INTERNET PROGRAMIRANJE
PREDAVANJA – PREZENTACIJA 3
HTML 5 SPECIFIKACIJA

NASLOVI – TEME

HTML5 – Specification
HTML5 – Doctype
HTML5 – Link
HTML5 – Global attributes
HTML5 – HTML 4
HTML5 – API
HTML5 – OFFLINE APPLICATIONS
HTML5 API – GEOLOCATION API
HTML5 API – WEB STORAGE
HTML5 API – WEB SOCKETS
HTML5 API – WEB WORKERS
HTML5 API – SSE
HTML5 API – MICRODATA
HTML5 API – HTML PLUS RDFa 1.1.
HTML5 API – Math ML/SGML
HTML5 API – WOFF File Format
HTML5 API – Navigation Timing
HTML5 API – Touch Event (touchpad, phones)
HTML5 API – Drag and drop

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HTML 5 SPECIFIKACIJA

HTML 5 SPECIFICATION

HTML 5.2
Feature collection
Backward compatibility
HTML 4.1

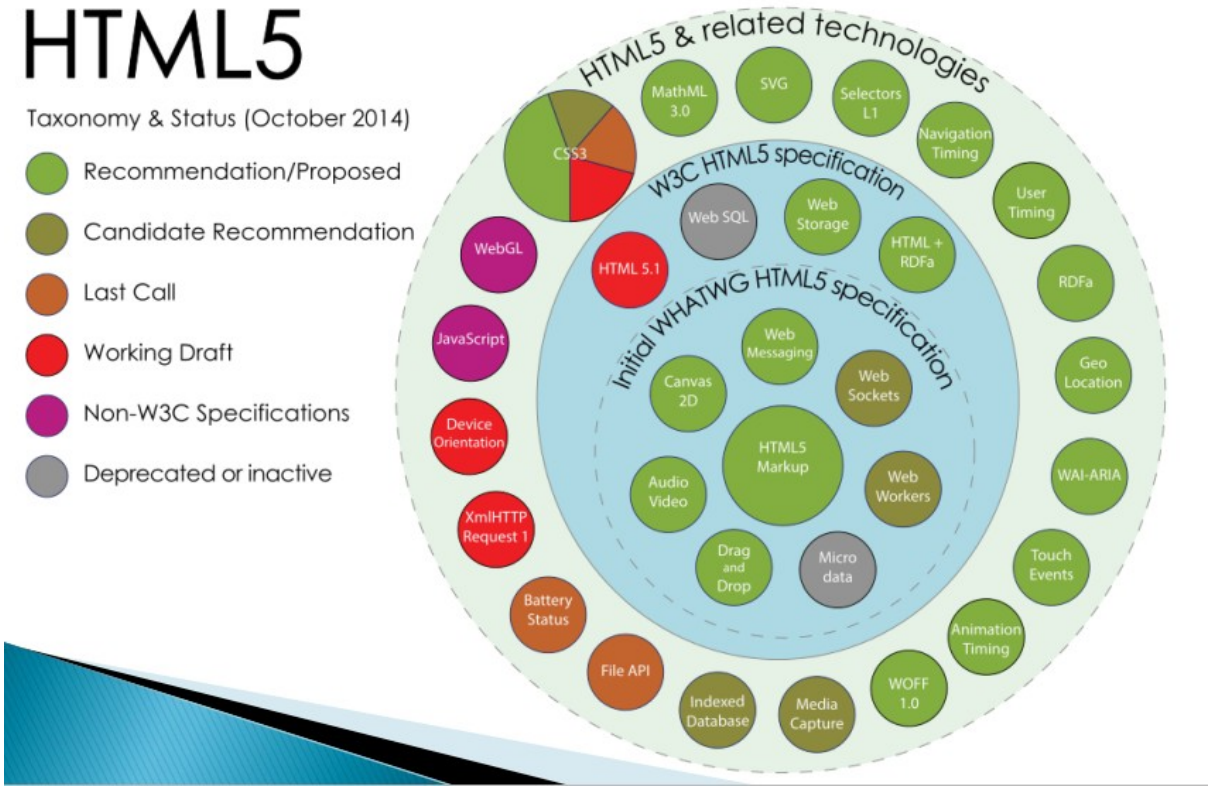
GLOBALNI ATRIBUTI

accesskey	contenteditable
class	contextmenu
dir	data-*
id	draggale
lang	dropzone
stye	hidden
tabindex	speelcheck
title	translate

HTML4 V HTML5

HTML4	HTML5
	<header>
	<nav>
	<section>
	<article>
	<footer>

HTML5 API



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OFFLINE WEB APPLICATION

CACHE-MANIFEST
OFFLINE-NETWORK
CACHE-SECTION
FALLBACK-SECTION

- text/cache-manifest

```
<!DOCTYPE HTML>
<html manifest="/cache.manifest">
        <body>
        ...
        </body>
</html>
```

```
CACHE MANIFEST

NETWORK:
comm.cgi

CACHE:
clock.html
clock.css
clock.js
```

```
CACHE MANIFEST
clock.html
clock.css
clock.js
```

```
CACHE MANIFEST
FALLBACK:
example/bar/   example.html
```

GEOLOCATION API

GPS/GPRS
GOOGLE MAPS API
YANDEX MAPS API

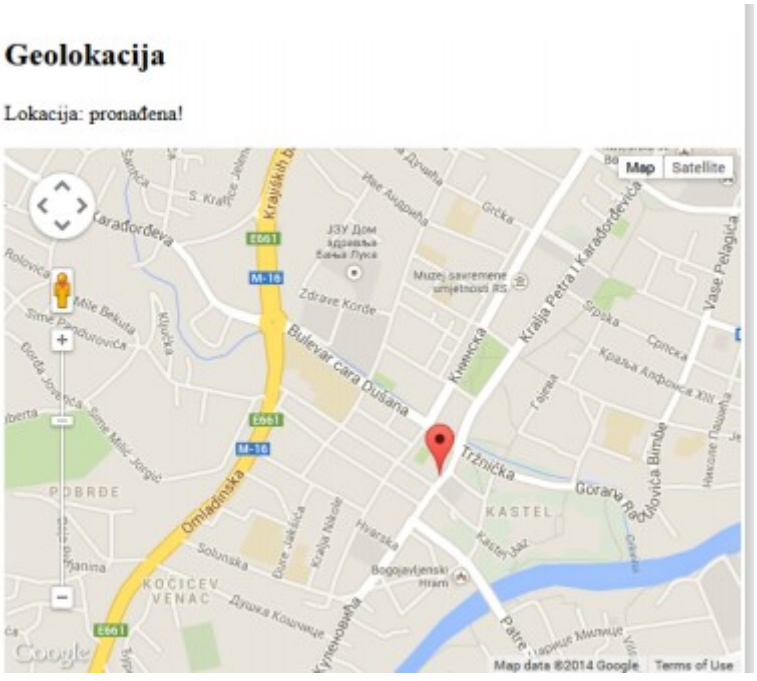
mogući izvori lokacijskih informacija:
- GPS (Global Positioning System)
- lokacijske informacije utvrđene na osnovu:
  - IP adresa,
  - RFID, WiFi i Bluetooth MAC adresa,
  - ID-eva GSM/CDMA ćelija,
- korisnički unos.

u Firefox-u poziv getCurrentPosition() funkcije geolocation API-ja će prouzrokovati pojavljivanje "infobar-a" na vrhu prozora

PRAVILA O ZASTITI I KONVENCIJE I PREPORUKE

- zahtjev je upućen na URL www.googleapis.com
- zahtjev - ethernet + uključen wifi

POSTDATA={"wifiAccessPoints":[
{"macAddress":"00-0b-6b-85-1e-cf","signalStrength":-54},
{"macAddress":"02-c0-ca-2f-5a-35","signalStrength":-81},
{"macAddress":"40-40-40-2f-5a-35","signalStrength":-81},
{"macAddress":"00-21-27-e9-cd-18","signalStrength":-82},
{"macAddress":"00-0b-6b-85-22-0e","signalStrength":-84},
{"macAddress":"82-f3-a3-86-2d-c8","signalStrength":-84},
{"macAddress":"00-1d-0f-c5-2b-be","signalStrength":-85},
{"macAddress":"00-0c-42-0c-ea-23","signalStrength":-86},
{"macAddress":"54-e6-fc-9d-0e-46","signalStrength":-86},
{"macAddress":"c8-3a-35-1a-0c-40","signalStrength":-87},
{"macAddress":"c8-3a-35-2c-a4-e8","signalStrength":-87},
{"macAddress":"50-46-5d-87-70-a0","signalStrength":-88},
{"macAddress":"40-40-40-b5-a9-d2","signalStrength":-88},
{"macAddress":"00-23-cd-c0-09-06","signalStrength":-88},
{"macAddress":"00-0b-6b-4f-7b-63","signalStrength":-89},
{"macAddress":"b0-48-7a-dd-2e-37","signalStrength":-89},
{"macAddress":"00-0c-42-0c-60-4c","signalStrength":-89},
{"macAddress":"00-21-a4-35-43-e1","signalStrength":-89},
{"macAddress":"00-19-e0-15-42-30","signalStrength":-90},
{"macAddress":"74-ea-3a-d5-0e-ec","signalStrength":-90},
{"macAddress":"10-fe-ed-36-40-46","signalStrength":-90},
{"macAddress":"b2-48-7a-dd-2e-37","signalStrength":-91}
]
}



- zahtjev je upućen na URL www.google
  POST
- zahtjev – wifi hotspot + uključen wifi


```
POSTDATA={"wifiAccessPoints":[
    {"macAddress":"cc-3a-61-d9-99-05","signalStrength":-34},
    {"macAddress":"00-0b-6b-85-1e-cf","signalStrength":-48},
    {"macAddress":"c8-3a-35-2c-a4-e8","signalStrength":-83},
    {"macAddress":"02-c0-ca-2f-5a-35","signalStrength":-84},
    {"macAddress":"40-40-40-2f-5a-35","signalStrength":-85},
    {"macAddress":"00-0b-6b-85-22-0e","signalStrength":-85},
    {"macAddress":"00-01-24-70-57-0a","signalStrength":-87},
    {"macAddress":"d8-5d-4c-f9-b0-48","signalStrength":-88},
    {"macAddress":"00-23-cd-c0-09-06","signalStrength":-88},
    {"macAddress":"b0-48-7a-dd-2e-37","signalStrength":-89},
    {"macAddress":"b2-48-7a-dd-2e-37","signalStrength":-89},
    {"macAddress":"00-0c-42-0c-60-cd","signalStrength":-92}
    ]
}
```


BEZ WI-FI. JA ETF

```
POSTDATA={
"version":"1.1.0",
"request_address":true,
"access_token":"2:0dWoQx6hDmJA5bUj:wb8SEggt39hvqAOZ"
"wifi_towers":[
        {
        "mac_address":"00-0b-6b-85-1e-2a",
        "ssid":"etf_drugisprat1",
        "signal_strength":-63
        },
        {
        "mac_address":"00-0b-6b-85-22-0e",
        "ssid":"etf_prvisprat1",
        "signal_strength":-91
        },
        {
        "mac_address":"00-0b-6b-85-1e-cf",
        "ssid":"etf_prvisprat2",
        "signal_strength":-77
        },
        {
        "mac_address":"00-0b-6b-85-21-d3",
        "ssid":"etf_drugisprat3",
        "signal_strength":-83
        },
        {
        "mac_address":"00-0b-6b-85-1e-f1",
        "ssid":"etf_prizemlje2",
        "signal_strength":-89
        }
]
}
```

```
POSTDATA={
"wifiAccessPoints":
[
{
"macAddress":"e8-de-27-d0-d3-1c",
"signalStrength":-42
},
{
"macAddress":"a0-f3-c1-c3-5f-f6",
"signalStrength":-59
},
{
"macAddress":"2e-95-7f-4d-70-a0",
"signalStrength":-80},
{
"macAddress":"82-f3-a3-84-d7-dc",
"signalStrength":-87},
{
"macAddress":"00-0b-6b-4d-73-12„,
"signalStrength":-88},
{
"macAddress":"78-96-82-54-8d-3c",
"signalStrength":-90}
]
}
```

geografska širina=44.77 geografska dužina=17.19

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WEB STORAGE

SESSION (WEB) STORAGE
LOCAL STORAGE
key value stores

WEB SOCKETS

ws protocol
wss protocokol
communication
connection
sockets

WEB WORKERS

thread like background parallel executing scripts on one page

SSE – SERVER SENT EVENTS

server message events and to client propagation, no sockets, no requests
[Bootstrap, jQuery, xQuery, Server Guava, Groovy, Jetty, Quel and all etc]

WEB SQL

Not active, but it's designed for web sql-like databases, on clients. Exists storages, no direct file systems access.

MICRODATA

specificira način ugrađivanja meta podataka unutar sadržaja web stranice
search engine-i, web crawler-i i browser-i mogu izdvojiti i procesirati Microdata podatke iz web stranice
name-value parovi
ova specifikcija predstavlja pokušaj da se obezbijedi jednostavniji način anotiranja HTML elemenata
machine-readable tagovima nego što je to slučaj sa postojećim pristupima (npr. RDF)

class, style, id, name
XSD, XML, XHTML, HTML
itemscpe, itemtype, itemid, itemprop, itemref

Microdata globalni atributi

- itemscope – "kreira" (označava) item i naznačava da će potomci ovog elementa (ugnježđeni) sadržavati informacije o njemu
- itemtype – validan URL rječnika koji opisuje item i njegove atribute
- itemid – označava jedinstveni identifikator item-a
- itemprop – označava da njegov sadržavajući tag sadrži vrijednost specificiranog atributa item-a. Ove vrijednosti su obično stringovi, ali mogu biti i URL adrese (a tag sa href atributom), img element i njegov src atribut ili drugi elementi koji linkuju eksterni resurs (ili ga ugrađuju u stranicu)
- itemref – atributi koji nisu potomci elementa sa itemscope atributom mogu se povezati sa Item-om korišćenjem ovog atributa. Obezbjeđuje listu id-eva elemenata (ne itemid-ova) sa dodatnim atributima koji se nalaze bilo gdje u dokumentu.

```
<section itemscope itemtype="http://data-vocabulary.org/Person">
   <h1 itemprop="name">Mickey Mouse</h1>
   <p>
         <img itemprop="photo"
   src="http://upload.wikimedia.org/wikipedia/en/d/d4/Mickey_Mouse.png">
   </p>
   <a itemprop="url"          href="http://en.wikipedia.org/wiki/Mickey_Mouse">Moja  stranica
   </a>
</section>
```

```
{
    "items": [
        {
            "type": [ "http://data-vocabulary.org/Person" ],
            "properties": {
                "name": [ "Mickey Mouse" ],
                "photo": [ "http://upload.wikimedia.org/wikipedia/en/d/d4/Mickey_Mouse.png" ],
                "url": [ "http://en.wikipedia.org/wiki/Mickey_Mouse" ]
            }
        }
    ]
}
```

HTML + RDFa 1.1

- HTML+RDFa 1.1 (Support for RDFa in HTML4 and HTML5)
  - W3C Recommendation 17 March 2015
  - http://www.w3.org/TR/html-rdfa/
- RDFa - Resource Description Framework in Attributes
- ova specifikacija uvodi skup attribute-level proširenja u HTML, XHTML i različite XML-bazirane tipove dokumenata radi ugrađivanja metapodataka unutar Web dokumenta
- Postoje dva tipa saglasnosti kriterijuma za HTML dokumente koji sadrže RDF semantičke elemente: HTML+RDFa i HTML+RDFa Lite
- Kriterijumi koji se primjenjuju na svaki HTML dokument koji sadrži RDFa markup elemente:
  - svi obavezni kriterijumi za HTML5 dokumentom navedeni u HTML5 specifikaciji moraju biti ispunjeni
  - odgovarajuća proširenja HTML5 sintakse, opisana u HTML+RDFa 1.1 specifikaciji moraju se smatrati validnim
  - svi HTML5 elementi i atributi moraju biti korišteni prema HTML5 specifikaciji. Svi RDFa atributi moraju biti korišteni u skladu sa RDFa CORE specifikacijom i HTML+RDFa 1.1

- Primjer

```
<!DOCTYPE html>
<html lang="en">
   <head>
     <title>HTML5 + RDFa</title>
   </head>
   <body vocab="http://schema.org/">
      <p typeof="Blog"> Dobrodošli na moj <a property="url"
   href="http://example.org/">blog</a>. </p>
   </body>
</html>
```

MATH ML

Često korišćeni tagovi:

- <mi>x</mi> - identifikatori
- <mo>+</mo> - operatori
- <mn>2</mn> - brojevi
- <mtext>non zero</mtext> - tekst
- <mrow> - red
- <msup> - superscript
- <munderover> - limiti, gornje i donje granice
- <mfrac> - dijeljenje
- <msqrt> - kvadratni korijen
- <mroot> - korijen
- <mfenced> - okruživanje sadržaja zagradama

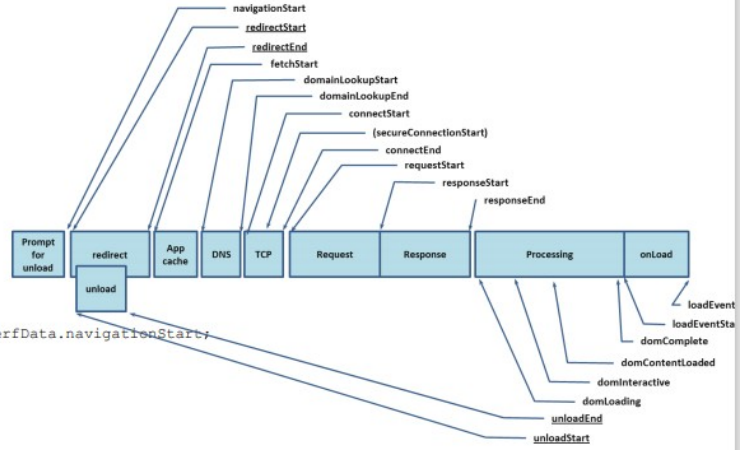
WOFF Fint Format

Online fonts
Computer fonts
Server fonts
WOFF Server fonts

NAVIGATION TIMING

- Navigation Timing
  - W3C Recommendation 17 December 2012
  - http://www.w3.org/TR/navigation-timing/
- ova specifikacija definiše interfejs putem kojeg web aplikacije mogu pristupiti podacima koje se mogu koristiti za mjerenje performansi web sajta
- Događaji kojima se može pristupiti putem PerformanceTiming interfejsa, dati u redoslijedu pojavljivanja:
  - navigationStart
  - unloadEventStart
  - unloadEventEnd
  - redirectStart
  - redirectEnd
  - fetchStart
  - domainLookupStart
  - domainLookupEnd
  - connectStart
  - connectEnd
  - secureConnectionStart
  - requestStart
  - responseStart
  - responseEnd
  - domLoading
  - domInteractive
  - domContentLoadedEventStart
  - domContentLoadedEventEnd
  - domComplete
  - loadEventStart
  - loadEventEnd

```
var perfData = performance.timing;
var pageLoadTime = perfData.loadEventEnd- perfData.navigationStart;
```



Drag and drop je dio HTML5 specifikacije i definiše event-based drag-and-drop mehanizam

Ovaj dio specifikacije ne definiše precizno šta je to drag-and-drop operacija

Primjer:

- drag operacija – mousedown event koji je praćen serijom mousemove event-a
- drop operacija – trigerovana događajem puštanja miša (mouseup event)