Tizen Web Runtime.
Device API

Что нового в html5

- Элементы разметки:
  - article, nav, header, footer...
- Поддержка API
  - 2D drawing
  - video, audio
  - Offline web
  - Drag and Drop
  - File API
  - Геолокация
  - Базы данных (key-value)

Html + javascript

hello.html

```html
<!DOCTYPE html>
<html>
 <head>
  <script src="test.js"></script>
 </head>
 <body>
Html+js hello world
 </body>
</html>
```
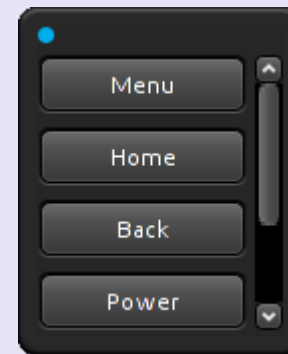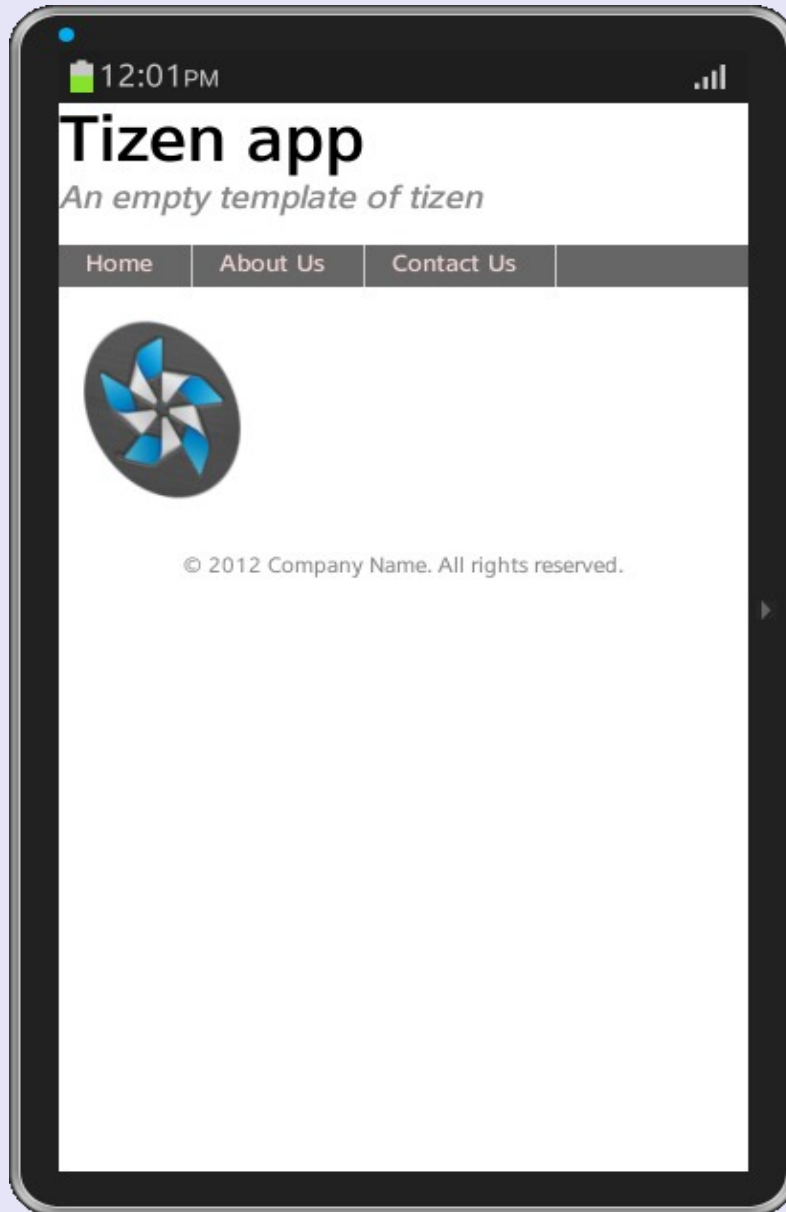
test.js

```javascript
var init = function() {
    alert("Hello world");
}

window.onload =init;
```

Hello world

Tizen app

An empty template of tizen

Home	About Us	Contact Us

Hello world details

- in HTML

```
<img id="logo" src="images/tizen_32.png" alt="Tizen logo">
```

- in main.js

```
var image = document.getElementById("logo");
image.style.webkitTransform
   = ('rotateX(' + anglex * 1.2 + 'deg)') + ('rotateY(' + angley * 1.2 + 'deg)');
```

Device API overview

- Tizen (Common)
- Communication
- Social
- Content
- Input/Output
- System
- Application
- User interface (notifications)

Privileges

Privileges

Managing the Privileges

'tizen:privilege' element indicates what sensitive A[...]

Name
http://tizen.org/privilege/application.launch
http://tizen.org/privilege/content.read
http://tizen...
http://tizen...
http://tizen...

Add privilege

Add privilege to 'filemanager'

Add privilege to the widget project

◯ Internal:

http://tizen.org/privilege/alarm
...en.org/privilege/application.info
...en.org/privilege/appmanager.certificate
...en.org/privilege/appmanager.kill
...en.org/privilege/bluetooth.admin
...en.org/privilege/bluetooth.gap
...en.org/privilege/bluetooth.health

Browse...

Cancel   Finish

kill

Kills an application with the specified application conte[...]

```
void kill(ApplicationContextId co[...]
successCallback, optional ErrorCall[...]
```

Since: 2.0

The *ErrorCallback()* is launched with these error types:

- NotFoundError - If the context is not found with[...]
- InvalidValuesError - If any of the input paramete[...]
  ID matches the context ID of the calling applica[...]
- UnknownError - If any other error occurs.

Privilege level: partner

Privilege: http://tizen.org/privilege/appmanager.kill

Parameters:

app.model.js
app.systemIO.js
app.ui.js
app.ui.template
app.ui.template
main.js
templates
tizen-web-ui-fw
AUTHORS
config.xml
icon.png
index.html
LICENSE.Flora
NOTICE
nagerot
ensorball
nglepage
JavaScript Resour

Overview | Widget | Features | Privileges | Policy | Loc

Problems   Console   Pages   Declaration

Privilege levels

- *Public* – open to all Tizen application developers

- *Partner* – can only be used by developers registered as partners on the Tizen store

- *Platform* – can be used by system APIs for managing the Tizen platform

Tizen API

- Basic definitions and interfaces
- Contains:
    - filters
        - attribute
        - attribute range
        - composite
    - sorting modes
    - Web API
        - errors/exception handlers
        - callbacks

Filter example

```javascript
// Define success callback
function successCallback(events) {
  console.log(events.length + " events today.");
}

// Define error callback
function errorCallback(error) {
  console.log("An error occurred: " + error.message);
}

// Create an attribute range filter based on
// event start date: "All events occurring today".
var now_dt = tizen.time.getCurrentDateTime();
var today_begin =
 new tizen.TZDate(now_dt.getFullYear(), now_dt.getMonth(), now_dt.getDate());
var today_end =
 today_begin.addDuration(new tizen.TimeDuration(1, "DAYS"));
var filter =
 new tizen.AttributeRangeFilter("startDate", today_begin, today_end);

// Send a search request to default event calendar.
tizen.calendar.getDefaultCalendar("EVENT").find(successCallback, errorCallback, filter);
```

Application API

- Implements Application and Application context management:
    - get information about application/context
    - launch/kill
    - list of installed apps
    - application events callback
        - oninstalled
        - onuninstalled
        - onupdated

Application example

```javascript
// Get application name
var appInfo = tizen.application.getAppInfo(null);
console.log("Current application name : " + appInfo.name);


// Hide current application
var app = tizen.application.getCurrentApplication();
app.hide();
```

Example: Application API

```html
<form id="application">
    <label for="app name">Name of application</label>
    <input id="appname">
    <button onclick="runApplication()">Run</button>
</form>
```

```javascript
var appname = document.getElementById("appname").value;
tizen.application.launch(appname, success, failure);
```

Communication API

- Bluetooth
- Messaging: SMS, MMS, E-mails
- NFC
- Push notifications
- *secure elements access

Communication example

```javascript
// Define the callbacks
function messageSent(recipients) {
  console.log("The SMS has been sent");
}

function messageFailed(error) {
  console.log("The SMS could not be sent " + error.message);
}

function serviceErrorCB(error) {
  console.log("Cannot get messaging service " + error.message);
}

function serviceListCB(services) {
  if (services.length > 0) {
    // SMS sending example
    var msg = new tizen.Message("messaging.sms",
                          {plainBody:"I will arrive in 10 minutes.",
                           to:["+479218777222"]});
    // Send request
    services[0].sendMessage(msg, messageSent, messageFailed);
  }
}

// Get access to sms messaging service
tizen.messaging.getMessageServices("messaging.sms", serviceListCB, serviceErrorCB);
```

Content API

- Access to media files (audio, video, image,...)
- ContentManager – global tizen object
  - browsing content
  - view and update
  - update notifications
- DownloadRequest – interface for downloading content from the web.

Download example

```javascript
var listener = {
  onprogress: function(id, receivedSize, totalSize) {
    console.log('Received with id: ' + id + ', ' + receivedSize + '/' + totalSize);
  },
  onpaused: function(id) {
    console.log('Paused with id: ' + id);
  },
  oncanceled: function(id) {
    console.log('Canceled with id: ' + id);
  },
  oncompleted: function(id, fullPath) {
    console.log('Completed with id: ' + id + ', full path: ' + fullPath);
  },
  onfailed: function(id, error) {
    console.log('Failed with id: ' + id + ', error name: ' + error.name);
  }
};

// Starts downloading of the file from the Web with the corresponding callbacks.
var downloadRequest =
 new tizen.DownloadRequest("http://download.tizen.org/tools/README.txt", "documents");
downloadId = tizen.download.start(downloadRequest, listener);
```

Input/Output API

- Filesystem:
  - collection of disjointed filesystem virtual root locations, each corresponding to a specific location in the device filesystem

- MessagePort
  - interracts as local IPC(Inter-Process-Communication) mechanism.

Filesystem example

```javascript
function onsuccess(files) {
    for(var i = 0; i < files.length; i++) {
        // alerts each name of dir's contents
        console.log(files[i].name);
    }
}

function onerror(error) {
    console.log("The error " + error.message +
                " occurred when listing the files");
}

// list directory contents
dir.listFiles(onsuccess, onerror);
```

MessagePort example

```javascript
// Sends message
var localMsgPort =
  tizen.messageport.requestLocalMessagePort('MessagePortA');
var remoteMsgPort =
  tizen.messageport.requestRemoteMessagePort('appId.App1', 'MessagePortB');
localMsgPort.addMessagePortListener(function(items, remoteport) {
  // ...
  if(remoteport !== null) {
    remoteport.sendMessage([{key:'RESULT', value:'OK'}]);
  }
});


remoteMsgPort.sendMessage(
  [
    { key:'CMD', value:'openWindow' },
    { key:'OPTION', value:'bx' }
  ]
  , localMsgPort)
```

System API

- General system information
- Power status
- System settings (wallpapers and ringtones)
- Date/Time
- Web settings (cookies, ...)

Social API

- Management for
    - web bookmarks
    - calendars, events, tasks
    - call history
    - contacts
    - supports Open Mobile Alliance data synchronization protocol.

Calendar example

```javascript
// Defines the error callback.
function errorCallback(response) {
  console.log( 'The following error occurred: ' +  response.name);
}

function addEventsSuccess(events) {
  console.log("Successfully added " + events.length + " events!");
}

// Gets the default calendar
var calendar = tizen.calendar.getDefaultCalendar("EVENT");

var ev = new tizen.CalendarEvent({description:'Tizen training',
                          summary:'Tizen intro ',
                          startDate: new tizen.TZDate(2013, 9, 30, 13, 30),
                          duration: new tizen.TimeDuration(2, "HOURS"),
                          location:'Saint-Petersburg'});

calendar.addBatch([ev], addEventsSuccess, errorCallback);
```

System API example

```javascript
function onSuccessCallback(battery) {
    console.log("Low battery:  " + battery.level);
}


tizen.systeminfo.addPropertyValueChangeListener(
    "BATTERY", onSuccessCallback, {lowThreshold : 0.2});
```

Example: deviceOrientation

```
interface DeviceOrientationEvent : Event {
readonly attribute double? alpha;
readonly attribute double? beta;
readonly attribute double? gamma;
readonly attribute boolean absolute;
void initDeviceOrientationEvent(in DOMString type,
                                in boolean bubbles,
                                in boolean cancelable,
                                in double? alpha,
                                in double? beta,
                                in double? gamma,
                                in boolean absolute);
}
```

```
window.addEventListener("deviceorientation", handleDeviceOrientation, false);
```

Example: canvas

```html
<canvas id="canvas" width="300" height="300"></canvas>
```

```javascript
canvas = document.getElementById("canvas");
context = canvas.getContext("2d");

//canvas.width = 400;
//canvas.height = 400;

context.clearRect(0, 0, context.canvas.width, context.canvas.height);

context.lineWidth = 4;
//context.moveTo(...);
//context.lineTo(points[i].x,points[i].y);

context.stroke();
```

Questions

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