Qualcomm Developer Project 3DObjectDetection-demo

Project Submission

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| **Project Title**\* | 3DObjectDetection | |
| **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: “3DObjectDetection-demo using The Qualcomm® Robotics RB1 Platform”]  **Type-c usb line**   |  | | --- | | **typc** |   [Alt tag: “using the USB line to develop on Qualcomm® Robotics RB1 Platform” ]  **charger**  charger  [Alt tag: “using round-hole charger to power Qualcomm® Robotics RB1 Platform”]  **Camera Module**  **camera** | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | This project is based on the Robotics RB1 Platform system source code, running on the Robotics RB1 Platform, make full use of the development kit diverse and powerful connection and computing power. HostAPD and UDHCPD tools were used to enable AP WIFI, GStreamer and ZLMediaKit were used to complete RTSP streaming media function, and TFLITE was used to complete reasoning of 3d object detection algorithm. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | 2d image detection algorithms have made great progress, but the detection algorithms for 3D objects in images are still not many, and the actual application scenarios are scarce. Therefore, I want to try to develop such an application. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| Qualcomm® Robotics RB1 Platform | 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/RB1-3DObjectDetection |
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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\_3D\_object\_test to complete camera data acquisition, 3d object detection 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 Robotics RB1 Platform AP wifi and plays RTSP streams for show 3d object detection result by EasyPlayer. | |
| **Usage Instructions** | The Demo running results are as follows：  final 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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