mbedJS

2014/12/14 MiMic project
http://nyatla.jp/mimic/wp/
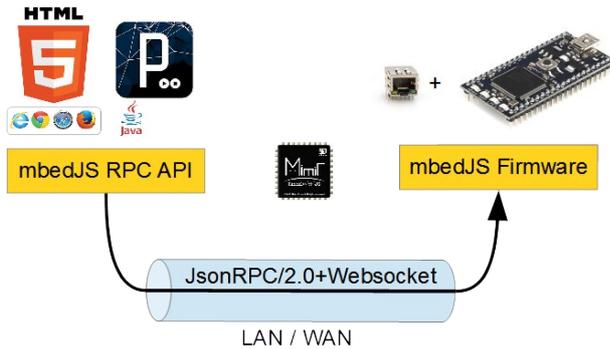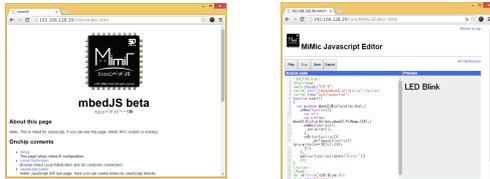
mbedJS

mbedJS is a onechip webservice software for Web of things by MiMic project. mbedJS will allow to control mbed platform by Browser with Javascropt API.

mbedJS is equipped with an on-chip content. Simple development environment, network configuration, and file system browser.
All of the system will be available by simply access via Browser.

Sample HTML contents

HTML+JavaScript

You can control the device directly from the HTML content on standard browser. Open the following content from the browser, you can be blinking the LED of mbed.

```html
<!DOCTYPE html>
<html><head><meta charset="UTF-8">
<script src="/rom/m/mbedJS.all-min.js"></script>
<script type="text/javascript">
function start()
{
  var mcu=new mbedJS.Mcu(location.host,{
    onNew:function(){
      var v=1;
      var pin=new mbedJS.DigitalOut(mcu,mbedJS.PinName.LED1,{
      onNew:function(){
        pin.write(1);
      },
      onWrite:function(){
          setTimeout(function(){pin.write((v++)%2);},100);
      }});
    },
    onError:function(){alert("Error!");}
  });
}
</script>
</head>
<h1 id="title">LED Blink</h1>
<body onload="start()">
</body></html>
```
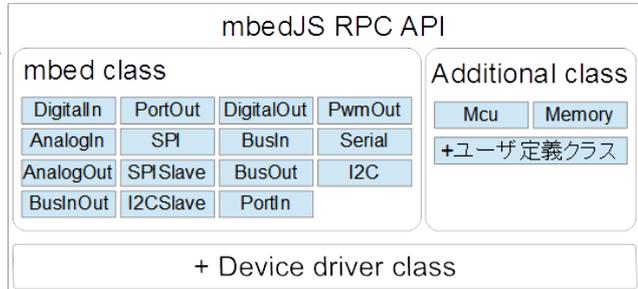
Features

API similar to mbedSDK

The JavaScriptAPI of mbedJS has basic classes of mbedSDK, and additional RPC classes. In addition, some script driver for the popular peripherals are exist.
Basic classes has same functions as in mbedSDK.

Web of Things

mbedJS interface is JsonRPC / 2.0 on the onchip WebSocket server. It is accessible from web browser, and Java, processing.
All of these is made with pure Web technology.
In the communication via the Internet, It is able to use directly the existing Web infrastructure.

High Spped API

mbedJS has low latency IP stack that can respond to 1kHz more RPC function call.

Zero configuration network

mbedJS supports two major zero-configuration network. (UPnP / 1.1, Bonjour) Windows exploler and MacOS safari browser can find out mbedJS devices from network.

Network SDK

mbedJS firmware is very short program.
Firmware is built with MiMiSDK. It allows the user to easily hacking.

Multimedia

mbedJS is a system with a focus on browser.
Developers will be able to handle in the same way the hardware and multimedia contents and online service on web contents.
You can add easily hardware into part of the multi-media content.

References

Quick Start manual
> http://mimic.sourceforge.jp/doc/pdf/mbedJS.quickstart.en.pdf
> http://mimic.sourceforge.jp/doc/pdf/mbedJS.quickstart.ja.pdf

javascriptAPI
> http://mimic.sourceforge.jp/doc/mbedjs/current/

javascriptAPI(device driver)
> http://mimic.sourceforge.jp/doc/mbedjs.driver/current/

processing API
> http://mimic.sourceforge.jp/doc/mbedjs.psg/current/