20.09.50
for someemail@gmail.com
(version=TLS1_2 cipher=ECDHE-RSA-AES128-GCM-SHA256 bits=128/128);
Tue, 05 Apr 2016 20:09:51 -0700 (PDT)
Received-SPF: neutral (google.com: 2607:f010:3fe:102:0:ff:fe01:ae is neither permitted nor denied by best guess record for domain of boost-bounces@lists.boost.org) client-ip=2607:f010:3fe:102:0:ff:fe01:ae;
Authentication-Results: mx.google.com;
spf=neutral (google.com: 2607:f010:3fe:102:0:ff:fe01:ae is neither permitted nor denied by best guess record for domain of boost-bounces@lists.boost.org) smtp.mailfrom=boost-bounces@lists.boost.org;
dmarc=fail (p=NONE dis=NONE) header.from=gmail.com
Received: from wowbagger.crest.iu.edu (wowbagger.crest.iu.edu [129.79.39.203])
by mx-csb1.smtp.ucla.edu (8.14.4/8.14.4/Debian-4) with ESMTP id u3639edr022349
for ; Tue, 5 Apr 2016 20:09:42 -0700
Received: by wowbagger.crest.iu.edu (Postfix, from userid 495)
id 3B85C160AE1; Tue, 5 Apr 2016 23:09:39 -0400 (EDT)
X-Spam-Checker-Version: SpamAssassin 3.3.1 (2010-03-16) on wowbagger.crest.iu.edu
X-Spam-Level:
X-Spam-Status: No, score=-2.6 required=5.0 tests=BAYES_00,DKIM_ADSP_CUSTOM_MED, FREEMAIL_FROM,RCVD_IN_DNSWL_LOW autolearn=unavailable version=3.3.1
Received: from wowbagger.crest.iu.edu (localhost [127.0.0.1])
by wowbagger.crest.iu.edu (Postfix) with ESMTP id F08E015FE36;
Tue, 5 Apr 2016 23:09:37 -0400 (EDT)
X-Original-To: boost@lists.boost.org
Delivered-To: boost@lists.boost.org
Received: by wowbagger.crest.iu.edu (Postfix, from userid 495)
id 938BE15FE36; Tue, 5 Apr 2016 23:09:36 -0400 (EDT)
Received: from plane.gmane.org (plane.gmane.org [80.91.229.3])
by wowbagger.crest.iu.edu (Postfix) with ESMTP id 1381215FD3D
for <boost@lists.boost.org>; Tue, 5 Apr 2016 23:09:36 -0400 (EDT)
Received: from list by plane.gmane.org with local (Exim 4.69)
(envelope-from <gcp-boost@m.gmane.org>) id 1andqX-0005Zr-Uv
for boost@lists.boost.org; Wed, 06 Apr 2016 05:09:34 +0200
Received: from hullpq2102w-lp140-02-1088711752.dsl.bell.ca ([64.228.108.72])
by main.gmane.org with esmtp (Gmexim 0.1 (Debian))
id 1AlnuQ-0007hv-00

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for <boost@lists.boost.org>; Wed, 06 Apr 2016 05:09:33 +0200
Received: from philippeb8 by hullpq2102w-lp140-02-1088711752.dsl.bell.ca with local (Gmexim 0.1 (Debian)) id 1AlnuQ-0007hv-00
for <boost@lists.boost.org>; Wed, 06 Apr 2016 05:09:33 +0200
X-Injected-Via-Gmane: http://gmane.org/
To: boost@lists.boost.org
From: Phil Bouchard <philippeb8@gmail.com>
Date: Tue, 5 Apr 2016 23:09:29 -0400
Lines: 20
Message-ID: <ne1ul8$6vo$1@ger.gmane.org>
References: <ndl0nh$l5q$1@ger.gmane.org> <ndn0eg$gu2$1@ger.gmane.org>
<ndsbk2$s6b$1@ger.gmane.org> <ndscmkavi1@ger.gmane.org>
<ndsdue$s1n$1@ger.gmane.org>
<A0F04769-49D8-4CD6-BEEE-FF321E5E1275@ptd.net>
Mime-Version: 1.0
X-Complaints-To: usenet@ger.gmane.org
X-Gmane-NNTP-Posting-Host: hullpq2102w-lp140-02-1088711752.dsl.bell.ca
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:38.0) Gecko/20100101
Thunderbird/38.5.1
In-Reply-To: <A0F04769-49D8-4CD6-BEEE-FF321E5E1275@ptd.net>
Subject: Re: [boost] [Root Pointer] Seeking a Review Manager
X-BeenThere: boost@lists.boost.org
X-Mailman-Version: 2.1.15
Precedence: list
Reply-To: boost@lists.boost.org
List-Id: Boost developers' mailing list <boost.lists.boost.org>
List-Unsubscribe: <http://lists.boost.org/mailman/options.cgi/boost>,
<mailto:boost-request@lists.boost.org?subject=unsubscribe>
List-Archive: <http://lists.boost.org/boost/>
List-Post: <mailto:boost@lists.boost.org>
List-Help: <mailto:boost-request@lists.boost.org?subject=help>
List-Subscribe: <http://lists.boost.org/mailman/listinfo.cgi/boost>,
<mailto:boost-request@lists.boost.org?subject=subscribe>
Content-Transfer-Encoding: 7bit
Content-Type: text/plain; charset="us-ascii"; Format="flowed"
Errors-To: boost-bounces@lists.boost.org
Sender: "Boost" <boost-bounces@lists.boost.org>
X-Probable-Spam: no
X-Spam-Hits: 0.202 X-Spam-Report:
DKIM_ADSP_CUSTOM_MED,FREEMAIL_FORGED_FROMDOMAIN,FREEMAIL_FROM
,HEADER_FROM_DIFFERENT_DOMAINS X-Scanned-By: MIMEDefang 2.75 on
169.232.46.172

On 04/04/2016 04:27 AM, Rob Stewart wrote:

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804205763
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> On April 3, 2016 8:53:34 PM EDT, Phil Bouchard wrote:
>> On 04/03/2016 08:32 PM, Edward Diener wrote:
>>>
>>> I still am not getting what root_ptr is. Is it a
>>> replacement for shared_ptr ?
>>
>> There is no performance loss in using root_ptr/node_ptr over shared_ptr
>> so therefore yes it is a replacement for shared_ptr/weak_ptr.
>
> That isn't quite an answer to his question. If I understand you correctly, the point of your library is to provide a means to manage groups of related memory allocations using a root_pointer. Each related memory allocation is, I presume, a node_pointer created from, or attached to, one root_pointer. Because node_ptrs are grouped and owned by a root_ptr, they are (can be?) destroyed, as a group, when the corresponding root_ptr is destroyed, regardless of cycles.

I adapted the text here:
http://philippeb8.github.io/root_ptr/root_ptr/intro.html#root_ptr.intro.root_pointer

And I added important notes and a pitfall to the tutorial:
http://philippeb8.github.io/root_ptr/root_ptr/tutorial.html

There is not much to add to the 'basic' section of the tutorial because if you wrongly use make_root and make_node then you will get compile errors.

Philippeb8 → dsl.bell.ca
Received: from philippeb8
by hullpq2102w-lp140-02-1088711752.dsl.bell.ca with local (Gmexim 0.1 (Debian)) id 1AlnuQ-0007hv-00
for <boost@lists.boost.org>; Wed, 06 Apr 2016 05:09:33 +0200

dsl.bell.ca → main.gmane.org
Received: from hullpq2102w-lp140-02-1088711752.dsl.bell.ca ([64.228.108.72])
by main.gmane.org with esmtp (Gmexim 0.1 (Debian)) id 1AlnuQ-0007hv-00
for <boost@lists.boost.org>; Wed, 06 Apr 2016 05:09:33 +0200

list → plane.gmane.org
Received: from list by plane.gmane.org with local (Exim 4.69)
(envelope-from <gcp-boost@m.gmane.org>) id 1andqX-0005Zr-Uv
for boost@lists.boost.org; Wed, 06 Apr 2016 05:09:34 +0200

plane.gmane.org → wowbagger.crest.iu.edu
Received: from plane.gmane.org (plane.gmane.org [80.91.229.3])
by wowbagger.crest.iu.edu (Postfix) with ESMTP id 1381215FD3D

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for <boost@lists.boost.org>; Tue, 5 Apr 2016 23:09:36 -0400 (EDT)

→ wowbagger.crest.iu.edu
Received: by wowbagger.crest.iu.edu (Postfix, from userid 495) id 938BE15FE36; Tue, 5 Apr 2016 23:09:36 -0400 (EDT)

wowbagger.crest.iu.edu → wowbagger.crest.iu.edu (virus scan)
Received: from wowbagger.crest.iu.edu (localhost [127.0.0.1])
by wowbagger.crest.iu.edu (Postfix) with ESMTP id F08E015FE36;

→ wowbagger.crest.iu.edu
Received: by wowbagger.crest.iu.edu (Postfix, from userid 495) id 3B85C160AE1; Tue, 5 Apr 2016 23:09:39 -0400 (EDT)

wowbagger.crest.iu.edu → smtp.ucla.edu (local delivery)
Received: from wowbagger.crest.iu.edu (wowbagger.crest.iu.edu [129.79.39.203])
by mx-csb1.smtp.ucla.edu (8.14.4/8.14.4/Debian-4) with ESMTP id u3639edr022349
for ; Tue, 5 Apr 2016 20:09:42 -0700

smtp.ucla.edu → mx.google.com (redirecting)
Received: from tx0-csb1.smtp.ucla.edu (tx0-csb1.smtp.ucla.edu. [2607:f010:3fe:102:0:ff:fe01:ae])
by mx.google.com with ESMTPS id 23si1315046pft.23.2016.04.05.20.09.50
for someemail@gmail.com
(version=TLS1_2 cipher=ECDHE-RSA-AES128-GCM-SHA256 bits=128/128); Tue, 05 Apr 2016 20:09:51 -0700 (PDT)

→ 10.67.1.65
X-Received: by 10.67.1.65 with SMTP id be1mr67403234pad.46.1459912191121; Tue, 05 Apr 2016 20:09:51 -0700 (PDT)

→ 10.157.5.104
Received: by 10.157.5.104 with SMTP id 95csp541615otw; Tue, 5 Apr 2016 20:09:51 -0700 (PDT