Qualcomm Developer Project MultiDecoderApp

Project Submission

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| **Project Title**\* | **MultiDecoderApp** | |
| **Images**  *Upload up to 5 images of your project*  *Please submit/send the original JPEG/PNG files for all images included in the document* | AIKIT.png  http://5b0988e595225.cdn.sohucs.com/images/20181025/2af6252750954a21bf3721ce1338c3f0.png **[alt tag: “MultiDecoder using the Thundercomm AI Kit which is designed with Qualcomm® SDA845 as development board.**”] **Type-C.png**   |  | | --- | | **typc** |   [alt tag: “**using the type-c line to develop on Thundercomm AI Kit development board.** ”]  [alt tag: “use mini-hdmi line to connect display **.**”]  IP-Camera.png  ip-camera | |
| **Description**\*  *High level description of the project* ***(75 words or less)*** | Using **Thundercomm AI Kit**, the data of 1080 cameras are collected by RTSP, decoded and then the rectangular frame of face position is drawn and output to HDMI display. | |
| **Objective**   * *What inspired you to create this project?* * *What is your desired outcome?* | Show the powerful decoding power of 865HDK-c865 through 16 decoding videos. | |
| **Materials Required / Parts List / Tools** | Part Name | Link to purchase |
| TurboX™ AI KIT | https://www.thundercomm.com/app\_en/product/1536844968290219 |
| Type-c line | https://detail.tmall.com/item.htm?id=44425281296&ali\_refid=a3\_430582\_1006:1103572855:N:8BFxSxK119dzkfQCc2yGI2us815vvcUHETWnj5g1swo=:6399b40850a40201c56536531a885bcf&ali\_trackid=1\_6399b40850a40201c56536531a885bcf&spm=a230r.1.14.11 |
| IP Camera | https://item.jd.com/ |
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| **Source Code / Source Examples / Application Executable**  *Link to open source / shareable code repository* | Description | Link |
| [Source Code](https://github.com/canyudeguang/Home_Automation) | [https://github.com/ThunderSoft-XA/Object-Detection-Sample-of-SNPE](https://github.com/ThunderSoft-XA/demo-Smart-Motion-detector) |
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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:   1. Overall design framework and Test environment construction method.      1. Software Build Instructions    1. Prepare a PC (Ubuntu 16.04/ window10/ MAC);    2. Install adb and Qualcomm® Snapdragon™ Profiler tools; 2. Install app to Turbox AiKit device   Adb device; adb install MultiDecoderApp.apk | |
|  | Sample outline:   1. How does it work?   Below are some usage instructions to test the project.Now let's introduce the MultiDecoderApp’s workflow .  MultiDecoderApp application realizes the concurrent 4 video and display that come from IP cameras decoding .  [Directory](C:/Users/user/AppData/Local/youdao/dict/Application/8.9.5.0/resultui/html/index.html" \l "/javascript:;) [structure](C:/Users/user/AppData/Local/youdao/dict/Application/8.9.5.0/resultui/html/index.html" \l "/javascript:;) of project:  Main structure of jave： **├── eBox //Main function directory** **│   ├── Activity //group-box control****│   ├── Adapter****│   ├── Config //Configuration module****│   ├── Constants****│   ├── Gl //display module****│   ├── Log****│   ├── Model****│   ├── Utils //some common functions****│   └── VIew //display interface****├── gateway //some info struct****│   ├── data****│   └── utils****├── libyuv //the color conversion****├── rtsp //rtsp client module****└── util //common functions** Function support by cpp：  ├── Affinity //CPU binding functions  ├── BasicUsageEnvironment  │   └── include  ├── groupsock //live555 feature  │   └── include  ├── libbitmap //same bitmap functions  ├── libyuv //mage color space conversion  │   └── libyuv  │   ├── build\_overrides  │   ├── docs  │   ├── include  │   │   └── libyuv  │   ├── infra  │   │   └── config  │   ├── source  │   ├── tools\_libyuv  │   │   ├── autoroller  │   │   │   └── unittests  │   │   │   └── testdata  │   │   ├── msan  │   │   ├── ubsan  │   │   └── valgrind  │   │   └── memcheck  │   ├── unit\_test  │   │   └── testdata  │   └── util  ├── liveMedia //live555 feature  │   └── include  ├── RtspClient //live555 feature  │   └── include  └── UsageEnvironment //live555 feature  └── include | |
| **Usage Instructions** | Sample outline:   1. Install app to Tubox AiKit device   adb install MultiDecoderApp.apk   1. Start app. 2. connect wifi/wired network, start “edgebox client” app      1. Click control to add RTSP URL(support up to 4 channels)   test4  c . Click OK to start playing     1. How to use Qualcomm® Snapdragon™ Profiler tools ? 2. Log in to the official website of Qualcomm and register your account.   https://www.qualcomm.cn/   1. Find the document "How to capture snapshot with SnapdragonProfiler" and use the profiler for reference.   Profiler-savefile.png    Profiler.png  profile | |
| **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 | 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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