API Documentation

1. Interface Method

The interface uses the HTTP protocol with UTF-8 encoding. The request body is in JSON format.

2. Interface List

- All protocols use the POST request method. The protocol format is JSON, and the interfaces are called by the device side.

- **Common Response**:

Variable Name	Field Name	Type	Example Value	Description
code	Return Code	Int	0	See Section 3.1
msg	Return Message	String	success	
data	Return Result	Struct	"ID":{}	Result set (When the return code is "0", data contains the correct result data; when the return code is "non-zero", data is empty)

2.1 Connection Interface

1. **Application Scenario**
   Connect to the server to verify the availability of the IP and port.

2. **Interface Address**:
   `http://ip:port/v1/connect`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"

4. **Return Result**:
   Common Response

5. **Example**:
   Response:

```
{
    "code": 0,
    "msg": "success"
}
```

2.2 Registration Interface

1. **Application Scenario**

   Register a palm by sending the name, student ID, palm images, access control permission (0 for no access control permission, 1 for access control permission), and administrator permission to the server.

2. **Interface Address**:

   `http://ip:port/v1/add`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"
name	Name	Yes	String	"keven"
id	Student ID	Yes	String	"10010"
image_left	Left Palm Image	Yes	String	"/9j/4AAQSkZJRgABAQAAAQABAAD...base64_encoded_data"
image_right	Right Palm Image	Yes	String	"/9j/4AAQSkZJRgABAQAAAQABAAD...base64_encoded_data"
wiegand_flag	Access Control Permission	Yes	Int	0
admin_auth	Administrator Permission	Yes	Int	0

4. **Return Result**:

   Common Response

5. **Example**:

   Request:

```
{
    "sn": "VS01LB17V4001815",
    "name": "keven",
    "id": "10010",
    "image_left": "/9j/4AAQSkZJRgABAQAAAQABAAD...base64_encoded_data",
    "image_right": "/9j/4AAQSkZJRgABAQAAAQABAAD...base64_encoded_data",
    "wiegand_flag": 0,
    "admin_auth": 0
}
```

   Response:

```
{
    "code": 0,
    "msg": "success"
}
```

2.3 Deletion Interface

1. **Application Scenario**

   Delete a palm by sending the student ID to the server.

2. **Interface Address**:

   `http://ip:port/v1/delete`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"
id	Student ID	Yes	String	"10010"

4. **Return Result**:
   Common Response

5. **Example**:
   Request:

```
{
    "sn": "VS01LB17V4001815",
    "id": "10010"
}
```

Response:

```
{
    "code": 0,
    "msg": "success"
}
```

2.4 Query Registered ID Interface

1. **Application Scenario**
   Query all registered palm student IDs.

2. **Interface Address**:
   `http://ip:port/v1/query`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"

4. **Return Result**:

Variable Name	Parent	Field Name	Type	Example Value
idDataList	None	None	List	
id	idDataList	Student ID	String	"10010"
wiegand_flag	idDataList	Access Control Permission	Int	0
admin_auth	idDataList	Administrator Permission	Int	0

5. **Example**:
   Response:

```json
{
    "code": 0,
    "msg": "success",
    "data": {
      "idDataList": [
          {
              "id": "10010",
              "wiegand_flag": 0,
              "admin_auth": 0
          },
          {
              "id": "10011",
              "wiegand_flag": 1,
              "admin_auth": 0
          }
      ]
    }
}
```

2.5 Query ID Registration Status Interface

1. **Application Scenario**
   Check if an ID is registered by sending the ID to the server.

2. **Interface Address**:
   `http://ip:port/v1/check_registration`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"
id	Student ID	Yes	String	"10010"

4. **Return Result**:

Variable Name	Parent	Field Name	Type	Example Value
is_registered	None	Is ID Registered	Bool	true

5. **Example**:
   Request:

```json
{
    "sn": "VS01LB17V4001815",
    "id": "10010"
}
```

Response:

```json
{
    "code": 0,
    "msg": "success",
    "data": {
      "is_registered": true
    }
}
```

2.6 Query Registered Images Interface

1. **Application Scenario**

   Query the name and palm images of a registered palm by sending the student ID to the server.

2. **Interface Address**:

   `http://ip:port/v1/query_images`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"
id	Student ID	Yes	String	"10010"

4. **Return Result**:

Variable Name	Parent	Field Name	Type	Example Value
name	None	Name	String	"keven"
image_left	None	Left Palm Image	String	"/9j/4AAQSkZJRgABAQAAAQABAAD...base64_encoded_data"
image_right	None	Right Palm Image	String	"/9j/4AAQSkZJRgABAQAAAQABAAD...base64_encoded_data"

5. **Example**:

   Request:

```json
{
    "sn": "VS01LB17V4001815",
    "id": "10010"
}
```

Response:

```
{
    "code": 0,
    "msg": "success",
    "data": {
      "name": "keven",
      "image_left": "/9j/4AAQSkZJRgABAQAAAQABAAD...base64_encoded_data",
      "image_right": "/9j/4AAQSkZJRgABAQAAAQABAAD...base64_encoded_data"
    }
}
```

2.7 Firmware Upgrade Interface

1. **Application Scenario**

    Update the device firmware by sending the firmware version number to the server.

2. **Interface Address**:

    `http://ip:port/v1/firmware_upgrade`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"
version	Firmware Version	Yes	String	"1.0.1"

4. **Return Result**:

Variable Name	Parent	Field Name	Type	Example Value
need	None	Need to Upgrade	Bool	true
url	None	Firmware URL	String	"https://example.com/firmware-v1.0.2.tgz"

5. **Example**:

    Request:

```
{
    "sn": "VS01LB17V4001815",
    "version": "1.0.1"
}
```

    Response:

```
{
    "code": 0,
    "msg": "success",
    "data": {
      "need": true,
      "url": "https://example.com/firmware-v1.0.2.tgz"
    }
}
```

2.8 Passage Record Interface

1. **Application Scenario**
   Record passage by sending the device SN, name, student ID, palm type (left/right), and passage time to the server.

2. **Interface Address**:
   `http://ip:port/v1/pass_list`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"
name	Name	Yes	String	"keven"
id	Student ID	Yes	String	"10010"
type	Palm Type	Yes	String	"left"
device_date_time	Passage Time	Yes	String	"2025-04-09 13:52:02"

4. **Return Result**:
   Common Response

5. **Example**:
   Request:

```
{
    "sn": "VS01LB17V4001815",
    "name": "keven",
    "id": "10010",
    "type": "left",
    "device_date_time": "2025-04-09 13:52:02"
}
```

Response:

```
{
    "code": 0,
    "msg": "success"
}
```

2.9 Query Batch Import File Interface

1. **Application Scenario**

   Query the batch import file URL.

2. **Interface Address**:

   `http://ip:port/v1/query_batch_import_path`

3. **Request Parameters**:

Variable Name	Field Name	Required	Type	Example Value
sn	Device Serial Number	Yes	String	"VS01LB17V4001815"

4. **Return Result**:

Variable Name	Parent	Field Name	Type	Example Value
url	None	Batch Import File URL	String	"https://example.com/deptrum.csv"

5. **Example**:

   Response:

```
{
    "code": 0,
    "msg": "success",
    "data": {
      "url": "https://example.com/deptrum.csv"
    }
}
```

3. Error Codes

3.1 Error Code Table

Error Code	Description
10000	Parameter Error
20000	Network Error
30001	Database Connection Failed
30002	Database Insertion Failed
30003	Database Deletion Failed
30004	Database Query Failed
30005	Database Duplicate Insertion
30006	Database ID Not Found

Error Code	Description
30007	Database Query ID Registration Failed