Bellus3D ARC

Software Developer Kit Guide

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Prerequisite

Hardware Requirements

- Bellus3D ARC camera
- Windows 10 computer with Intel Core i3, M3 or above processor, 4GB of RAM, 100MB or more of free disk space
    - Tested host PC: Surface Pro 7 and Surface Go 2 M3
- The ARC camera is powered by USB.
- A single ARC camera can be plugged into your computer's USB3.1 port directly provided that your computer can supply 5V/1.2amp of power. You may need a Type C to USB3.1 Type A female adaptor if your PC doesn't have a USB 3.1 Type A port and only has a Type C port (e.g. Surface Go 2 M3). You will need a powered USB hub if your computer cannot supply sufficient power via USB or you need to connect more than one ARC cameras to your host computer:
    - USB Hub for ARC-4 (4 cameras): 7-port, 35W or more powered adapter
    - USB Hub for ARC-7 (7 cameras): 10-port, 60W or move powered adapter

Software Requirements

Please read Bellus3D ARC User Guide carefully and finish the **installation, launch, sign in and configuration** steps before moving forward.

Bellus3D ARC System User Guide

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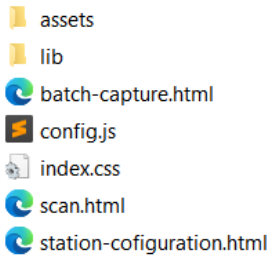
Sample App

Programming Notes

Sample_App_version folder demonstrates the source code of the sample app.



1. scan.html: the sample Scan App
2. station-cofiguration.html: the sample Station Configuration App
3. batch-capture.html: the sample Batch Scan App
4. index.css: stylesheets for all of the above Apps

5. lib/b3d4api.js: wrap all the websocket commands into js **developer API** (For documentation, please refer to)
6. lib/gltfutils.js: library function used to read gltf
7. lib/modelviewer.js: 3d viewer function used to display glb 3D file

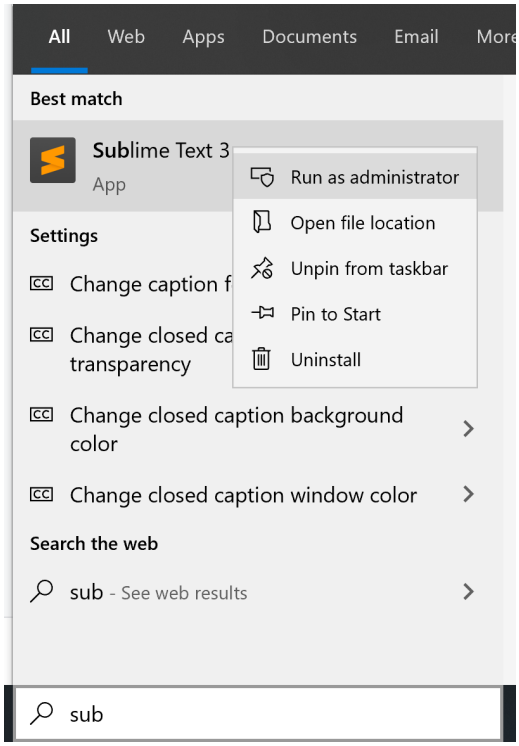
Sample App Configuration

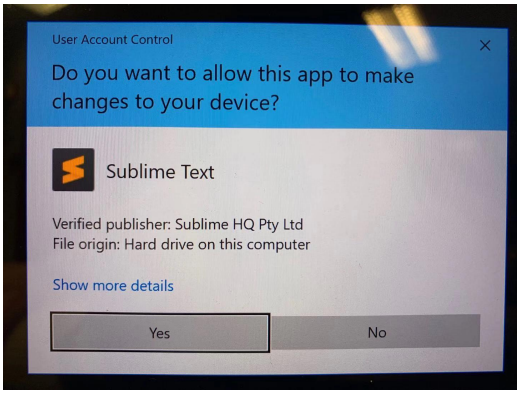
The Sample App connects to the host through the websocket DEV API server. The default server address is `ws://127.0.0.1:3003`, which is defined in **config.js**. On the host side, you can choose to start the server with a different port, if that is the case, please make sure you update the port in the above address.

A note for our previous developers: starting from version 1.16.x, SDK client credential authentication is not required anymore, so we removed the credential related fields in the **config.js** file.

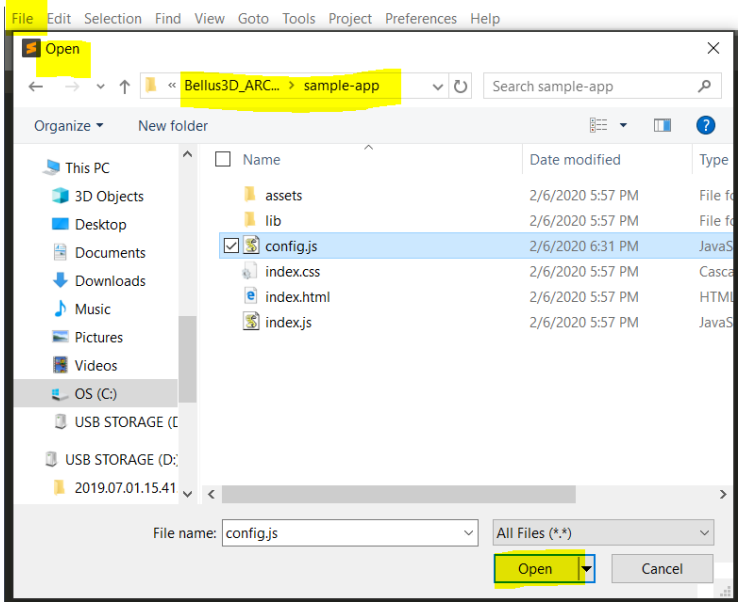
Also note that if you put the **config.js** file in a folder that requires administrator permission to edit, e.g. the program files folder (C:\Program Files), you may end up unable to update the **config.js** file. If that happens, please refer to the following instructions:

* How to edit a file with administrator permission?
    1. For example, with Sublime Text 3 editor (https://www.sublimetext.com/3), right click Sublime Text 3, and click **Run as administrator** (If you have Sublime Text 3 editor open already, please close it first, then restart with Run as administrator option).





2. Click **Yes** on the right image above
3. Click **File->Open**->config.js from the path above

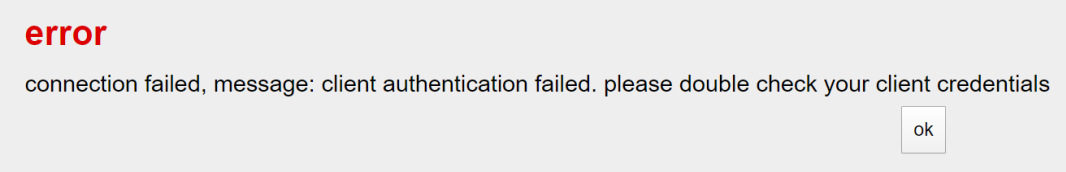


4. After editing the file, click **File->Save**

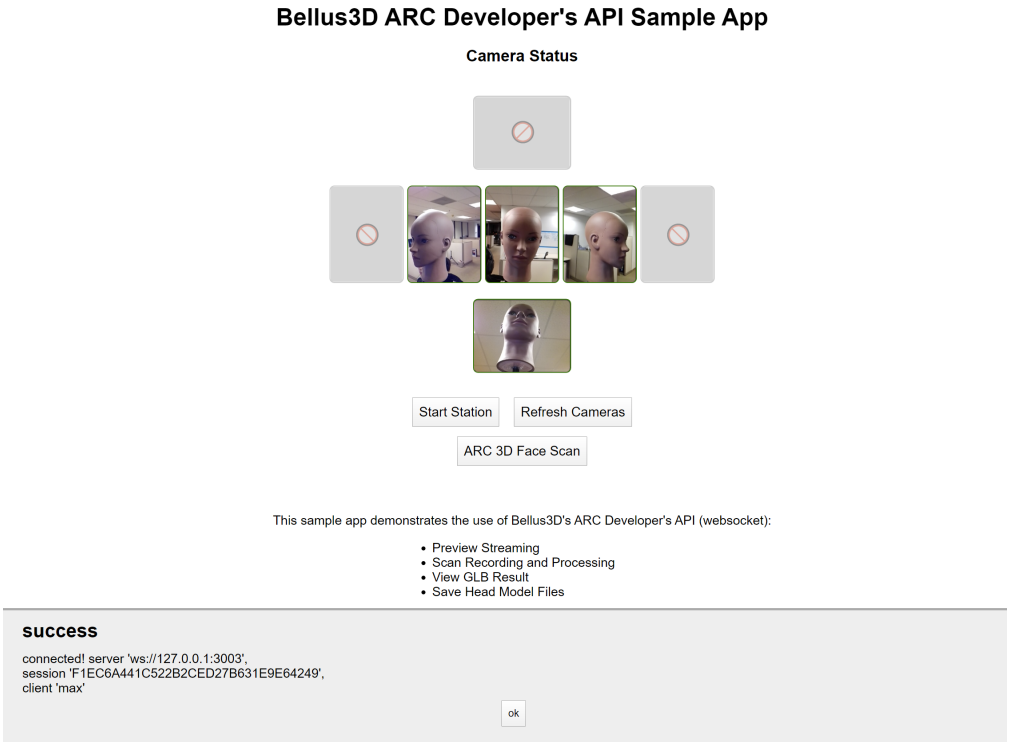
Usage

1. Open index.html in a web browser.

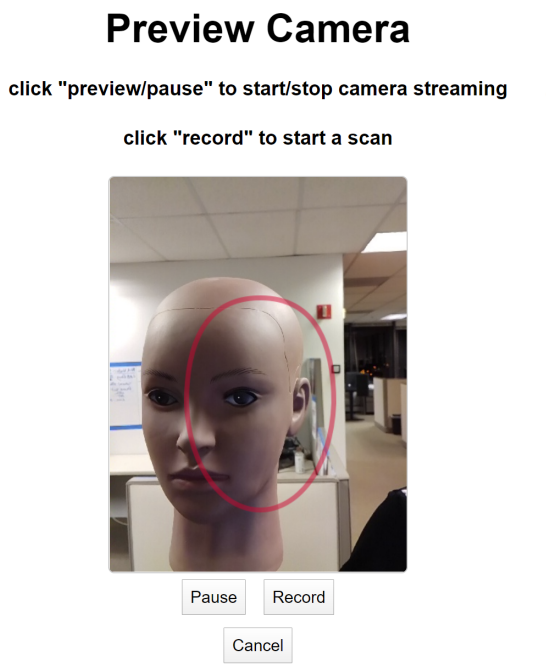
2. If you see the error below, please follow the Configuration step.

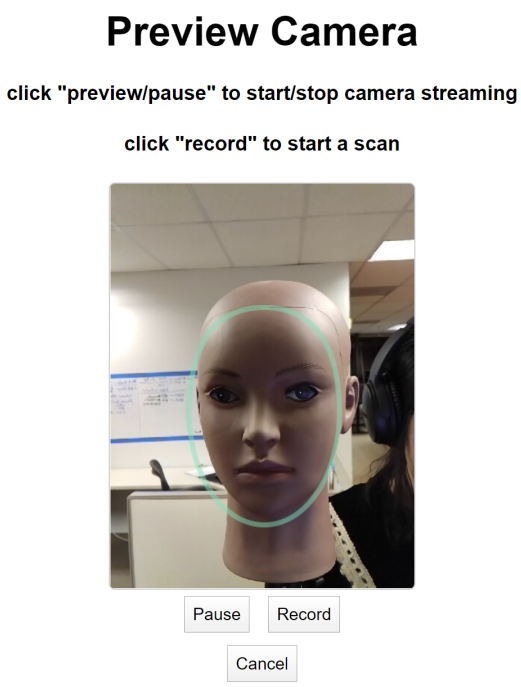


3. You will see all the configured cameras' previews.
   You can press **Refresh Camera** to refresh the camera preview.
   You can press **Start Station** to initialize the station if there is no preview from the cameras. Check the dev API station_start for more details.

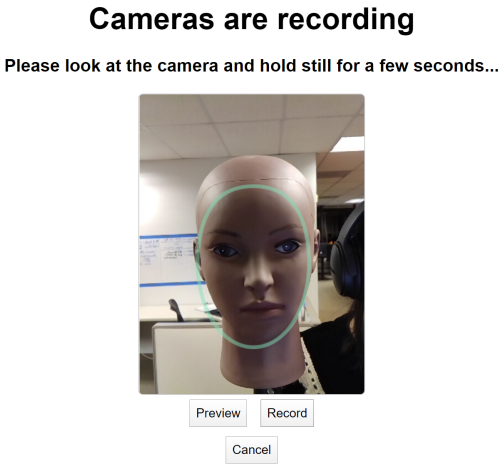


4. Press **ARC 3D Face Scan** to start a new scan.
5. You will see a red oval in the preview image. Move your face to the center of the oval until it turns green. This means your face is in the desired position for scanning.

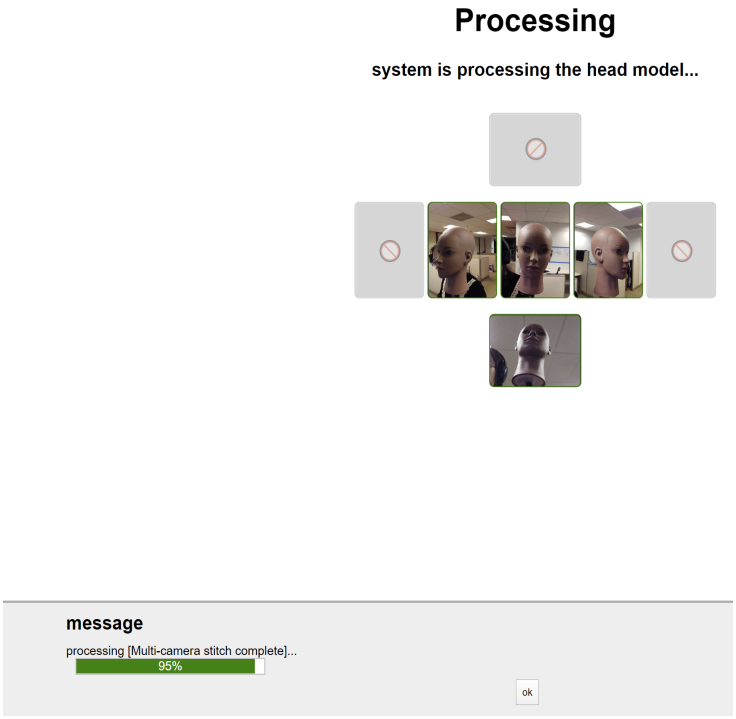




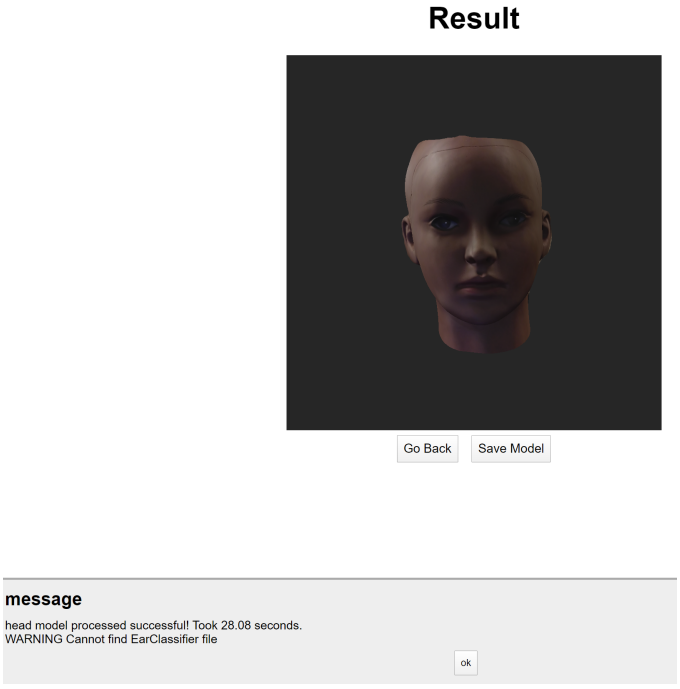
6. Press the **Record** button to start recording. Currently the sample app will allow scanning to start while the oval is red. But you should have restrictions to only allow scanning to start after the oval turns green.
7. Then you will see a message as shown below. Stay still for 3 seconds until the scan is finished.



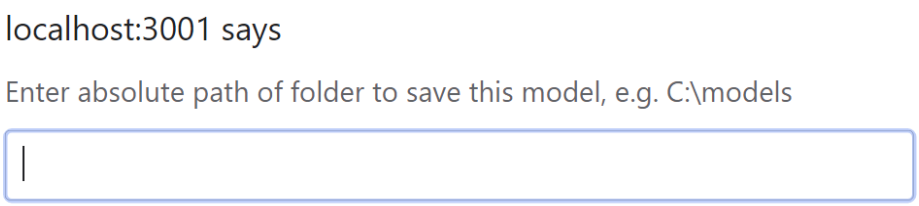
8. Then you will see a processing page as shown below.



9. Once processing is done, you will see the scan result in the 3D viewer. You can use your mouse to rotate the model or zoom in and out.



10. Press the **Save Model** button to save the current model in the path you entered.



11. The face model file is in obj format by default.