Qualcomm Developer Project StyleTransfer-demo

Project Submission

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| **Project Title**\* | **StyleTransfer** | |
| **Images**  *Upload up to 5 images of your project*  *Please submit/send the original JPEG/PNG files for all images included in the document* | **Qualcomm® RB1**  RB2  [Alt tag: “StyleTransfer-demo using The Qualcomm® QRB2210 SOC Open Kit”]  **Type-c usb line**   |  | | --- | | **typc** |   [Alt tag: “using the USB line to develop on Qualcomm® QRB2210 SOC Open Kit” ]  **charger**  charger  [Alt tag: “using round-hole charger to power Qualcomm® QRB2210 SOC Open Kit”]  **Camera Module**  **camera** | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | The project builds on the QRB2210 development kit system source code and runs on the QRB2210 development board, making full use of the diverse and powerful connection and computing power of the development kit. HostAPD and UDHCPD tools were used to enable AP WIFI, GStreamer and ZLMediaKit were used to complete the RTSP streaming media function, and TFLITE was used to complete the inference of Artistic style transfer algorithm. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | I wanted to change my video style while I was recording video and provide relatively stable video streaming output. RB1 can just provide the corresponding SDK to help me quickly complete the development of similar smart cameras. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| Qualcomm® QRB2210 SOC Open Kit | https://www.thundercomm.com/zh/product/qualcomm-robotics-rb1-platform/ |
| USB Line | https://item.jd.com/40759941966.html |
| Charger | https://www.thundercomm.com/zh/product/qualcomm-robotics-rb1-platform/ |
| Cameramodule | https://www.thundercomm.com/zh/product/qualcomm-robotics-rb1-platform/ |
| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| Source Code | https://github.com/ThunderSoft-XA/RB1-StyleTransfer |
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| **Additional Resources**  *List related links or resources such as websites, videos, presentations, or other materials* | Resource Title | Link or File Name (and provide file) |
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| **Build / Assembly Instructions** | Sample outline:  No special compilation method is required. After configuring the RB1 special SDK, the product can be generated directly by Cmake compilation. | |
|  | Sample outline:   1. How does it work? 2. Quickly build AP WIFI through command line tools. 3. Using MediaServer tool and start up the push stream server. 4. Run gst\_style\_test to complete camera data acquisition, artistic style transfer algorithm inference, and appsrc push to the local port of device. 5. The MediaServer stream server generates the RTSP stream. 6. The mobile connects to QRB2210 AP wifi and plays RTSP streams for show artistic style transfer result by EasyPlayer. | |
| **Usage Instructions** | The Demo running results are as follows：  final result:  result | |
| **Contributor(s) Info**  *Feel free to include headshots!* | Name | Title  Company |
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Filters and Tags for QDN projects page

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| **Platform/Hardware** | CSR 101x/102x Bluetooth  DragonBoard 410c  mangOH Red/Yellow  √ Qualcomm QRB2210 | MDM920x LTE for IoT  QCA-402x WiFi/BLE/Zigbee  Qualcomm Robotics RBx Dev Kit |
| **Software Tools** | 3D Audio Plugin for Unity  Adreno GPU SDK  Hexagon DSP SDK | √ Neural Processing SDK for AI  　Snapdragon Profiler |
| **Operating System** | Android  √ Linux  ThreadX RTOS | Ubuntu Core  Windows 10 IoT Core |
| **Cloud Services/Platform** | Sierra Wireless AirVantage  Gizwits Cloud Platform  AT&T M2X  IBM Bluemix | IBM Watson IoT  Microsoft Azure IoT  Amazon AWS IoT |
| **Skill Level Required** | Advanced  Beginner  √ Intermediate |  |
| **Areas of Focus** | 3D Printing & Modeling  Alexa Voice Service  √ Artificial Intelligence  Bluetooth  √ Computer Vision  Digital Signage  Education  √ Embedded  Gaming | Healthcare  √ IoT  Robotics  Security  Sensors  Smart Cities  Smart Home  Toys |

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