

Hypermedia Hacking Workshop

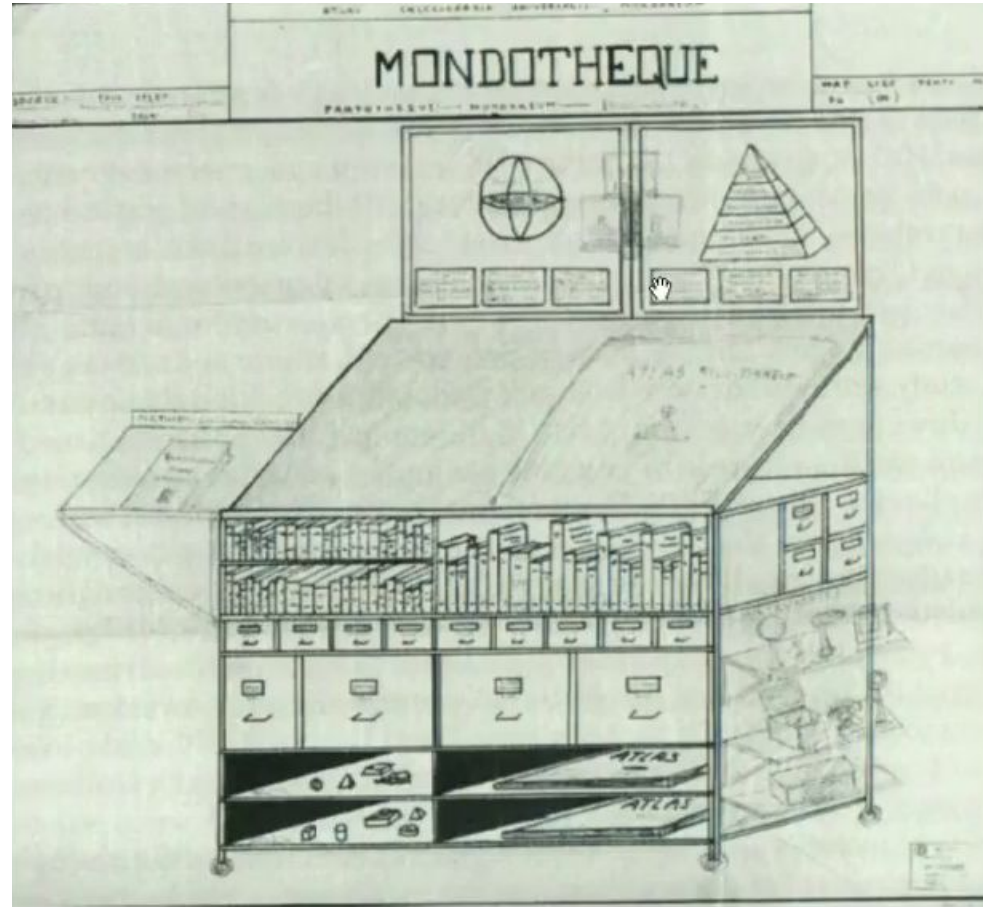
Mike Amundsen
API Academy at CA Technologies
@mamund

What is Hypermedia and Why Use it?

Hypermedia Basics

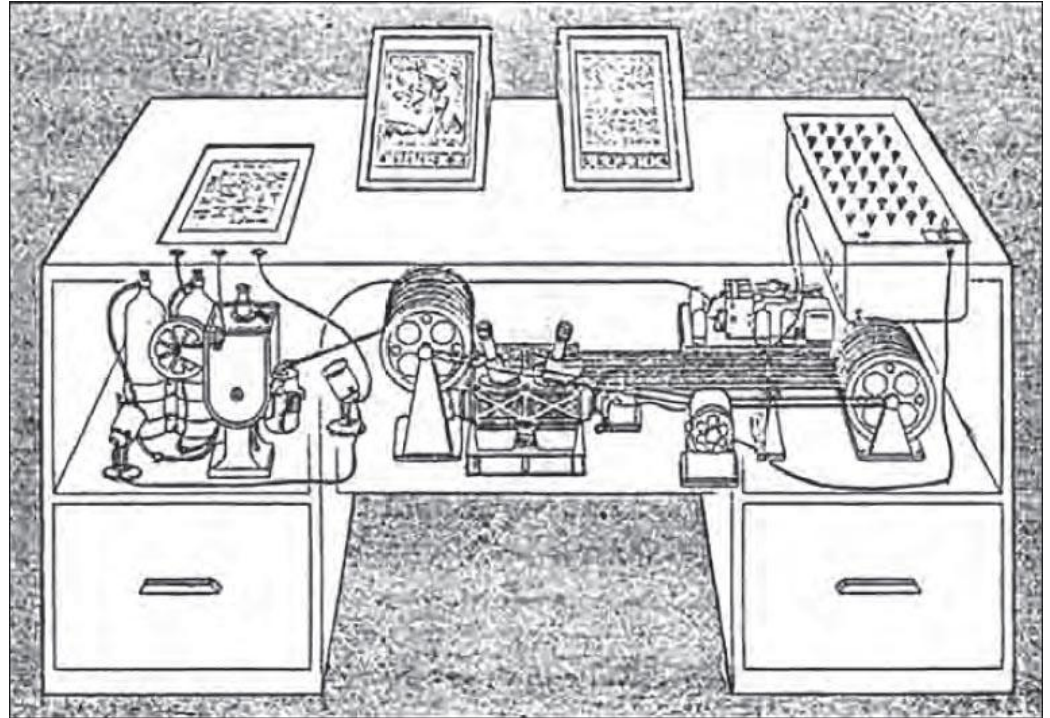
- Paul Otlet (1930s)

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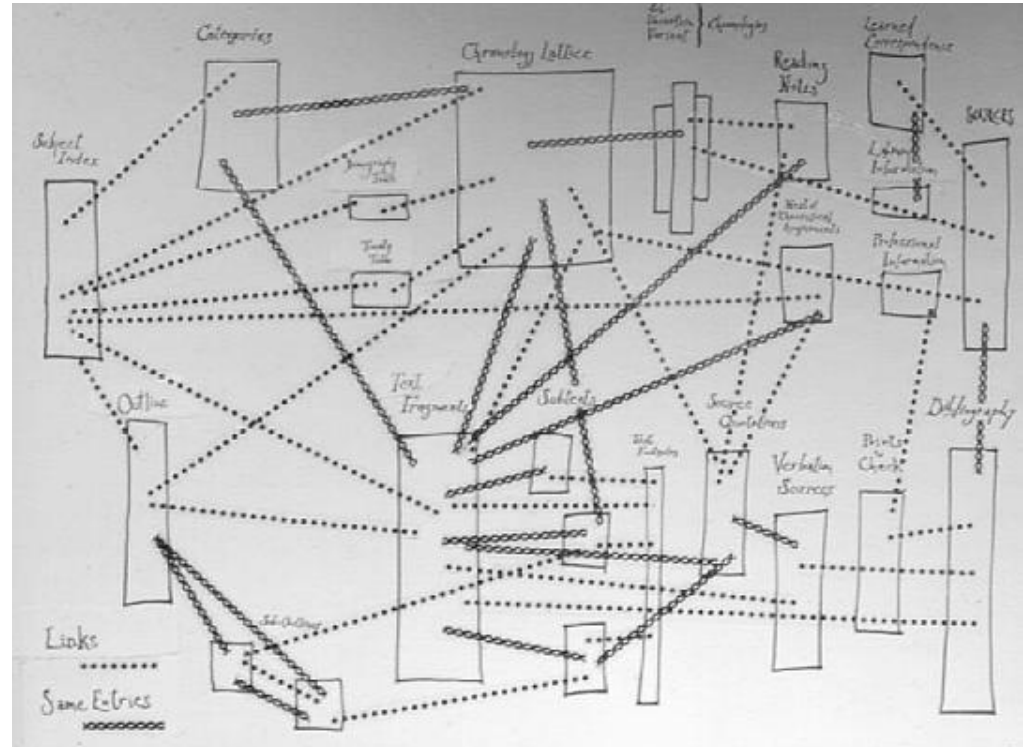
Hypermedia Basics

- Paul Otlet (1930s)
- Vannevar Bush (1940s)

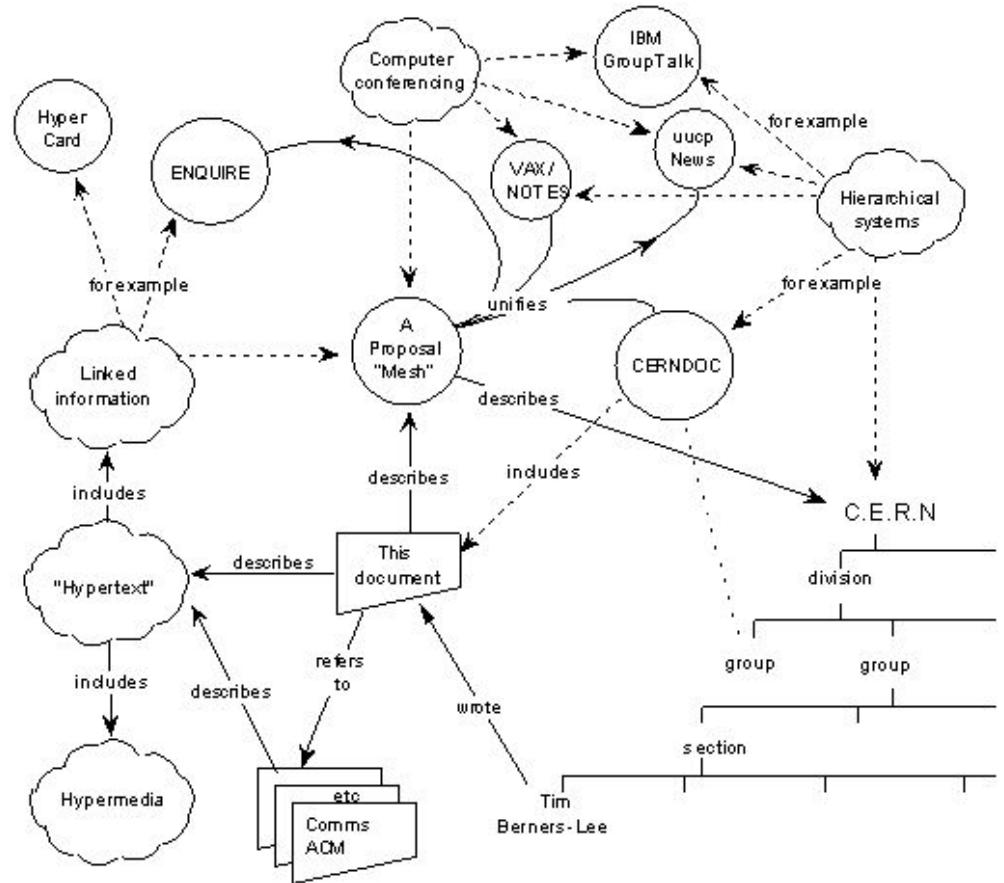


Hypermedia Basics

- Paul Otlet (1930s)
- Vannevar Bush (1940s)
- Ted Nelson (1960s)



- Paul Otlet (1930s)
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- Tim Berners-Lee (1980s)



Hypermedia Basics

- Paul Otlet (1930s)
- Vannevar Bush (1940s)
- Ted Nelson (1960s)
- Tim Berners-Lee (1980s)
- Roy T. Fielding (2000s)

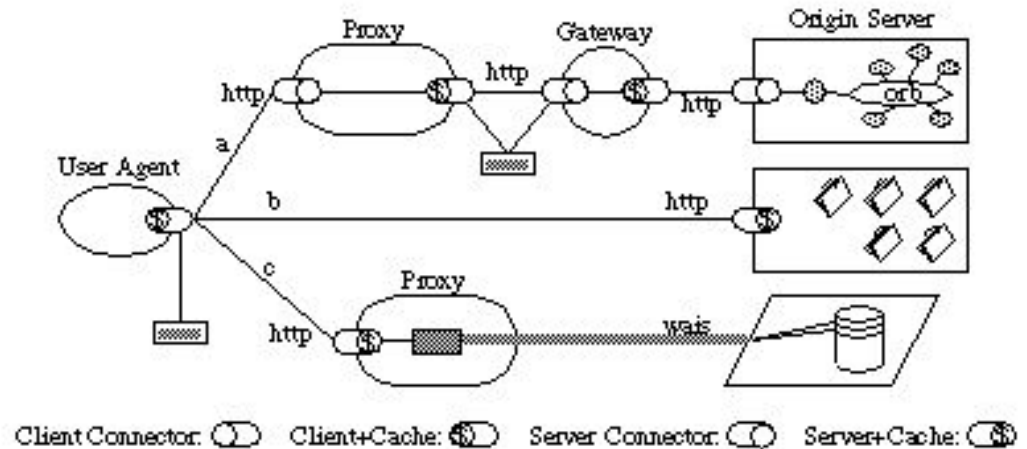


Figure 5-10. Process View of a REST-based Architecture

H-Factors

H-Factors (2010)

Link Factors

- LO
- LE
- LT
- LN
- LI

```
<a href="http://www.example.org/search" title="view search page">Search</a>
```

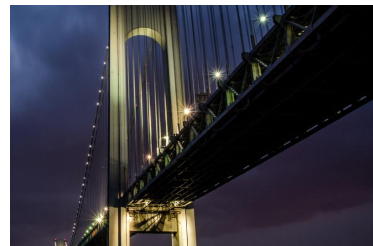
```

```

```
<form method="get">  
  <label>Search term:</label>  
  <input name="query" type="text" value="" />  
  <input type="submit" />  
</form>
```

```
<form method="post" action="http://www.example.org/my-keywords"/>  
  
  <label>Keywords:</label>  
  <input name="keywords" type="text" value="" />  
  <input type="submit" />  
</form>
```

```
function delete(id)  
{  
  var client = new XMLHttpRequest();  
  client.open("DELETE", "/records/"+id);  
}
```



H-Factors

Control Factors

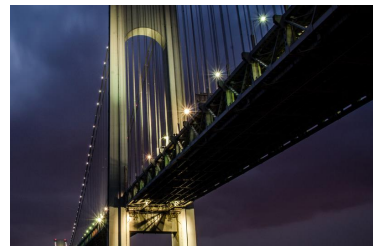
- CR
- CU
- CM
- CL

```
<xsl:include href="http://www.exmaple.org/newsfeed" accept="application/rss" />
```

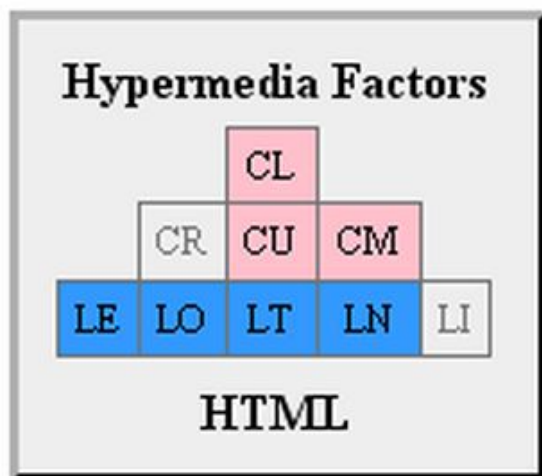
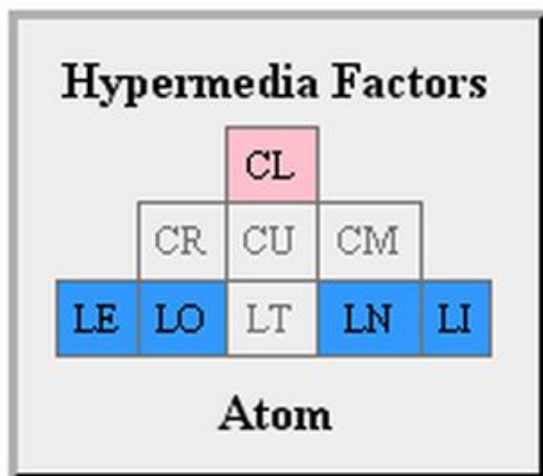
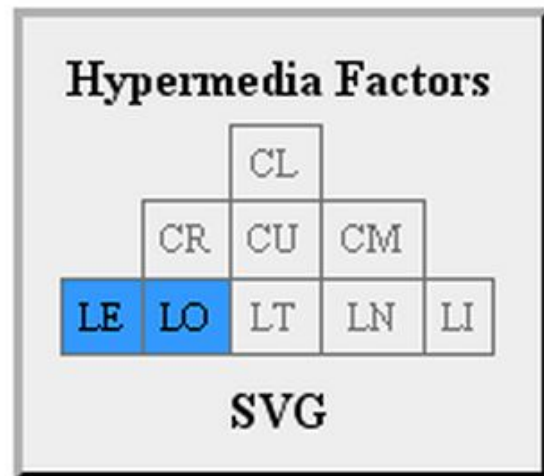
```
<form method="post" action="http://www.example.org/my-keywords" enctype="application/x-www-form-urlencoded" />  
  <label>Keywords:</label>  
  <input name="keywords" type="text" value="" />  
  <input type="submit" />  
</form>
```

```
<form method="post" action="http://www.example.org/my-keywords" />  
  <label>Keywords:</label>  
  
  <input name="keywords" type="text" value="" />  
  <input type="submit" />  
</form>
```

```
<entry xmlns="http://www.w3.org/2005/Atom">  
  <title>Atom-Powered Robots Run Amok</title>  
  
  <id>urn:uuid:1225c695-cfb8-4ebb-aaaa-80da344efa6a</id>  
  <updated>2003-12-13T18:30:02Z</updated>  
  <author><name>John Doe</name></author>  
  
  <content>Some text.</content>  
  <link rel="edit" href="http://example.org/edit/first-post.atom"/>  
</entry>
```

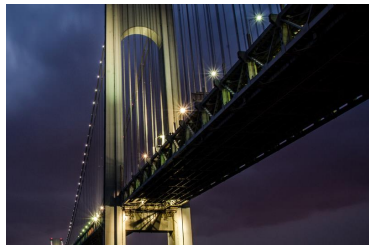


H-Factors



Hypermedia in one slide

- `{"link" :`
 `{"rel" : "help", "href" : "..."}
 }`
- `{"image" :`
 `{"rel" : "logo", "href" : "..."}
 }`
- `{"form" :`
 `{"rel" : "edit",
 "href" : "...",
 "method" : "put",
 "data" : [{"name":"...", "value":"..."}]}
 }`
`}`



Hypermedia Basics

- Close to 100 years of work on hypermedia
- It's the connections, not the code!
- Connecting is more than pointing.
- Hypermedia is not the URL -- it's everything else
- The WWW was designed for "extreme late binding"

Quick Quiz:
Where's the Hypermedia?

Can you spot the hypermedia?

```
<!DOCTYPE html>
<html>
  <head>
    <title>H-Factor Search</title>
  </head>
  <body>

    <a rel="home" href="...">Home</a>

    <form class="search" method="get" action="...">
      <input type="text" name="keyword" value="..." />
      <input type="submit" />
    </form>

  </body>
</html>
```


Can you spot the hypermedia?

```
<!DOCTYPE html>
<html>
  <head>
    <title>H-Factor Search</title>
  </head>
  <body>

    <a rel="home" href="...">Home</a>

    <form class="search" method="get" action="...">
      <input type="text" name="keyword" value="..." />
      <input type="submit" />
    </form>

  </body>
</html>
```

Can you spot the hypermedia?

```
<!DOCTYPE html>
<html>
  <head>
    <title>H-Factor Search</title>
  </head>
  <body>

    <LE src="..." class="logo" />

    <LO rel="home" href="...">Home</a>

    <LT class="search" method="get" action="...">
      <input type="text" name="keyword" value="..." />
      <input type="submit" />
    </LT>

  </body>
</html>
```

Group Discussion:
Hypermedia Advantages
and Drawbacks

What is Hypermedia and Why Use it?