



Silicon Wireless Systems Pvt. Ltd.

This document describes the Transmit and Receive communication protocol between Dynamic Face Recognition Device and the Web Server Application over HTTP POST.



Host the SDK/Server Application to public domain.

Example: face.appstime.in

1. Dynamic Face Device Configuration (SWS108R)

Power On Device, Touch the Screen, Press ESC

Click Settings Icon

DevSet => Set COMM => Net Mode => Internet

=> Server Set => DNS => Yes

=> SerPortNo => 80

=> Time Out => 3

=> Ethernet => Link Net => WIFI

=> DHCP => Yes

=> Search Ap => (Select Router and Enter Password)

Configure DNS (Ex: face.appstime.in) using NetSet

2. Face Device Configuration (SWS098R)



Silicon Wireless Systems Pvt. Ltd.

System => Comm => Mode=> Internet

=> Server => Server => face.appstime.in

=> SN => 1122301

Device with Wifi Communication:

=> WiFi => Enable => Yes

=> Search => (Select Router and Enter Password)

=> DHCP => Yes

Device with Ethernet Communication:

=> Ethernet => Enable => Yes

=> DHCP => Yes

3. Ping Request From Device to Server (With Device Info)

Attendance machine will send HTTP request to WEB server at regular intervals and receives response with next action. Following is the format in details.

Field name	Field meaning	Necessary options	restrictions	Detailed instructions
request_code	Demand_code	must	Must be a string as "receive_cmd"	Indicating the machine asks WEB server.
dev_id	Identification number for machine	must	The number of words, maximum 24bits	All the attendance machine having connected to the same WEB server, must have a unique identification number.
Content-type	MIME type	must	"application/octet-stream"	Content-Type generally refers to the one existing in web page, which is used to define the type of network and web page code, determine what form the browser will be in and what code to read the file.
Content-Length	The length of message transmission	must	Number	Content-Length must comply with the transmission length of message exactly.

Example, HTTP header and Body request sent from machine to the server

Silicon Wireless Systems Pvt. Ltd., Plot No 367, Ramakrishna Nagar, Chengicherla, Hyderabad - 92.
Phone: +91-9642893089, contact@siliconwireless.in, www.siliconwireless.in



Silicon Wireless Systems Pvt. Ltd.

HTTP Header:

POST / HTTP/1.0

Accept: image/gif, image/x-bitmap, image/jpeg, image/pjpeg, application/vnd.ms-excel, application/msword, application/vnd.ms-powerpoint, */*

Accept-Language: en-us

Accept-Encoding: gzip, deflate

User-Agent: Mozilla/4.0

Connection: close

Content-Type: application/octet-stream

Content-Length: 201

request_code: receive_cmd

dev_id: 001

HTTP Body (Two dimensional array):

The content of string in body.

```
{
    "fk_name": ,
    "fk_time": ,
    "fk_info":
    {
        "supported_enroll_data": ,
        "fk_bin_data_lib": ,
        "firmware":
    }
}
```

Fields Description:

fk_name: Name of the machine

fk_time: HTTP request time of machine, format YYMMDDhhmmss

fk_info: The machine information.

supported_enroll_data: the type of registration data used by machine. For instance, if use fingerprint data, it would be FP.

fk_bin_data_lib: explaining dynamic library name used when uploading binary data.

such as, FKDataHS001 means that if there is a need of explaining binary data, name FKDataHS001 will be used.

firmware: Firmware version of the machine.

Example, fk_info

```
{
    "supported_enroll_data": ["FP","PASSWORD","IDCARD","FACE"],
    "fk_bin_data_lib": "FKDataHS001",
    "firmware": "FK725HS001"
}
```



4. Server response for Device PING request (with Command)

The server will check if there are some instructions aiming at the machine after having receiving the request from device and send the response.

It contains below information in response header and response body.

Field name	field meaning	Necessary options	Restriction	Detailed instructions
response_code	Response code	Must	number, maximum 64bits The capital form of English letter	The result of receiving instructions OK : success ERROR : failure
trans_id	Task recognition number	optional	number, maximum 16bits	Identified number of tracking the instruction executed process
cmd_code	Order identification number	optional	number, maximum 32bits The capital form of English letter	Indicating the type of instructions Such as : GET_ENROLL_DATA
Content-type	MIME type	Must	Must be below string "application/octet-stream"	Content-Type general indicates the one existing in web page, which is used to define the type of network files and web page code, decide what form the browser will be in and the code to read the file. Those are the reasons why some results often seem clicked in many Asp web page but finally they were downloaded to a file or a picture.
Content-Length	Transmission length of message	Must	Number	If exist and valid, it must keep the same length with the message.

Example, HTTP header and Body response sent from Server to Device

HTTP Header:

HTTP/1.1 200 OK

Cache-Control: private



Silicon Wireless Systems Pvt. Ltd.

Server: Microsoft-IIS/7.5
Set-Cookie: ASP.NET_SessionId=453lmc45jaelft45glb2mdre; path=/; HttpOnly
X-AspNet-Version: 2.0.50727
X-Powered-By: ASP.NET
Date: Wed, 10 Dec 2014 04:47:42 GMT
Connection: close
Content-Length: 39
Content-Type: application/octet-stream
response_code: OK
trans_id: 201
cmd_code: GET_ENROLL_DATA

HTTP Body:

Body is different according to instructions from server.

5. Server response to Device response (without Command)

The server saves the data to database, executes the request and then send below response.
Below field will be put in the server response header.

Field name	Necessary option	Restrictions	Detailed instruction
response_code	Must	Words number, the maximum is 64bits. All the English letters are capital.	Indicating server having received and saved the result data successfully OK : success ERROR : failure
trans_id	Must	Words number, the maximum is 16bits.	Reference2.1.2

6. Device response for server Command or User Enrolment or Attendance Data

Field name	Field meaning	Necessary option	restriction	Detailed instruction
request_code	Request code	must	Must be the following string. “send_cmd_result”	Indicating the executive result for machine uploading instruction to



Silicon Wireless Systems Pvt. Ltd.

				server
dev_id	Machine identifying code	must	number, maximum 24 bits	Reference 2.1.1
trans_id	Task identification number	must	number, maximum 16bits	Reference 2.1.2
cmd_return_code	Instructive result code	must	number, maximum 64bits	Indicating the result from machine to carry out instruction OK means success If there is a string like ERROR coming out on the process of execution, it means the error string.
blk_no	Block number	optional	number	The serial number of block machine sending If the result data was divided into several blocks and transmit one block each time, the serial number of first block is 1, the second is 2 and the last one is 0. The size of block data is consistent with content_length string.
Content-type	MIME type	must	Must be below string “application/octet-stream”	Content-Type generally indicates to the the one existing in web page, which is used to define the type of network files and the code number of web page. It decides what form the browser will be in and what code number to read this file. Those are the reasons why the result constantly seen in some Asp web page through clicking is downloaded to a file or a



Silicon Wireless Systems Pvt. Ltd.

				picture.
Content-Length	Transmission length of message	optional	Number	Content-Length must be consistent with the transmission length of message completely.

Data in the request Body is different according to the instruction.

7. Server Command list and details communication flow between Device and Server

The server sends the following commands to Device.

Command Name	Command Code
Get Terminal Enrollment Data	GET_ENROLL_DATA
Set Database Enroll Data To Terminal	SET_ENROLL_DATA
Set Synchronization Time	SET_TIME
Reset Terminal	RESET_FK
Delete user	DELETE_USER
Rename	SET_USER_NAME
Change User Privilege	SET_USER_PRIVILEGE
Get Enroll ID List	GET_USER_ID_LIST
Get Log Data	GET_LOG_DATA
Set Terminal name	SET_FK_NAME
Clear Log Data	CLEAR_LOG_DATA
Clear Enroll Data	CLEAR_ENROLL_DATA
Get Terminal Status	GET_DEVICE_STATUS
Set the user enroll data and information	SET_USER_INFO
Get the user information from terminal	GET_USER_INFO
Set the server address and port NO.	SET_WEB_SERVER_INFO

1.1 Get Terminal Enrolment Data (GET_ENROLL_DATA)

Terminal Request	WEB Server Response
------------------	---------------------



Silicon Wireless Systems Pvt. Ltd.

<pre>-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information</pre>	
	<pre>-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:GET_ENROLL_DATA -- HTTP body -- {<4>} <4>Format {"user_id": "<4.1>", "backup_number": <4.2>} user_id field: The register NO. Of the user backup_number field means the NO. Of the register data form. Set one of the following value 0 ~ 9 : Ten fingers' data for user 10 : password for user 11 : ID No. For user 12 : Facial data for user</pre>



Silicon Wireless Systems Pvt. Ltd.

<pre>-- HTTP header -- request_code:send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> Value of <4> can be set as follow OK : Get the use data successful EEROR_NOT_EXIST : In command parameter, the designated registration data isn't be enrolled. There is no data in HTTP body part. <5> means serial number of each part when the result data is divided into multi-parts . The size of execute results data of the register data command according to fingerprint, password and facial are different, some times it will up to 20KB. So sometimes need to cut into different part to transmit. -- HTTP body -- The following format of the result data is divided into multi-parts, then transmit. <6> + bin_1 {"enroll_data":"BIN_1"}</pre>	
	<pre>-- HTTP header -- response_code:<1> trans_id:<2></pre>

1.2 Set Database Enrol Data To Terminal(SET_ENROLL_DATA)

Request to set database enrolment data to terminal

Terminal Request	WEB Server Response
<pre>-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information</pre>	
	<pre>-- HTTP header -- response_code:<1> trans_id:<2> cmd_code: SET_ENROLL_DATA -- HTTP body --</pre>



Silicon Wireless Systems Pvt. Ltd.

	<pre>{<4>} + bin_1 Format of <4> { "user_id": "<4.1>", "backup_number": <4.2>, "enroll_data": "BIN_1" }</pre> The meaning and the format of each field, please check 3.1.
<pre>-- HTTP header -- request_code: send_cmd_result dev_id: <2> trans_id: <3> cmd_return_code: <4> blk_no: <5> -- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part.</pre>	
	<pre>-- HTTP header -- response_code: <1> trans_id: <2></pre>

1.3 Set Synchronization Time(SET_TIME)

Terminal Request	WEB Server Response
<pre>-- HTTP header -- request_code: receive_cmd dev_id: <2> -- HTTP body -- Means the string of the terminal information</pre>	
	<pre>-- HTTP header -- response_code: <1> trans_id: <2> cmd_code: SET_TIME -- HTTP body -- {<4>} The format of <4> {"time": "<4.1>"} Put <4.1> into the time string of the server, the format is YYYYMMDDhhmmss.</pre>



Silicon Wireless Systems Pvt. Ltd.

-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part.		
		-- HTTP header -- response_code:<1> trans_id:<2>

1.4 Reset the terminal (RESET_FK)

Please send this command if you want to reset the terminal due to certain reasons.

For example, a certain command status is always under {RUN} status.

If can't confirm the reason, reset terminal is the best solution for you.

After reset the terminal, the terminal ignores all previous commands, and waiting to receive new command.

Terminal Request		WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information		
		-- HTTP header -- response_code:RESET_FK trans_id:<2>

1.5 Delete the user (DELETE_USER)

Terminal Request		WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body --		



Silicon Wireless Systems Pvt. Ltd.

Means the string of the terminal information		
		-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:DELETE_USER -- HTTP body -- {<4>} The format of <4> {"user_id": "<4.1>"} user_id : Delete user's register ID
-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part.		
		-- HTTP header -- response_code:<1> trans_id:<2>

1.6 Rename the terminal(SET_USER_NAME)

Terminal Request		WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information		
		-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:SET_USER_NAME -- HTTP body -- {<4>} The format of <4> { "user_id": "<4.1>", "user_name":<4.2> } user_name : The user name is the code



Silicon Wireless Systems Pvt. Ltd.

	UTF-8
-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part.	
	-- HTTP header -- response_code:<1> trans_id:<2>

1.7 Change User Privilege (SET_USER_PRIVILEGE)

Terminal Request	WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information	
	-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:SET_USER_PRIVILEGE -- HTTP body -- {<4>} The format of <4> {"user_id":"<1>","user_privilege":"<2>"} user_privilege : Means users privilege to operate the computer. Set one of the following strings. MANAGER : manager REGISTER : register OPERATOR : operator USER : normal user
-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5>	



Silicon Wireless Systems Pvt. Ltd.

-- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part.		
		-- HTTP header -- response_code:<1> trans_id:<2>

1.8 Get the user ID list (GET_USER_ID_LIST)

Terminal Request		WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information		
		-- HTTP header -- response_code:<1> trans_id:<2> cmd_code: GET_USER_ID_LIST -- HTTP body -- No need the parameter in this part, so there is no data put in the body
-- HTTP header -- request_code:send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> When assign the user ID, the result data is the user ID list, sometimes you can assign more than 100000 users ID list, so we need to divide the result data into several modules, then transmit. -- HTTP body -- The following format is the result date will be divided into several modules, then transmit. {<6>} + bin_1 The following strings are put into <6>. {“user_id_count”:<6.1>,”one_user_id_size”:<6.2>,”user_id_array”:"BIN_1"} user_id_count field: Assign the amount of the user		



Silicon Wireless Systems Pvt. Ltd.

one_user_id_size field: Assign the size of the byte units of a user_id structure data. user_id_array field: This field set“BIN_1”as the string,means the ID data is put hind in the first binary data. In binary data means user_id of the structure data is arranged by sequence. All structure data interpretation using specific libraries.	
	-- HTTP header -- response_code:<1> trans_id:<2>

1.9 Get the record data (GET_LOG_DATA)

Terminal Request	WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information	
	-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:GET_LOG_DATA -- HTTP body -- {<4>} <4>의 격식 {"begin_time": "<1>", "end_time": "<2>"} The format of time string is YYYYMMDDhhmmss. When begin_time field is blank or no field, it will get all the attendance record data before end_time record When end_time field is blank or no field, it will get all the attendance record data after begin_time record If the 2 fields are invalid value, it will get all the attendance record data from the terminal.
-- HTTP header -- request_code:send_cmd_result dev_id:<2> trans_id:<3>	



Silicon Wireless Systems Pvt. Ltd.

cmd_return_code:<4> blk_no:<5> When get the record data, get any record data will be a great result data. So we need to divide the result data into several modules, then transmit. -- HTTP body -- The following format is the result data will be divided into several modules, then transmit. {<6>} + bin_1 Set the strings in <6> as follow. {"log_count":<6.1>,"one_log_size":<6.2>,"log_array": "BIN_1"} log_count field : The amount of the assigned gains the record data. one_log_size field : Assign the size of the byte units of a record data. log_array field: In this field set "BIN_1" as the string, means the record data is put in the first binary data. In binary data, means record data of the structure data is arranged by sequence. All structure data interpretation using specific libraries.	
	-- HTTP header -- response_code:<1> trans_id:<2>

1.10 Setup Terminal Name (SET_FK_NAME)

Terminal Request	WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information	
	-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:SET_FK_NAME -- HTTP body -- {<4>}



Silicon Wireless Systems Pvt. Ltd.

	The format of <4> { "fk_name": "<4.1>" } fk_name must be English.
-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part	
	-- HTTP header -- response_code:<1> trans_id:<2>

1.11 Clear Log Data (CLEAR_LOG_DATA)

Terminal Request	WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information	
	-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:CLEAR_LOG_DATA -- HTTP body -- This command no need parameters, so there are no data in body.
-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part	
	-- HTTP header -- response_code:<1> trans_id:<2>



Silicon Wireless Systems Pvt. Ltd.

1.12 Clear Enrol Data (CLEAR_ENROLL_DATA)

Terminal Request	WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information	
	-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:CLEAR_ENROLL_DATA -- HTTP body -- This command no need parameters, so there are no data in body.
-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part	
	-- HTTP header -- response_code:<1> trans_id:<2>

1.13 Get the Status information form the terminal (GET_DEVICE_STATUS)

Terminal Request	WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information	
	-- HTTP header -- response_code:<1> trans_id:<2> cmd_code: GET_DEVICE_STATUS



Silicon Wireless Systems Pvt. Ltd.

	-- HTTP body -- This command no need parameters, so there are no data in body.
-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- {<6>} There are string in <6>, as follow. { "total_user_count":<6.1>, "user_count":<6.2>, "manager_count":<6.3>, "fp_count":<6.4>, "face_count":<6.5>, "password_count":<6.6>, "idcard_count":<6.7>, "total_log_count":<6.8> } <6.1> ~ <6.8>are numeric	
	-- HTTP header -- response_code:<1> trans_id:<2>

1.14 Set the user enrol data and information (SET_USER_INFO)

Set the user fingerprint, facial, password, card, name and the privilege from operational data base into the attendance terminal

Terminal Request	WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means the string of the terminal information	
	-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:SET_USER_INFO -- HTTP body -- {<4>} + bin_1 + bin_2 + ... + bin_k <4>的格式



Silicon Wireless Systems Pvt. Ltd.

	<pre>{ "user_id":<4.1>, "user_name":<4.2>, "user_privilege":<4.3>, "user_photo": "BIN_1", "enroll_data_array": [{"backup_number":<5.4.1>,"enroll_data": "BIN_2"}, {"backup_number":<5.4.2>,"enroll_data": "BIN_3"}, ..., {"backup_number":<5.4.k>,"enroll_data": "BIN_k+1"},] }</pre> user_id : users enroll number user_name : user name, through UTF-8 compile the string user_privilege : The privilege of string about user operate the attendance terminal enroll_data_array :The JSON array, use the enroll data which is the user fingerprint, facial, password, ID card as a unit. The array unit is backup_number, enroll_data field JSON object enroll_data field identification means the relationship between the register data and which 2 hexadecimal data Put JSON string <4> first, then according to the string details put the 2 hexadecimal data The 2 hexadecimal data saves the actual enroll data.
<pre>-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- For this command , the execute results does not exit any data, so there is no any data in body part</pre>	



Silicon Wireless Systems Pvt. Ltd.

	-- HTTP header -- response_code:<1> trans_id:<2>
--	--

1.15 Get the fingerprint data, facial data, password, ID card, name and the privilege from attendance terminal (GET_USER_INFO)

Terminal Request	WEB Server Response
-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means string of the computer information	
	-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:GET_USER_INFO -- HTTP body -- {<4>} <4> format {"user_id":"<1>"} user_id : to obtain a user enroll number
-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- {<6>} + bin_1 + bin_2 + ... + bin_k <6> format { "user_id":<6.1>, "user_name":<6.2>, "user_privilege":<6.3>, "user_photo": "BIN_1", "enroll_data_array": [{"backup_number":<7.4.1>,"enroll_data": "BI	



Silicon Wireless Systems Pvt. Ltd.

<pre>N_2"}, {"backup_number":<7.4.2>,"enroll_data":"BI N_3"}, ..., {"backup_number":<7.4.k>,"enroll_data":"BI N_k+1"},] } The format of the command result data,as the parameter data format of SET_USER_INFO</pre>	
	<pre>-- HTTP header -- response_code:<1> trans_id:<2></pre>

1.16 Set Server IP Address and change the port number (SET_WEB_SERVER_INFO)

Change the Web Server IP address and port number which need to communication with the time attendance terminal

Use the instruction when link the communicating attendance terminal with another Web server

Once the attendance terminal is set another server address, the original communication server address will be cut down. It's only can communicate with the new server After set the WEB server address and port number, reboot the attendance terminal can take effect.

Terminal Request	WEB Server Response
<pre>-- HTTP header -- request_code:receive_cmd dev_id:<2> -- HTTP body -- Means string of computer information</pre>	
	<pre>-- HTTP header -- response_code:<1> trans_id:<2> cmd_code:SET_WEB_SERVER_INFO -- HTTP body -- {<4>} <4>The format {"server_ip": "<1>","server_port":<2>} server_ip : means the sting of server ip4 address eg : 192.168.0.1 server_port : means number value of the server http port</pre>



<pre>-- HTTP header -- request_code: send_cmd_result dev_id:<2> trans_id:<3> cmd_return_code:<4> blk_no:<5> -- HTTP body -- For this command , the execute results with no any data, so there is no any data in body part</pre>	
	<pre>-- HTTP header -- response_code:<1> trans_id:<2></pre>

2. Real Time General Logs (RealTime GLog)

Real time transmission logs is not done by server command, that is the terminal initiatively send request to WEB server and response. The request and response text column to WEB server is much different from server command.

2.1 Real Time Transmission Logs

Terminal Request	WEB Server Response
<pre>-- HTTP header -- request_code:realtime_glog dev_id:<2> -- HTTP body -- <3> + bin_1 In <3> place the JSON sting means record information Some of the terminal will upload the record data and the record image, so sometimes maybe place the binary data in body part Format of <3> as follow { "user_id": "<3.1>", "verify_mode": "<3.2>", "io_mode": "<3.3>", "io_time": "<3.4>", "log_image": "BIN_1" } user_id :leave the record of the user's enroll number</pre>	



Silicon Wireless Systems Pvt. Ltd.

verify_mode : leave the record of identify way May be to place JSON array as follow Element of the array means the identify way and the order Eg ["FP", "PASSWORD"] means first to identify fingerprint, and then password io_mode : Purpose of In/Out (at work or out of work) io_time : In/Out time. The format is YYYYMMDDhhmmss log_image: means the record image which is placed on the back.	
	-- HTTP header -- response_code:<1> response_code Indicate whether real time transmission data is successful or not OK : Success ERROR : Failed

2.2 Real Time Transmission Enrol Data

Terminal Request	WEB Server Response
-- HTTP header -- request_code:realtime_enroll_data dev_id:<2> -- HTTP body -- <3> + bin_1 + bin_2 + ... + bin_k <3>Place the JSON character string which is means enroll data The format of <3> as follow. { "user_id": "<3.1>", "user_name": "<3.2>", "user_privilege": "<3.3>", "user_photo": "BIN_1", "enroll_data_array": [{ "backup_number": "<3.5.1>", "enroll_data": "BIN_2" }, { "backup_number": "<3.5.2>", "enroll_data": "BI	



Silicon Wireless Systems Pvt. Ltd.

<pre>N_3"}}, ..., {"backup_number":<3.5.k>,"enroll_data":"BI N_k+1"}},] }</pre> user_id : Enroll user ID number user_name : Enroll user name and UTF-8 code user_privilege : Indicate that whether the user has the privilege to operate the terminal. enroll_data_array : Used the user's enroll data as the element of JSON array The element of the array contains backup_number, enroll_data field of JSON object. Place the sting of the corresponding binary data into the enroll_data field . Behind JSON string <3>, continue place the corresponding binary data These binary data contains the real enrol data	
	-- HTTP header -- response_code:<1> response_codeIndicate whether real time transmission data is successful or not OK : Success ERROR : Failed