HTML5 API

HTML5 API

- Bukan merupakan HTML murni -> memerlukan script
- HTML5 API:
  - HTML Geolocation
  - HTML Drag/Drop
  - HTML Local Storage
  - HTML App Cache
  - HTML Web Workers
  - HTML SSE (Server-Sent Events)

Geolocation

- Digunakan untuk mengetahui lokasi pengguna.
- Perlu persetujuan dari pengguna dikarenakan dapat mengganggu privacy.

```html
<body>

<p>Click the button to get your coordinates.</p>
<button onclick="getLocation()">Try It</button>
<p id="demo"></p>

<script>
var x = document.getElementById("demo");

function getLocation() {
    if (navigator.geolocation) {
        navigator.geolocation.getCurrentPosition(showPosition);
    } else {
        x.innerHTML = "Geolocation is not supported by this browser.";
    }
}

function showPosition(position) {
    x.innerHTML = "Latitude: " + position.coords.latitude +
    "<br>Longitude: " + position.coords.longitude;
}
</script>

</body>
```

Drag & Drop

- Fungsi drag & drop merupakan bagian dari standart html5.
- Semua elemen dalam dokumen html5 dapat dikenakan fungsi ini.
- Semua browser modern sudah support fitur ini.

```html
<head>
  <script>
   function allowDrop(ev) {
      ev.preventDefault();
   }

   function drag(ev) {
      ev.dataTransfer.setData("text", ev.target.id);
   }

   function drop(ev) {
      ev.preventDefault();
      var data = ev.dataTransfer.getData("text");
      ev.target.appendChild(document.getElementById(data));
   }
  </script>
</head>
<body>
  <div id="div1" ondrop="drop(event)"
      ondragover="allowDrop(event)"></div>

  <img id="drag1" src="img_logo.gif" draggable="true"
      ondragstart="drag(event)" width="336" height="69">
</body>
```

Local Storage

- Digunakan untuk menyimpan data secara lokal.
- Mirip seperti cookies tapi lebih aman dan lebih besar
- Disimpan per origin (domain dan protokol)

```html
<body>

<div id="result"></div>

<script>
// Check browser support
if (typeof(Storage) !== "undefined") {
    // Store
    localStorage.setItem("lastname", "Smith");
    // Retrieve
    document.getElementById("result").innerHTML =
localStorage.getItem("lastname");
} else {
    document.getElementById("result").innerHTML = "Sorry, your
browser does not support Web Storage...";
}
</script>

</body>
```

```html
<div id="hasil"></div>

<script>
document.getElementById("hasil").innerHTML =
localStorage.getItem("lastname");
</script>
```

App Cache

- Digunakan untuk menyimpan aplikasi web secara lokal
- Keuntungan:
  - Offline browsing
  - Kecepatan
  - Mengurangi beban kerja server (browser hanya mendownload resource yang berubah saja)

```html
<!DOCTYPE html>
<html manifest="demo_html.appcache">
<body>

<script src="demo_time.js"></script>

<p id="timePara"><button onclick="getDateTime()">Get Date and Time</button></p>

<p><img src="img_logo.gif" width="336" height="69"></p>

<p>Try opening <a href="tryhtml5_html_manifest.htm" target="_blank">this page</a>, then go offline, and reload the page. The script and the image should still work.</p>

</body>
</html>
```

Web Worker

- Ketika browser menjalankan javascript dalam sebuah halaman web, maka halaman web tersebut menjadi tidak responsive.
- Web Worker merupakan javascript yang berjalan di-background, tanpa mempengaruhi performa aplikasi web.

```html
<body>

<p>Count numbers: <output id="result"></output></p>
<button onclick="startWorker()">Start Worker</button>
<button onclick="stopWorker()">Stop Worker</button>

<script>
var w;

function startWorker() {
    if(typeof(Worker) !== "undefined") {
        if(typeof(w) == "undefined") {
            w = new Worker("demo_workers.js");
        }
        w.onmessage = function(event) {
            document.getElementById("result").innerHTML = event.data;
        };
    } else {
        document.getElementById("result").innerHTML = "Sorry, your browser does not support
Web Workers...";
    }
}

function stopWorker() {
    w.terminate();
    w = undefined;
}
</script>

</body>
```

```javascript
// demo_workers.js
var i=0;

function timedCount()
{
i=i+1;
postMessage(i);  //posts a message back to the HTML page.
setTimeout("timedCount()",500);
}

timedCount();
```

Server-Sent Event

- Server meng-update halaman web secara otomatis.
- Contoh: facebook, gmail, twitter, dll.

```html
<body>

<h1>Getting server updates</h1>
<div id="result"></div>

<script>
if(typeof(EventSource) !== "undefined") {
    var source = new EventSource("demo_sse.php");
    source.onmessage = function(event) {
        document.getElementById("result").innerHTML += event.data + "<br>";
    };
} else {
    document.getElementById("result").innerHTML = "Sorry, your browser does not support server-sent events...";
}
</script>

</body>
```

```php
<?php
date_default_timezone_set("America/New_York");
header("Content-Type: text/event-stream\n\n");

$counter = rand(1, 10);
while (1) {
  // Every second, sent a "ping" event.

  echo "event: ping\n";
  $curDate = date(DATE_ISO8601);
  echo 'data: {"time": "' . $curDate . '"}';
  echo "\n\n";

  // Send a simple message at random intervals.

  echo 'data: This is a message at time ' . $curDate . "\n\n";

  ob_flush();  flush();  sleep(5);
}
?>
```

Belajar Lebih Lanjut?

- http://www.w3schools.com/html/default.asp
- Google
- Youtube