JavaScript APIs

HTML5

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standards.next
JavaScript APIs

HTML5 & friends!

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standards.next
HTML5: 2022?
Bollocks.
APIs

- Canvas
- Drag & Drop
- History
- Inline Editing
- Messaging
- Offline Apps
- Video & Audio

- Geolocation
- Local Storage
- Selectors
- Server Events
- Web Sockets
- Workers
APIs

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Of line Apps
Documentation
www.whatwg.org/html5/
dev.w3.org/html5/
irc://irc.freenode.net/#whatwg
The `showModalDialog(url, title)` method allows the user agent to run the following steps:

1. **Resolve** `url` relative to the current context.

If this fails, then throw a `SecurityError` exception.

3. If the user agent is configured to somehow disable this feature, then return an `AbortError` exception.

**Note:** User agent guidelines recommend supporting this feature.

Latest Internet Explorer beta: passes all the available test cases for this feature.
The `showModalDialog(url, title)` method should be understood by the agent to run the following steps:

1. **Resolve** `url` relative to the base URI of the document.

   If this fails, then throw an error.

3. If the user agent is configured such that `storage` is somehow disabled, then throw an error.

   **Note:** User agents are not required to support this method.
HTML CAN NOT

DO THAT!!!1!!
Drag & Drop

• `draggable="true"`
• `events: dragstart, drop, etc`
• `event.transferData`
<div draggable="true">drag me</div>

<script>
document.querySelector('div').addEventListener("dragstart",
    function (e) {
        e.dataTransfer.setData("arbitrary","data");
        return true;
    },
    true);
</script>
<div draggable="true">drag me</div>

<script>
  document.querySelector('div').addEventListener('dragstart',
    function (e) {
      e.dataTransfer.setData("arbitrary","data");
      return true;
    },
  true);
</script>
el.addEventListener('dragover', function (e) {
    e.preventDefault();
}, true);

el.addEventListener('drop', function (e) {
    e.stopPropagation();
    alert(e.dataTransfer.getData('arbitrary'));
}, true);
el.addEventListener('dragover', function (e) {
    e.preventDefault();
}, true);

el.addEventListener('drop', function (e) {
    e.stopPropagation();
    alert(e.dataTransfer.getData('arbitrary'));
}, true);
el.addEventListener('dragover', function (e) {
  e.preventDefault();
}, true);

el.addEventListener('drop', function (e) {
  e.stopPropagation();
  alert(e.dataTransfer.getData('arbitrary'));
}, true);
Offline Applications
Offline Apps

- Application cache
- Events: offline, online
- navigator.onLine property
Enable

<html
manifest="my.manifest"
>

my.manifest

CACHE MANIFEST
images/shade.jpg
images/bin.jpg
Cache

• **First line:** CACHE MANIFEST

• **Requires** text/cache-manifest

• **Recommend using versioning**

• `window.applicationCache`
Cache

- On load will hit my.manifest
Cache

• On load will hit my.manifest

• Change manifest: trigger reload
Cache

• On load will hit my.manifest
• Change manifest: trigger reload
• applicationCache.update() force
Cache

• On load will hit my.manifest
• Change manifest: trigger reload
• `applicationCache.update()` force
• Cache events
Offline Application: using manifest

Status of cache:

IDLE (numeric value 1) -- The ApplicationCache object's cache host is associated with an application cache whose application cache group's update status is idle, and that application cache is the newest cache in its application cache group, and the application cache group is not marked as obsolete.

Update cache status

Update cache to latest

HTML5 demo
Offline Application: using manifest

Status of cache:

IDLE (numeric value 1) -- The ApplicationCache object's cache host is associated with an application cache whose application cache group's update status is idle, and that application cache is the newest cache in its application cache group, and the application cache group is not marked as obsolete.

Update cache status

Update cache to latest

HTML5 demo
Content Encoding Error

The page you are trying to view cannot be shown because it uses an invalid or unsupported form of compression.

- Please contact the web site owners to inform them of this problem.

Try Again
window.addEventListener('offline', // online too
  online, // function
  true
);
function online() {
    if (navigator.onLine == false) {
        // gone offline
    } else {
        // else we're online
    }
}
Connectivity Monitoring

Current network status: checking...

HTML5 demo

http://html5demos.com/offline
Geolocation
Geolocation
Not always accurate!
Geolocation
Finding your location: checking...

“http://html5demos.com” Would Like To Use Your Current Location
Don’t Allow  OK

Finding your location: found you!
navigator.geolocation.getCurrentPosition(success, err);
```javascript
undefined latitude=51.500152 longitude=-0.126236
```

undefined latitude=51.500152 longitude=-0.126236

- CONTENT_NODE: 64
- DOM_OBJECT: 8
- EAGER_CLASSINFO: 32
- MAIN_THREAD_ONLY: 4
- PLUGIN_OBJECT: 16
- RESERVED: 2147483648
- SINGLETON: 1
- THREADSAFE: 2
- accuracy: 140000
- altitude: 0
- altitudeAccuracy: 0
- classDescription: "wifi geo position coords object"
- classID: null
- contractID: ""
- flags: 8
- heading: 0
- implementationLanguage: 2
- latitude: 51.500152
- longitude: -0.126236
- speed: 0
Messaging
Messaging

• Communicate across domains
• Across window object
• With Workers
• String transfer only
Cross Domain

document
  .getElementById("iframe")
  .contentWindow
  .postMessage("my message");
window.addEventListener(
    "message",
    function(e){
        if (e.origin !== "http://example.com") {
            return;
        }
    }\
    alert(e.origin + " said: " + e.data);
},
false
);
Web Workers
Web Workers
Threads
• Threads
• Native or via Gears
• Threads
• Native or via Gears
• Sandboxed
• Threads
• Native or via Gears
• Sandboxed
• Debugging?
Without

Canvas
Canvas is running whilst an infinite loop in a worker
Counter status: 109005500 100 iterations

Slow Script
Safari is no longer responding because of a script on the webpage "HTML5 Demo: canvas" (file:///Users/remy/Dropbox/Talks/HTML5%20JavaScript%20APIs/demos/non-worker.html). Do you want to stop running the script, or let it continue?

Stop  Continue
Storage
Storage
1. sessionStorage
1. sessionStorage
2. localStorage
1. sessionStorage
2. localStorage
3. database storage
Storage

sessionStorage.setItem(key, value)

sessionStorage.getItem(key)
Storage

localStorage.setItem(key, value)
localStorage.getItem(key)