

Fingerprint API Guide

1. Introduction.

This API guide contains source code integration guidelines with example source code for ACPL FM220U L1 devices.

2. Pre-requisites.

- Install Capture Agent API setup provided.
- To use this API with FM220U L1 device, please download and install `Windows Certified RD Service For L1 Devices` from <https://www.acpl.in.net>.

3. Integration Guide.

- Sample HTML pages are already provided which contains JavaScript code to consume API.
- Please find below description of functions.

1. Scan Fingerprint
 - a. This function will request API to capture fingerprint using FM220 device.

```
function captureFP() {  
    callerfun("https://localhost:4443/FM220/gettmpl",  
        function (result) {  
            SuccessFunc(result);  
        });  
}
```

- b. Here please refer `callerfun(...)` caller function description in documentation.
 - c. On successful completion, `SuccessFunc(..)` will be called.

```

function SuccessFunc(result) {
    if (result.errorCode == 0) {
        /* Display BMP data in image tag
           BMP data is in base 64 format
        */
        if (result != null && result.bmpBase64.length > 0) {
            document.getElementById("FPImage1").src = "data:image/bmp;base64," + result.bmpBase64;
        }
        document.getElementById("tmplval").value=result.templateBase64;
        var tbl = "<table border=1>";
        tbl += "<tr>";
        tbl += "<td> Serial Number of device </td>";
        tbl += "<td> <b>" + result.serialNumber + "</b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        tbl += "<td> DC </td>";
        tbl += "<td> <b>" + result.dc + "</b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        tbl += "<td> Model / MI </td>";
        tbl += "<td> <b>" + result.mi + "</b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        tbl += "<td> Image Height</td>";
        tbl += "<td> <b>" + result.imageHeight + "</b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        tbl += "<td> Image Width</td>";
        tbl += "<td> <b>" + result.imageWidth + "</b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        tbl += "<td> Image Resolution</td>";
        tbl += "<td> <b>" + result.imageDPI + "</b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        tbl += "<td> NFIQ (1-5)</td>";
        tbl += "<td> <b>" + result.NFIQ + "</b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        tbl += "<td> Template(base64)</td>";
        tbl += "<td> <b> <textarea rows=8 cols=50>" + result.templateBase64 + "</textarea></b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        tbl += "<td> Image (base64)</td>";
        tbl += "<td> <b> <textarea rows=8 cols=50>" + result.isoImgBase64 + "</textarea></b> </td>";
        tbl += "</tr>";

        tbl += "</table>";
        document.getElementById('result').innerHTML = tbl;
    }
    else {
        document.getElementById('result').innerHTML = "";
        alert("Fingerprint Capture ErrorCode " + result.errorCode + " Desc :-"+result.status);
    }
}

```

2. Match Fingerprint

- This function will request API to match fingerprint using FM220 device with provided template in request.

```
function MatchFP() { // you can add , separted list of base64
template for multiple match.
    callerfun(
        "https://localhost:4443/FM220/GetMatchResult?MatchTpl="+
        encodeURIComponent(document.getElementById("tmplval").
        value.toString()),
        function (result) {
            SuccessMatch(result);
        });
}
```

- Here please refer `callerfun(...)` caller function description in documentation.
- On successful completion, `SuccessMatch(..)` will be called.

```
function SuccessMatch(result) {
    if (result.errorCode == 0) {
        /* Display BMP data in image tag
        BMP data is in base 64 format
        */
        if (result != null && result.bmpBase64.length > 0) {
            document.getElementById("FPImage1").src = "data:image/bmp;base64," + result.bmpBase64;
        }
        var tbl = "<table border=1>";
        tbl += "<tr>";
        tbl += "<td> Serial Number of device </td>";
        tbl += "<td> <b>" + result.serialNumber + "</b> </td>";
        tbl += "</tr>";
        tbl += "<tr>";
        if (result.matchSuccess) {
            tbl += "<td> Match Result</td>";
            tbl += "<td> <b> <textarea rows=2 cols=50> Matching Success. Match Score is :- "+result.matchScore.toString()+"</textarea></b> </td>";
        } else {
            tbl += "<td> Match Result</td>";
            tbl += "<td> <b> <textarea rows=2 cols=50> Matching Failed. Match Score is :- "+result.matchScore.toString()+"</textarea></b> </td>";
        }
        tbl += "</tr>";

        tbl += "</table>";
        document.getElementById('result').innerHTML = tbl;
    }
    else {
        document.getElementById('result').innerHTML = "";
        alert("Fingerprint Capture ErrorCode " + result.errorCode + "Desc :-"+result.status);
    }
}
```

3. Caller Function

- a. This function is used by above 'SCAN' and 'MATCH' functions to send requests to API.

```
function callerfun(url, callback) {
    var xhr;
    if (window.XMLHttpRequest) {
        try {
            xhr = new XMLHttpRequest();
            xhr.open('GET', url, true);
        } catch (e) {
            xhr = new ActiveXObject("Microsoft.XMLHTTP");
            xhr.open('GET', url, true);
        }
    } else {
        xhr = new ActiveXObject("Microsoft.XMLHTTP");
        xhr.open('GET', url, true);
    }

    xhr.onreadystatechange = function () {
        if (xhr.readyState == 4) {
            if (xhr.status == 200) {
                callback(JSON.parse(xhr.response));
            } else {
                callback(status);
            }
        }
    };
    xhr.overrideMimeType("application/json");
    xhr.send();
};
```