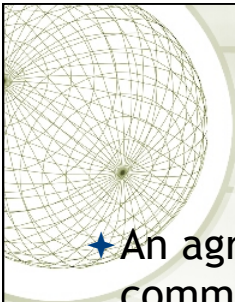


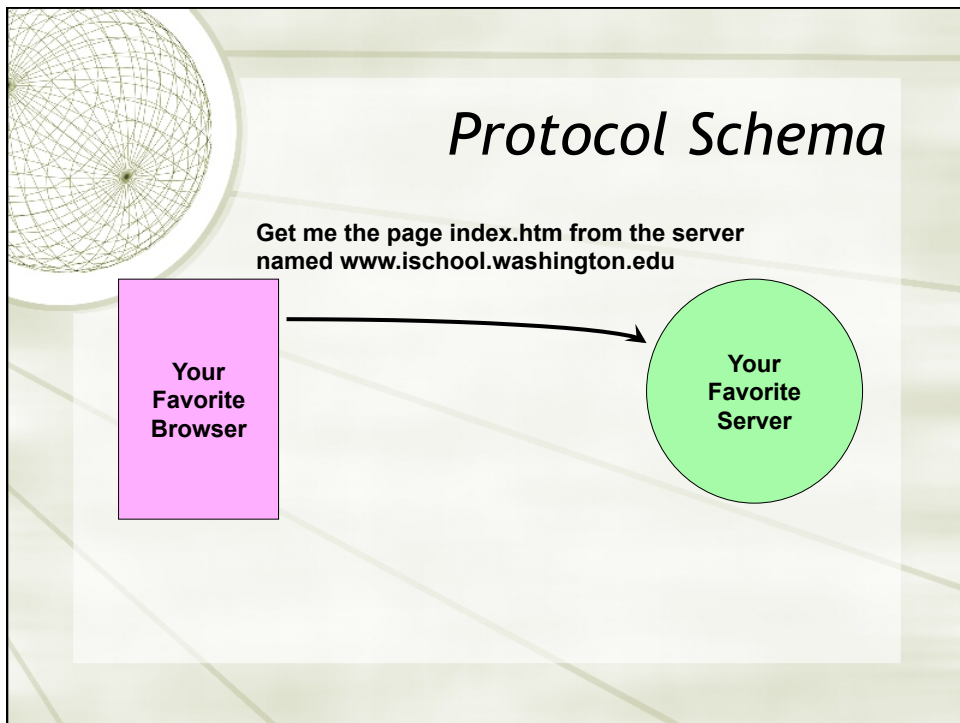
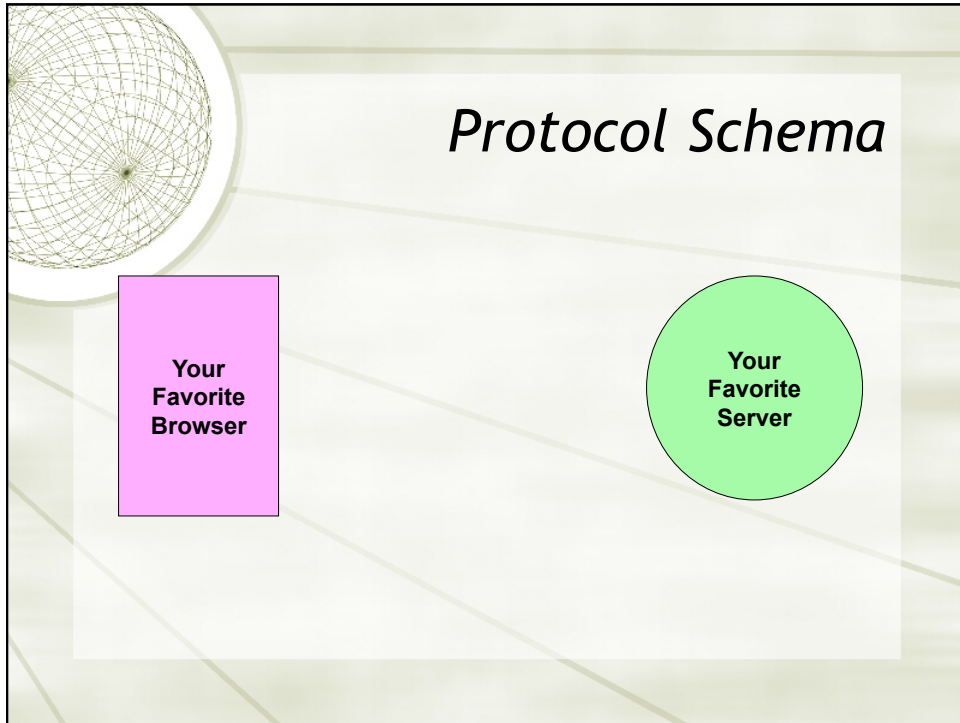
Protocol Overview and Part 3 Tid-bits

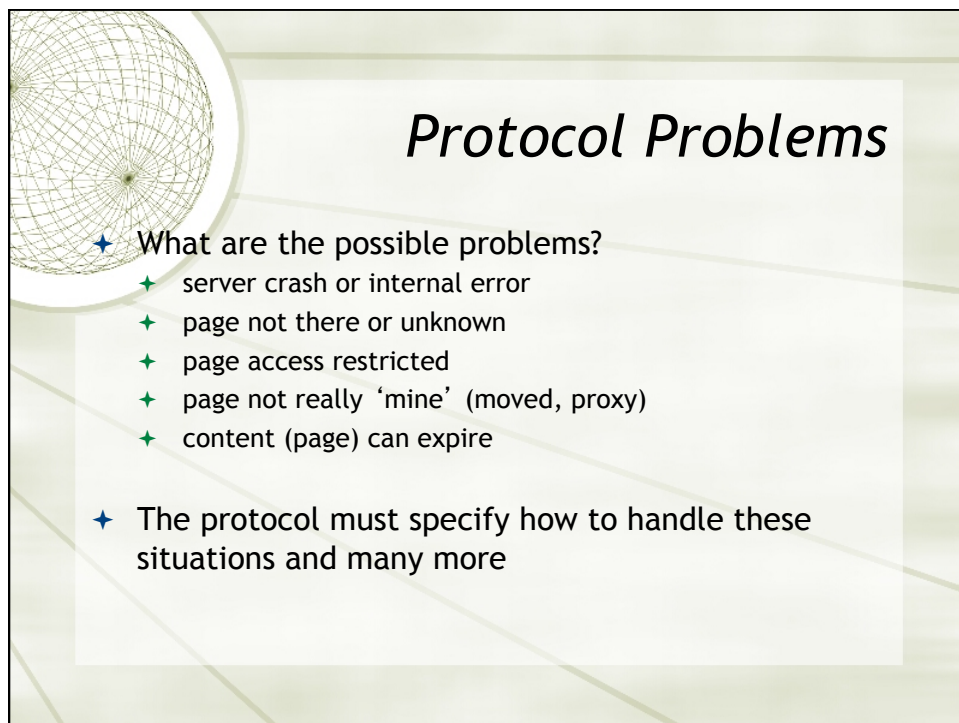
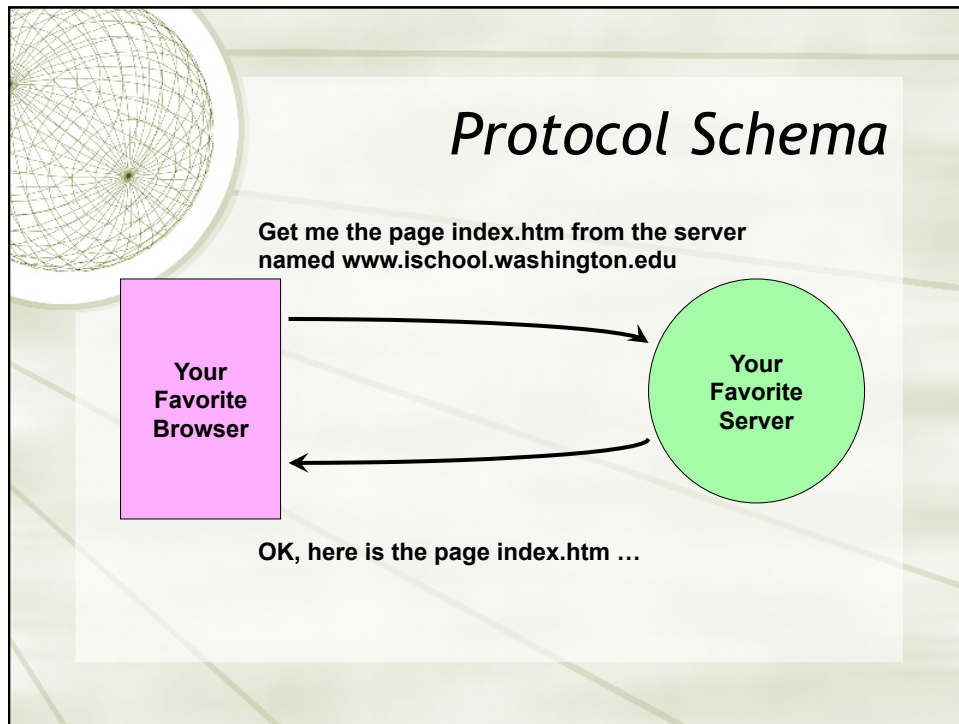
Info 341 Networking and
Distributed Applications



Protocols

- ★ An agreed upon mechanism for communicating
- ★ A defined standard for communicating
- ★ Every Client/Server must use the protocol the same way
- ★ Consider HTTP







Deeper look at HTTP

- ★ HTTP Protocol
 - ◆ HTTP Request format
 - ◆ HTTP Response format
 - ◆ Common response codes
 - ◆ HTTP Commands



HTTP Protocol: Request

```

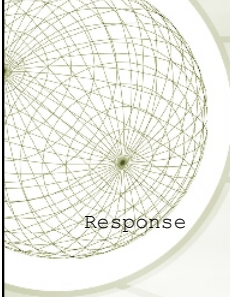
Request = Request-Line
        *(( general-header
          | request-header
          | entity-header ) CRLF)
        CRLF
        [ message-body ]

Request-Line = Method SP Request-URI SP HTTP-Version CRLF

Method = "OPTIONS"
        | "GET"
        | "HEAD"
        | "POST"
        | "PUT"
        | "DELETE"
        | "TRACE"
        | "CONNECT"
        | extension-method
        extension-method = token

Request-URI = "*" | absoluteURI | abs_path | authority

HTTP-Version = "HTTP/1.0" | "HTTP/1.1"
  
```

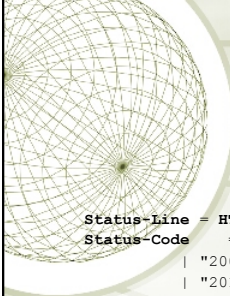


HTTP Protocol: Response

```

Response = Status-Line
          *(( general-header
             | response-header
             | entity-header ) CRLF)
          CRLF
          [ message-body ]

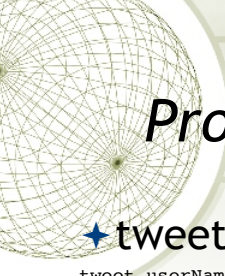
Status-Line = HTTP-Version SP Status-Code SP Reason-Phrase
            CRLF
  
```



HTTP Protocol: Status Codes


```

Status-Line = HTTP-Version SP Status-Code SP Reason-Phrase CRLF
Status-Code =
| "200" ; OK
| "201" ; Created
| "202" ; Accepted
| "203" ; Non-Authoritative Information
| "204" ; No Content
| "301" ; Moved Permanently
| "307" ; Temporary Redirect
| "400" ; Bad Request
| "401" ; Unauthorized
| "402" ; Payment Required
| "403" ; Forbidden
| "404" ; Not Found
| "500" ; Internal Server Error
| "501" ; Not Implemented
| "502" ; Bad Gateway
| extension-code
extension-code = 3DIGIT
  
```



Project Protocol Commands

- ★ **tweet**
tweet userName#userID#StatusMessageString\n
 - ★ Asynchronous, no reply
- ★ **follow**
follow [remove] userName#userID\n
 - ★ Asynchronous, no reply
- ★ **profile**
profile request | <profile data>\n
 - ★ Asynchronous, reply may be required



Service Type

- ★ Service Type for Part 3
 - ★ twit
 - ★ “_twit._tcp”



Name Resolution

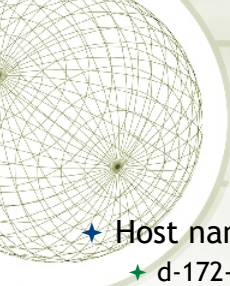
- ★ Getting Host names
 - ✦ Resolve Interface

```
public class MyResolveListener implements ResolveListener {  
    ...  
    public void serviceResolved (DNSSDService serv, int flags, int ifIndex, String fullName,  
        String hostName, int port, TXTRecord rec) {  
        ...  
    }  
    public void operationFailed (DNSSDService serv, int errorCode) {  
        ...  
    }  
    <other methods>  
}
```



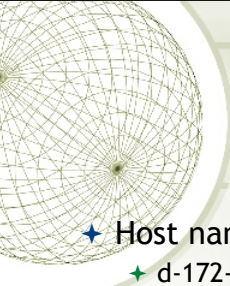
Name Resolution

- ★ Host names
 - ✦ d-172-28-100-62.dhcp4.washington.edu/172.28.100.62
 - ✦ dleou.local.
 - ✦ dleou.ischool.washington.edu



Name Resolution

- ★ Host names
 - ★ d-172-28-100-62.dhcp4.washington.edu/172.28.100.62
 - ★ dleou.local.
 - ★ dleou.ischool.washington.edu
- ★ Some are Trouble
 - ★ Working across wired/wireless - public/private IP addresses



Name Resolution

- ★ Host names
 - ★ d-172-28-100-62.dhcp4.washington.edu/172.28.100.62
 - ★ dleou.local.
 - ★ dleou.ischool.washington.edu
- ★ Some are Trouble
 - ★ Working across wired/wireless - public/private IP addresses
- ★ Get *something* working first. Then generalize.

