

Assignment 1

Team Battle Chips (CSE2 56)

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1.1

Below is a copy of the terminal interaction with the www.weer.nl server. Text highlighted in gray is the input typed into the console.

```
zbook@Tobro-ZBook:~$ telnet weer.nl 80
Trying 80.92.65.53...
Connected to weer.nl.
Escape character is '^]'.
HEAD / HTTP/1.1
host:weer.nl

HTTP/1.1 301 Moved Permanently
Date: Fri, 16 Nov 2018 13:59:11 GMT
Server: Apache
Status: 301 Moved Permanently
Location: http://www.weer.nl/
Content-Type: text/html; charset=UTF-8
```

Connection closed by foreign host.

```
zbook@Tobro-ZBook:~$ telnet www.weer.nl 80
Trying 52.49.205.192...
Connected to b2cwebsite-live-lb-960116390.eu-west-1.elb.amazonaws.com.
Escape character is '^]'.
HEAD / HTTP/1.1
host:www.weer.nl

HTTP/1.1 200 OK
Age: 260
Cache-Control: max-age=600
Content-Type: text/html; charset=utf-8
Date: Fri, 16 Nov 2018 13:55:38 GMT
Server: nginx/1.12.0
Vary: Accept-Encoding
Via: 1.1 varnish-v4
X-Cache: HIT
X-Powered-By: PHP/5.5.26
X-Varnish: 997703983 998247972
Connection: keep-alive
```

```
GET / HTTP/1.1
host:www.weer.nl

HTTP/1.1 200 OK
Accept-Ranges: bytes
Age: 296
Cache-Control: max-age=600
Content-Type: text/html; charset=utf-8
Date: Fri, 16 Nov 2018 13:55:38 GMT
Server: nginx/1.12.0
Vary: Accept-Encoding
Via: 1.1 varnish-v4
```

```
X-Cache: HIT
X-Powered-By: PHP/5.5.26
X-Varnish: 997922388 998247972
transfer-encoding: chunked
Connection: keep-alive
```

```
3186
<!DOCTYPE html>
<html lang="nl">
<head>
...
```

```
GET /radar/ HTTP/1.1
host:www.weer.nl
```

```
HTTP/1.1 200 OK
Accept-Ranges: bytes
Age: 0
Cache-Control: max-age=600
Content-Type: text/html; charset=utf-8
Date: Fri, 16 Nov 2018 14:03:44 GMT
Server: nginx/1.12.0
Vary: Accept-Encoding
Via: 1.1 varnish-v4
X-Cache: MISS
X-Powered-By: PHP/5.5.26
X-Varnish: 966024039 966024040
transfer-encoding: chunked
Connection: keep-alive
```

```
f97
<!DOCTYPE html>
<html lang="nl">
<head>
...
```

1.2

The content of the html-code that is received in the final request to the server corresponds with the site with the exception of the elements that require a live connection with the server (e.g. the actual map with weather information is replaced with a placeholder image).

1.3

The X_Cache tag is used by the server to indicate if the content was coming from a cache server ("HIT") or not ("MISS"). Since "MISS" is reported the information is coming directly from the main server.

1.4

The Cache-Control directive "max-age=600" specifies that the maximum amount of time the resource will be considered fresh is 600 seconds. The 600 seconds count relative to the time of the request.

2.1

Below is the terminal interaction with the server.

```

zbook@Tobro-ZBook:~$ telnet httpbin.org 80
Trying 52.45.111.123...
Connected to httpbin.org.
Escape character is '^]'.
PUT /put HTTP/1.1
host:httpbin.org
Content-type:text/plain
Content-length:12

Hello World!
HTTP/1.1 200 OK
Connection: keep-alive
Server: gunicorn/19.9.0
Date: Fri, 16 Nov 2018 14:19:34 GMT
Content-Type: application/json
Content-Length: 296
Access-Control-Allow-Origin: *
Access-Control-Allow-Credentials: true
Via: 1.1 vegur

{
  "args": {},
  "data": "Hello World!",
  "files": {},
  "form": {},
  "headers": {
    "Connection": "close",
    "Content-Length": "12",
    "Content-Type": "text/plain",
    "Host": "httpbin.org"
  },
  "json": null,
  "origin": "83.85.38.153",
  "url": "http://httpbin.org/put"
}

```

When specifying the wrong number of characters (13 instead of 12) the server pads the response with additional `\r` characters, as can be seen from below:

```

PUT /put HTTP/1.1
host:httpbin.org
Content-type:text/plain
Content-length:13

Hello World!
HTTP/1.1 200 OK
Connection: keep-alive
Server: gunicorn/19.9.0
Date: Fri, 16 Nov 2018 14:22:36 GMT
Content-Type: application/json
Content-Length: 298
Access-Control-Allow-Origin: *
Access-Control-Allow-Credentials: true
Via: 1.1 vegur

{
  "args": {},
  "data": "Hello World!\r",
  "files": {},
  "form": {},
  "headers": {
    "Connection": "close",
    "Content-Length": "13",
    "Content-Type": "text/plain",
    "Host": "httpbin.org"
  },
  "json": null,

```

```
    "origin": "83.85.38.153",
    "url": "http://httpbin.org/put"
}
```

When specifying a too low number of characters (11 instead of 12) the server truncates the text:

```
PUT /put HTTP/1.1
host:httpbin.org
Content-type:text/plain
Content-length:11

Hello, World!
HTTP/1.1 200 OK
Connection: keep-alive
Server: gunicorn/19.9.0
Date: Fri, 16 Nov 2018 14:25:43 GMT
Content-Type: application/json
Content-Length: 295
Access-Control-Allow-Origin: *
Access-Control-Allow-Credentials: true
Via: 1.1 vegur

{
  "args": {},
  "data": "Hello, Worl",
  "files": {},
  "form": {},
  "headers": {
    "Connection": "close",
    "Content-Length": "11",
    "Content-Type": "text/plain",
    "Host": "httpbin.org"
  },
}
```

3.1

After logging in to the page and reloading, the browser does not ask for username and password again.

3.2

Please refer to the text below for a view on the terminal interaction with the server:

```
zbook@Tobro-ZBook:~$ telnet httpbin.org 80
Trying 52.72.251.164...
Connected to httpbin.org.
Escape character is '^]'.
HEAD /basic-auth/user/passwd HTTP/1.1
host:httpbin.org

HTTP/1.1 401 UNAUTHORIZED
Connection: keep-alive
Server: gunicorn/19.9.0
Date: Fri, 16 Nov 2018 14:30:05 GMT
Www-Authenticate: Basic realm="Fake Realm"
Access-Control-Allow-Origin: *
Access-Control-Allow-Credentials: true
Content-Length: 0
Via: 1.1 vegur

===

zbook@Tobro-ZBook:~$ telnet httpbin.org 80
Trying 52.86.186.182...
```

```
Connected to httpbin.org.  
Escape character is '^]'.  
HEAD /basic-auth/user/passwd HTTP/1.1  
host:httpbin.org  
Authorization: Basic dXNlcjpwYXNzd2Q=
```

```
HTTP/1.1 200 OK  
Connection: keep-alive  
Server: gunicorn/19.9.0  
Date: Fri, 16 Nov 2018 14:34:35 GMT  
Content-Type: application/json  
Content-Length: 47  
Access-Control-Allow-Origin: *  
Access-Control-Allow-Credentials: true  
Via: 1.1 vegur
```

===

```
zbook@Tobro-ZBook:~$ telnet httpbin.org 80  
Trying 52.204.188.97...  
Connected to httpbin.org.  
Escape character is '^]'.  
HEAD /basic-auth/user/passwd HTTP/1.1  
host:httpbin.org
```

```
HTTP/1.1 401 UNAUTHORIZED  
Connection: keep-alive  
Server: gunicorn/19.9.0  
Date: Fri, 16 Nov 2018 14:35:53 GMT  
Www-Authenticate: Basic realm="Fake Realm"  
Access-Control-Allow-Origin: *  
Access-Control-Allow-Credentials: true  
Content-Length: 0  
Via: 1.1 vegur
```

The behavior is not the same as the server rejects the connection without the user name and password. Reason for that is that HTTP requires username+password to be provided with each HTTP request whereas the browser hides this from the end-user.

4.1

Our team will implement the Battle Ships game

4.2

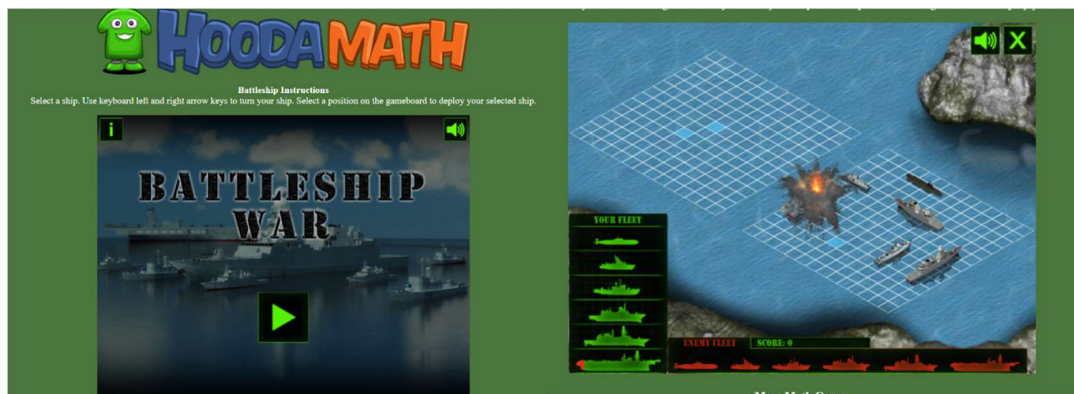
Example 1: <https://boomboomboat.com>



Good: clean game interface with clear intentions

Bad: splash screen is fully text-based and, in combination with the creative site name, the intention of the app is not immediately clear.

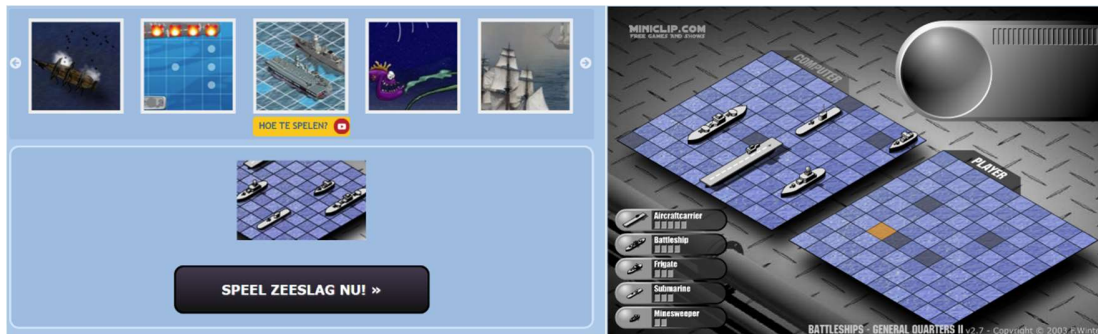
Example 2: <http://www.hoodamath.com/mobile/games/app/battleship.html>



Good: graphically very rich game

Bad: the screen where user has to enter his moves is different from the visualization above creating a chaotic user experience

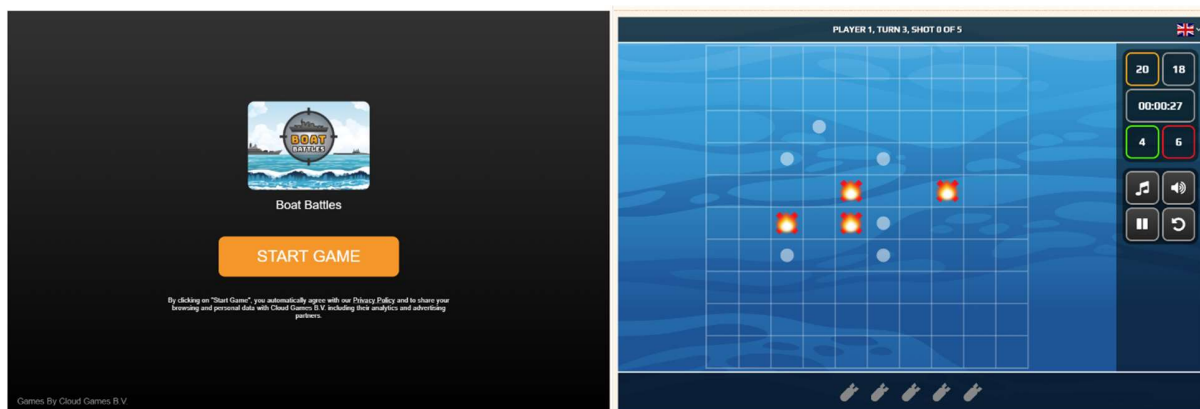
Example 3: <http://www.speeileiland.nl/zeeslag.htm>



Good: graphically very rich game

Bad: requires a flash-plugin in the browser

Example 4: <https://www.1001spelletjes.nl/spellen/zeeslag.html>



Good: graphically very rich game, interesting take on the rules (each player gets to do 5 shots in each turn, rather than taking turns firing a single shot)

Bad: requires a flash-plugin in the browser, laced with advertisements, site does not work if adblocker is active

4.3

Positive features to include

- A clean and simple user interface without too many options: in game screen we will only include a button for “forfeit game” and for “full screen”
- Preferably a graphically rich interface but this is likely going to be limited due to time constraints
- Quick click-through to start a game with random set-up instead of tedious/slow set-up procedure

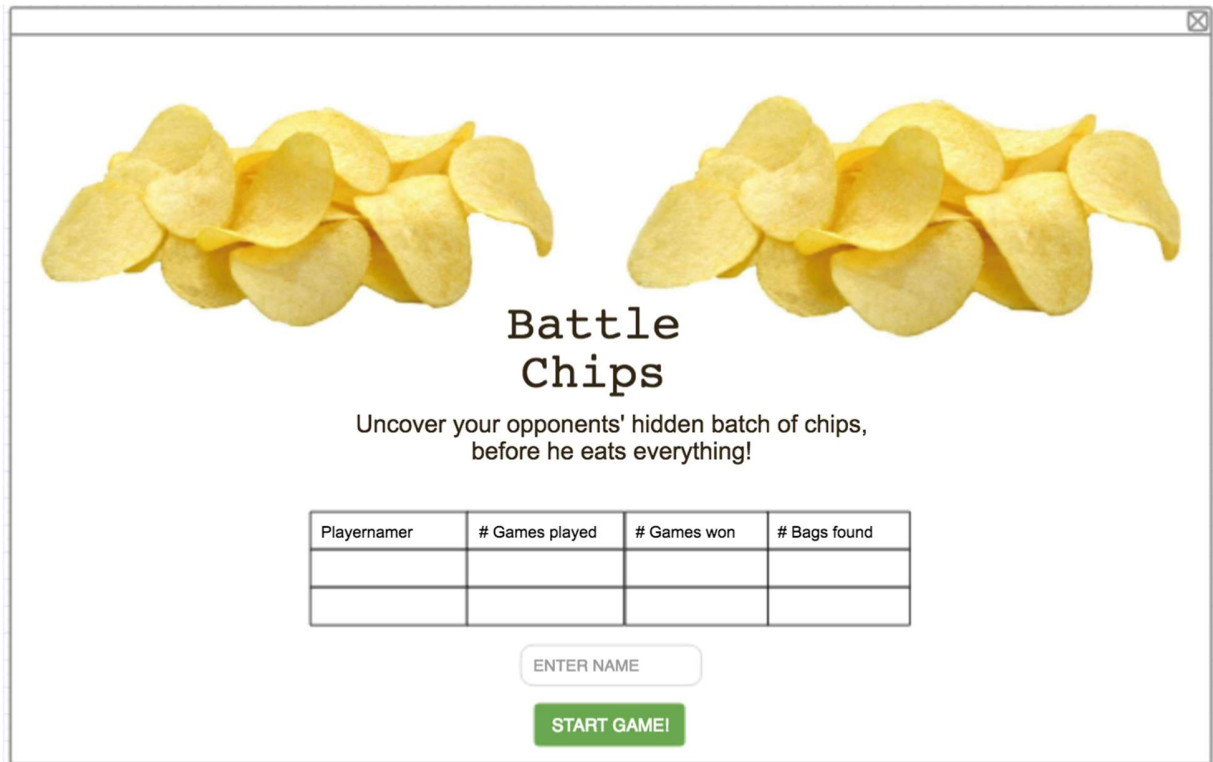
Negative features to avoid

- No advertisements that delay/block the user experience
- Based on standard Javascript – no need for additional browser plug-ins

- A crisp splash screen without too much text

5.1

Splash screen design:



5.2

Battle Chips

Adversary

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										


Player

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Adversary	Name
Player	Name

PLAY FULL SCREEN

FORFEIT GAME



5.3

Done

6.

Submitted in separate .zip file