



# IT2805 - Web Technologies URLs and Site Structures

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# Agenda

- Understanding URLs
  - Web pages, FTP servers, & e-mail addresses
  - Absolute and relative URLs
- Web site's structure
  - Storyboarding (structure diagram)
  - linear, hierarchical, mixed
  - Linking between pages

# Purposes of URLs

- Link to another document or resource
- Link to an external style sheet or script
- Include an image, object or applets in a page
- Create an image map
- Submit a form
- Cite an external reference

# URL Example

- Let's see the most important parts using the following URL:

`http://www.example.com/path/to/myfile.html?key1=value1  
&key2=value2#SomewhereInTheDocument`

# URL: Protocol

`http://www.example.com/....`

- `http://` is the protocol part of a URL.
- It indicates which protocol the browser must use.
- Usually it is the “`http`” protocol or its secured version, “`https`”.
- The browser uses `http` by default.

# URL: Domain Name

`http://www.example.com/....`

- `www.example.com` is the domain name of the URL.
- It indicates which Web server is being requested.

# URL: path to the file

...example.com/**path/to/myfile.html**...

- /path/to/myfile.html is the path to the resource on the Web server.
- In the early days of the Web, a path like this represented a physical file location on the Web server (today it doesn't have any physical reality).

# URL: parameters

...to/myfile.html?key1=value1&key2=value2...

- ?key1=value1&key2=value2 are extra parameters provided to the Web server.
- Those parameters are a list of key/value pairs separated with the & symbol.
- The Web server can use those parameters to do extra stuff before returning the resource.

# Get Parameter or Method

- **method** – indicates how the data collected by the form should be transmitted to the server using the HTTP
  - **GET** – the form data is appended to the URL

The screenshot shows a web browser window with the following details:

- Address Bar:** https://www.google.no/#q=NTNU
- Google Logo:** The classic multi-colored Google logo.
- Search Bar:** The word "NTNU" is typed into the search bar.
- Search Buttons:** A microphone icon and a blue search button.
- Navigation Buttons:** Back, forward, refresh, and home icons.
- Search Tools:** Web, Images, Maps, Videos, Books, More, and Search tools.
- Results Summary:** About 1,780,000 results (0.30 seconds).
- First Result:**
  - Title:** NTNU: Norges teknisk-naturvitenskapelige universitet - N...
  - Link:** www.ntnu.no/
  - Text:** Translate this page
  - Description:** Norges teknisk-naturvitenskapelige universitet i Trondheim. NTNU utdanner 3000 studenter hvert år og har hovedansvar for den høyere teknologiutdanningen i ...
  - Rating:** 4.7 ★★★★☆
  - Reviews:** 39 Google reviews
  - Actions:** Write a review · Google+ page

# Two HTTP Request Methods: GET and POST

- Two commonly used methods for a request-response between a client and server are: **GET** and **POST**
- **GET** - Requests data from a specified resource
- **POST** - Submits data to be processed to a specified resource

# The GET Method

- Note that query strings (name/value pairs) is sent in the URL of a GET request:

**/test/demo\_form.asp?name1=value1&name2=value2**

# Form Method: GET

- Form data appended to URL.
- URL is followed by “?” and then the name/value pairs.

**<http://www.google.com/search?hl=en&q=tourism>**

- GET requests can be cached
- GET requests can remain in browser history
- GET requests can be bookmarked
- GET requests can be distributed & shared
- GET requests have length restrictions (max URL length)
- GET requests can be hacked
  - Don't send password or sensitive data with GET.

# Form Method: POST

- POST requests sent as a separate message (not in url)
- POST requests are never cached, do not remain in the browser history and cannot be bookmarked
- Use for sensitive data such as
  - passwords
  - credit card numbers
  - bank account numbers
- There is a max length for get, e.g., IE has max url length of 2048 characters. So if lots of data, use POST instead of GET even if not sensitive.

# GET or POST?

- Use GET if:
  - Interaction is more like a question
  - it is a safe operation such as a query, read operation, or lookup
- Use POST if:
  - Interaction is more like an order, or
  - Interaction changes state of the resource (e.g., payment transaction), or
  - The user will be held accountable for the interaction.

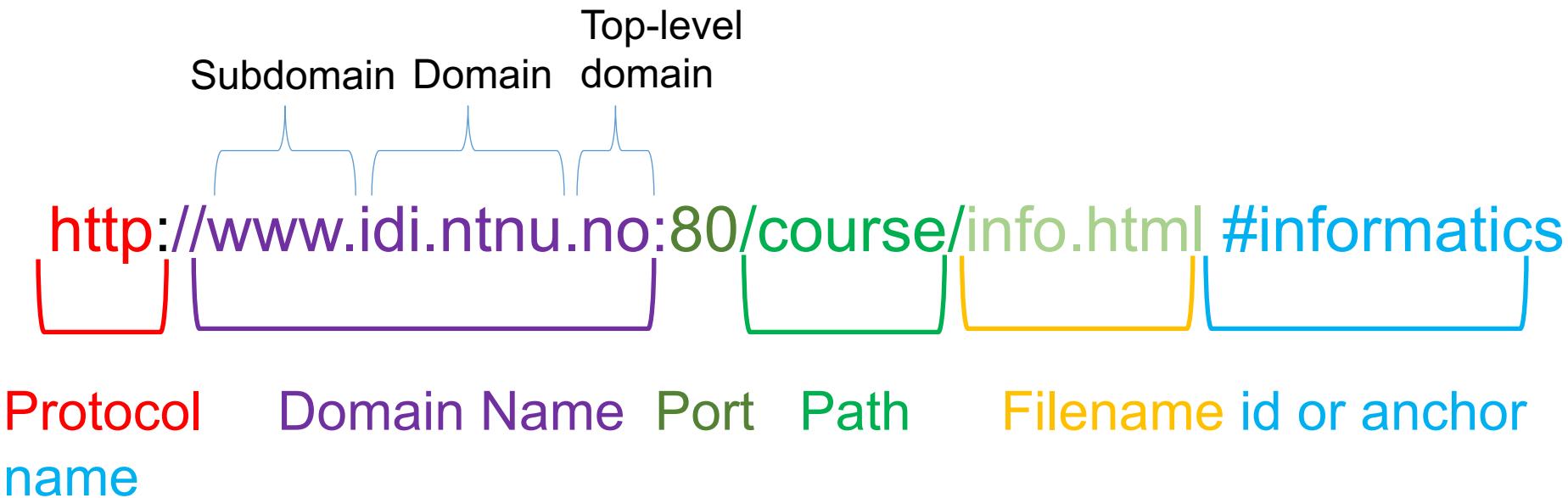
# URL: anchor

...to/myfile.html?key1=value1&key2=value2#SomewhereInTheDocument

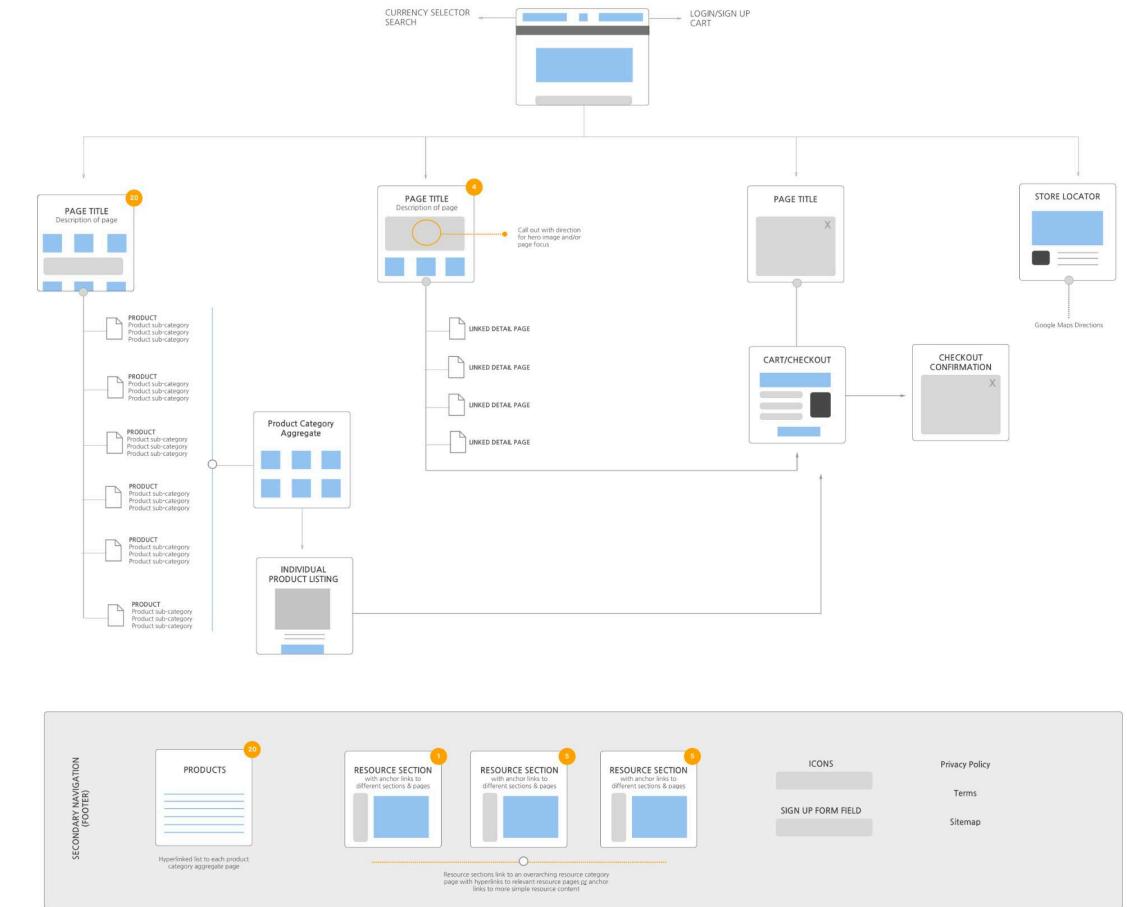
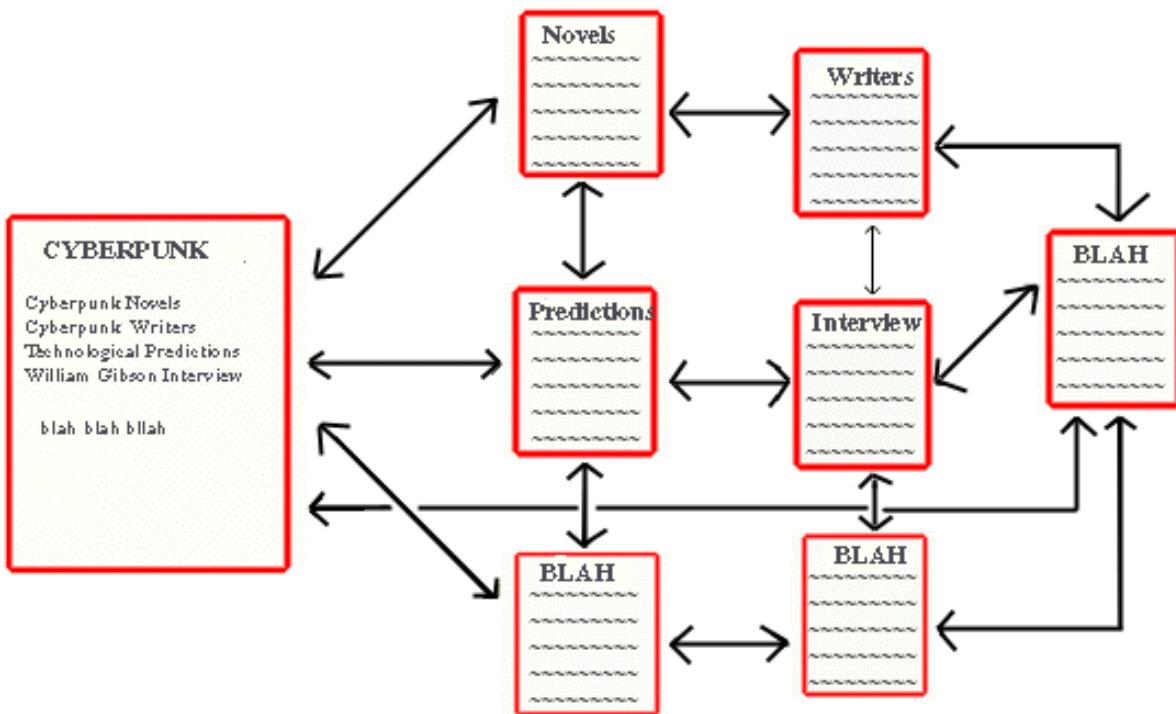
- #SomewhereInTheDocument is an anchor to another part of the resource itself (on a paragraph, video, audio etc. document).
- An anchor represents a sort of "bookmark" inside the resource, giving the browser the directions to show the content located at that "bookmarked" spot.

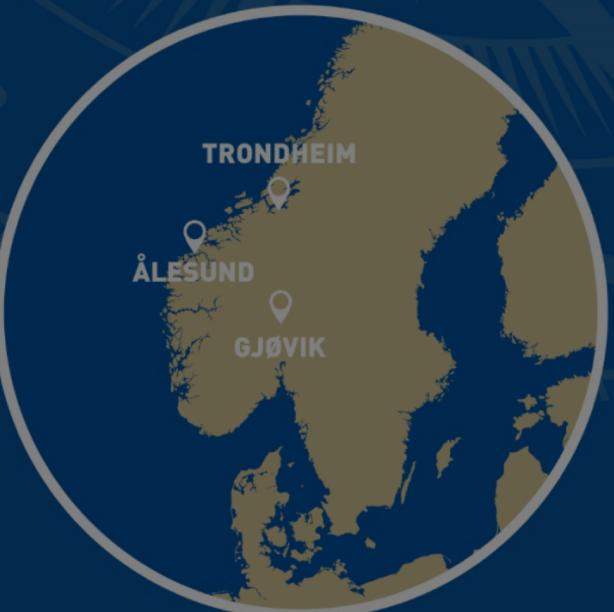
# Anatomy of a URL

A sample URL for a Web page



# Storyboarding – Example





# Thank you!

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A BETTER WORLD**

TRONDHEIM | GJØVIK | ÅLESUND  
BRUSSELS | TOKYO



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