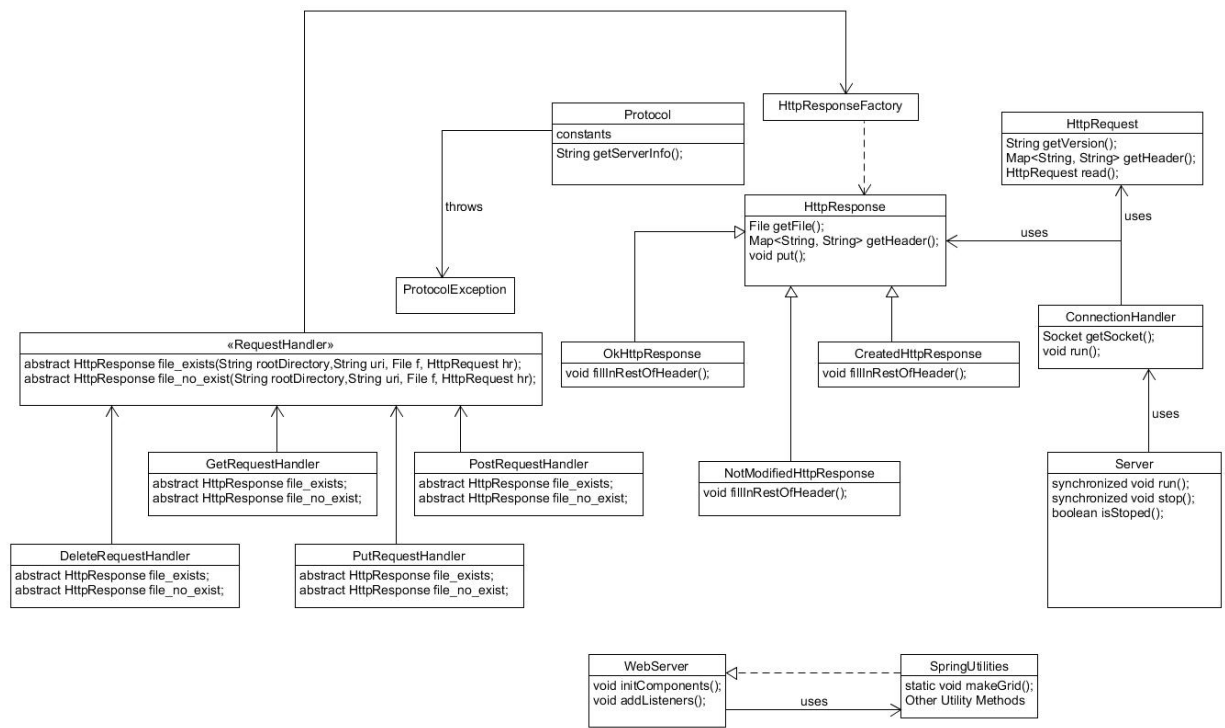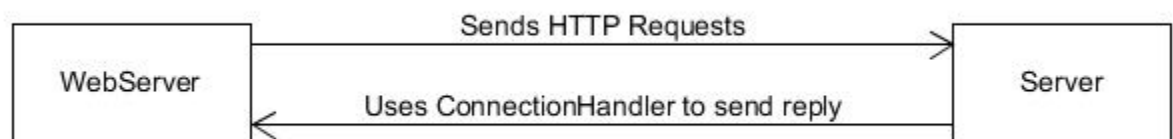The content for this project is stored at .\csse477FinalProject\edu.rosehulman.sws\Reports

1. Architecture Diagram

The UML Diagram is above and the communication diagram is below.

2. List of Patterns

The main pattern that is used so far is the Strategy pattern. The factory pattern is also used for HttpResponse(s).

3. How could we improve the design?
The greatest weakness that currently exists is that multiple clients connect directly to the same server. For this approach, the client needs to know a lot of information about the remote server to be able to connect to it. And this isn't always the best for expanding systems. The server may also care what kind of device is connecting to it and need to worry about that. In this way, a server/client relationship can start to take on too much burden. The best way of improving the design would be to add in a Broker pattern or something like it.

4. Test Report (on the next page)

HTTP 1.1 Test Client

Connection Settings

Server Name	localhost	**Port Number**	8080	**Connect**
Sleep Time (ms)	100	**Requests**	10	**Disconnect**

Connection Request

```
User-Agent: HttpTestClient/1.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.8
If-Modified-Since: Sun, 25 Sep 2011 23:30:55 GMT
Content-Length: 12

Hello World!
```

Connection Command

Generate Persistent Request	**Generate Cache Request**	**Start DOS Attack**	**Send**
Generate Bad Request	**Generate Version Request**	**Stop DOS Attack**	**Clear**

Connection Response

```
HTTP 1.1 Test Client by C.R. Rupakheti
-----------------------------------------------------
Connection Established!
Request Sent. Waiting for response ...
---------- Header ---------------
HTTP/1.1 200 OK
date : Sun Oct 18 15:41:59 EDT 2015
server : SimpleWebServer(SWS)/1.0.0 (Windows 7/6.1/amd64)
last-modified : Sun Oct 18 15:40:43 EDT 2015
content-length : 0
provider : Chandan R. Rupakheti
connection : Close
content-type : text/html
------------ Body ---------------


-----------------------------------
Socket Disconnected!
Connection Established!
Request Sent. Waiting for response ...
---------- Header ---------------
HTTP/1.1 404 Not Found
date : Sun Oct 18 15:42:16 EDT 2015
server : SimpleWebServer(SWS)/1.0.0 (Windows 7/6.1/amd64)
provider : Chandan R. Rupakheti
connection : Close
------------ Body ---------------


-----------------------------------
Socket Disconnected!
Connection Established!
Request Sent. Waiting for response ...
---------- Header ---------------
HTTP/1.1 200 OK
date : Sun Oct 18 15:43:23 EDT 2015
server : SimpleWebServer(SWS)/1.0.0 (Windows 7/6.1/amd64)
last-modified : Sun Oct 18 15:43:23 EDT 2015
content-length : 12
provider : Chandan R. Rupakheti
connection : Close
```

Above is a shot of the client (browser). The log file for this scenario lives in the main project at csse477FinalProject\edu.rosehulman.sws\Reports

```
Console 

WebServer [Java Application] C:\Program Files\Java\jre1.8.0_40\bin\javaw.exe (Oct 18, 2015, 3:41:39 PM)
----------- Header ----------------
DELETE /index.html HTTP/1.1
if-modified-since: Sun, 25 Sep 2011 23:30:55 GMT
content-length: 12
accept-language: en-US,en;q=0.8
host: localhost
connection: Keep-Alive
user-agent: HttpTestClient/1.0
accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
------------- Body ---------------
Hello World!-------------------------------

----------- Header ----------------
POST /index.html HTTP/1.1
if-modified-since: Sun, 25 Sep 2011 23:30:55 GMT
content-length: 12
accept-language: en-US,en;q=0.8
host: localhost
connection: Keep-Alive
user-agent: HttpTestClient/1.0
accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
------------- Body ---------------
Hello World!-------------------------------

----------- Header ----------------
GET /index.html HTTP/1.1
if-modified-since: Sun, 25 Sep 2011 23:30:55 GMT
content-length: 12
accept-language: en-US,en;q=0.8
host: localhost
connection: Keep-Alive
user-agent: HttpTestClient/1.0
accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
------------- Body ---------------
Hello World!-------------------------------
```

Above is a shot of the server. The log file for this scenario lives in the main project at csse477FinalProject\edu.rosehulman.sws\Reports

5. The project has been bundled and turned in. This report lives in it.