

## 电子技术课程设计

# 基于受控无人车的场地探测和 3D 重建系统 项目详细日志

张蔚桐 2015011493 自 55

陈 巍 2015011481 自 55

以下是整个项目的开发日志，代码开源托管在<https://github.com/ZeroWeight/Project-of-Electronic-Circuits>上，这里是开发过程中的 commit 记录。其中各字符意义为

A dd: 增加文件/功能

U pdate: 更新文件/功能

D elete: 删除文件/功能

R elease: 发布功能进入稳定模式

这里的项目日志删除了部分文件系统管理日志,全部的提交记录请参阅<https://github.com/ZeroWeight/Project-of-Electronic-Circuits/commits/master>

陈巍: [U] final commit @ Wed Sep 6 12:54:27

张蔚桐: [D] rm the useless mode @ Wed Sep 6 11:15:22

张蔚桐: Merge branch 'master' of github.com:ZeroWeight/Project-of-Electronic-Circuits @ Wed Sep 6 09:53:10

张蔚桐: [D] rm the labview file @ Wed Sep 6 09:09:28

陈巍: [A] ultrasonic ranging module @ Tue Sep 5 16:04:07

陈巍: Merge branch 'local' @ Tue Sep 5 14:55:59

陈巍: [U] not essential changes @ Tue Sep 5 14:55:41

陈巍: [U] servo and motor pwm @ Mon Sep 4 15:34:16

线上修改: Update README.md @ Sun Sep 3 19:34:21

线上修改: Update README.md @ Sun Sep 3 19:33:34

张蔚桐: [U] update Readme @ Fri Sep 1 08:40:03

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张蔚桐: [U] myRIO project resources @ Thu Aug 31 19:11:54  
陈崴: [A] 7-segment nixietube display module @ Thu Aug 31 14:39:27  
张蔚桐: [U] now we can watch connan @ Wed Aug 30 12:51:53  
陈崴: Ha. @ Wed Aug 30 12:39:16  
陈崴: [D] debug @ Tue Aug 29 22:59:25  
张蔚桐: [U] update ignore @ Tue Aug 29 00:25:02  
张蔚桐: [U] Gyo finished @ Tue Aug 29 00:21:06  
张蔚桐: [U] 1st day final host machine @ Mon Aug 28 16:51:38  
张蔚桐: [U] release the host machine @ Mon Aug 28 15:26:18  
张蔚桐: [A] add in myRIO ctrler @ Mon Aug 28 11:52:43  
陈崴: [U] preview ppt @ Mon Aug 28 10:51:26  
陈崴: [A] motor module @ Mon Aug 28 10:49:39  
张蔚桐: [U] renew the host machine coder @ Mon Aug 28 09:25:54  
张蔚桐: [U] recompil the pdf file @ Sun Aug 27 12:36:37  
陈崴: [U] preview ppt @ Sun Aug 27 11:41:34  
陈崴: [U] fix typos @ Sun Aug 27 11:22:09  
陈崴: [A] preview ppt @ Sun Aug 27 11:06:43  
张蔚桐: [U] refine the preview report @ Sun Aug 27 10:47:07  
线上修改: Update README.md @ Sun Aug 27 10:40:05  
张蔚桐: [U] finish the preview report @ Sun Aug 27 10:37:57  
张蔚桐: [U] typos and syntax errors fixed in preview report @ Fri Aug 25 18:11:54  
陈崴: [U] report - fpga block @ Fri Aug 25 17:16:48  
陈崴: [U] fpga block @ Fri Aug 25 17:15:56  
陈崴: [U] gitignore @ Fri Aug 25 16:12:16  
陈崴: [U] report @ Fri Aug 25 16:01:43  
张蔚桐: [U] webench simu finish @ Fri Aug 25 15:53:36  
陈崴: Merge branch 'master' into local @ Fri Aug 25 14:55:42  
陈崴: [A] FPGA block design @ Fri Aug 25 14:55:29  
陈崴: [U] code indention @ Fri Aug 25 14:53:35  
张蔚桐: [U] README “@ Fri Aug 25 11:58:08  
张蔚桐: [U] finish report 1 2 @ Fri Aug 25 11:56:54  
张蔚桐: [U] report finish part 1 and 2 @ Fri Aug 25 11:45:14  
线上修改: Update README.md @ Fri Aug 25 11:33:52  
张蔚桐: [U] release PCB @ Thu Aug 24 09:17:36  
陈崴: [U] try baudrate 115200 @ Wed Aug 23 22:35:12

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线上修改: [U] Fin some awkward format errors on markdown @ Wed Aug 23 20:59:47

线上修改: Update README.md @ Wed Aug 23 20:56:35

线上修改: Update README.md @ Wed Aug 23 20:55:10

张蔚桐: [U] finish PCB @ Wed Aug 23 20:49:49

张蔚桐: [version update] static complie with Qt 5.9 @ Sun Aug 13 18:30:50

线上修改: Delete DesignRuleCheck.bak @ Fri Aug 11 10:39:47

线上修改: Delete Design Rule Check - PCB1.html @ Fri Aug 11 10:39:33

张蔚桐: [D] rm @ Thu Aug 10 09:27:49

张蔚桐: [U] rm the useless change @ Thu Aug 10 09:26:55

张蔚桐: [D] remove useless PCB component @ Thu Aug 10 09:20:24

张蔚桐: [U] fix bugs of baudrate @ Thu Aug 10 09:15:10

线上修改: [U] servo @ Tue Aug 8 23:07:08

陈巍: [U] servo @ Tue Aug 8 22:59:28

陈巍: [A] servo @ Tue Aug 8 22:58:05

线上修改: [U] protocol - servo @ Tue Aug 8 22:03:54

张蔚桐: [A] add on protocol @ Tue Aug 8 10:55:48

张蔚桐: [A] pushbutton remote control finished @ Tue Aug 8 10:45:58

张蔚桐: [A] keyboard remote control finished @ Tue Aug 8 10:21:06

张蔚桐: [A] finish the PCB @ Mon Aug 7 21:00:14

张蔚桐: [U] update pins for OV @ Sun Aug 6 20:49:45

张蔚桐: [A] simply finish the PCB design @ Sun Aug 6 18:43:45

张蔚桐: [U] NOTE the host machine is release @ Sat Aug 5 11:59:01

张蔚桐: [U][R] Release the host machine - NOTICE - You can run it in release mode - Err ratio: approx 20 张蔚桐: [U]IMPORTANT UPDATE: fix bugs of host @ Sat Aug 5 11:27:21

张蔚桐: [U] temp commit with Graphics all white @ Sat Aug 5 11:13:19

张蔚桐: [U] temp commit with Graphics to fix @ Sat Aug 5 10:58:12

张蔚桐: [U] Temp update with bugs to fix @ Sat Aug 5 07:47:19

线上修改: [U] ov7670 @ Fri Aug 4 23:37:03

张蔚桐: [U] update host computer - Greatly rely on performance of the computer - Err ratio using demo: 1 张蔚桐: [U] refine the structure of serial port @ Fri Aug 4 21:40:33

张蔚桐: [U] IMPORTANT UPDATE - No data lost - TODO: readALL() - TODO: update the GL (or use QImage instead) @ Fri Aug 4 19:58:34

张蔚桐: [U] a temp commit with lots of bugs to be fixed @ Fri Aug 4 18:44:43

张蔚桐: [D] remove the baudrate controller @ Fri Aug 4 17:30:32

陈巍: [U] ov7670 @ Fri Aug 4 14:32:41

陈巍: [U] ov7670 works well @ Fri Aug 4 14:25:36

线上修改: [U] fix @ Fri Aug 4 12:56:41

陈巍: Merge branch 'local' @ Fri Aug 4 12:48:31

陈巍: [U] ov7670 generally works: 修改了一下初始化配置, 不一定比原来好, 可以进一步测试。现在初始化返回值共 517 字节。初始化后的几帧可能不太稳定, 直接舍弃。读取图像速度改为 100us 每字节, 需在上位机方面优化。图像可能出现某块状或条状区域数据异常, 表现为彩块或彩条。@ Fri Aug 4 12:30:52

张蔚桐: [U] update the BOM @ Thu Aug 3 22:03:29

张蔚桐: [A] resource of PCB all finished @ Thu Aug 3 18:16:16

陈巍: Merge branch 'master' into local @ Thu Aug 3 18:13:04

张蔚桐: [bug fixed] - fix the bug of exit - refine the method to write to files  
- can accept 10ms/640B input - may rely on the performance of computer  
- NOT stable @ Thu Aug 3 16:59:16

张蔚桐: [U] output to file, BUG: cant exit normally @ Thu Aug 3 12:39:47

陈巍: [D] x64/Release/UserInterface.exe @ Thu Aug 3 09:41:27

陈巍: [U] read frame data (simply tested) - 摄像头只可初始化一次, 若初始化中断或错误或重新初始化, 则需要重新上电。所以注释了 OV\_INIT.v LINE51。 - (未测试) 目前只处理了 QVGA 的一帧, 即只使用 FIFO 的一半空间。 - 目前发给上位机的数据中, 前 328B 为初始化返回值, 若初始化成功, 则第 7 字节为 0x73, 第 11 字节为 0x76, 第 327 字节为 0x0D, 第 328 字节为 0x0A, 其余字节为 0x00。 - (未测试) 从第 329 字节起为图像数据, 前 320×240×2 字节为 RGB565 数据, 最后 2 字节为 0x0D、0x0A。似乎数据仍有错误, 需要进一步测试。 - 目前发送图像数据的逻辑为: 当 FIFO 中写满了一帧 QVGA 数据, OV\_READ 模块按字节传给顶层, 两字节间隔 10us; 顶层每接收到一个字节, 立即以波特率 115200 发给上位机。@ Thu Aug 3 00:32:17

陈巍: [U] ov7670 initialization @ Wed Aug 2 21:54:40

张蔚桐: [A] Bill Of Materials @ Wed Aug 2 15:45:23

线上修改: [U] low level indicates success @ Wed Aug 2 15:04:56

张蔚桐: [U] clear queue when establishing the connect @ Wed Aug 2 09:14:29

张蔚桐: [U] upper demo @ Wed Aug 2 09:12:25

张蔚桐: [A] release project to .exe @ Tue Aug 1 20:15:35

陈巍: [U] fix LINE144 @ Tue Aug 1 20:00:55

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张蔚桐: [U] bug fixed and finish the verify of the image @ Tue Aug 1 19:51:46  
线上修改: [U] fix LINE144 @ Tue Aug 1 19:49:58  
张蔚桐: [U] Finish Serial Port connection @ Tue Aug 1 19:08:30  
陈巍: [A] rtl top (untested) 整合了摄像头初始化、数据读取和串口通信。帧数据按每像素先高字节后低字节的顺序发送至上位机，每帧以 0x0D 0x0A 结束，共  $320 \times 240 \times 2 + 2 = 153602$  字节。@ Tue Aug 1 18:28:01  
陈巍: [U] ov7670 initial configuration QVGA RGB565 @ Tue Aug 1 18:26:17  
陈巍: [A] read frame data (untested) @ Tue Aug 1 15:09:45  
张蔚桐: [U] preview report section 2 finished @ Tue Aug 1 11:00:10  
张蔚桐: [D] remove useless project in circuit/ @ Tue Aug 1 09:00:58  
线上修改: [A] sccb interface (untested) @ Mon Jul 31 23:16:26  
陈巍: [U] ov7670 initial configuration @ Mon Jul 31 22:30:30  
陈巍: [A] sccb interface (untested) @ Mon Jul 31 21:32:49  
线上修改: [A] uart modules @ Mon Jul 31 20:08:05  
张蔚桐: [D] del some unuseful qss file @ Mon Jul 31 19:47:15  
张蔚桐: [R] UI basically finished @ Mon Jul 31 18:42:03  
陈巍: [U] bluetooth communication @ Mon Jul 31 16:32:17  
陈巍: [A] uart modules Verilog 串口模块，波特率可调，8 数据位，无校验位，1 停止位。高波特率时有误码现象，需改进。@ Mon Jul 31 16:14:46  
张蔚桐: [A] user interface @ Mon Jul 31 11:56:44  
张蔚桐: [F] 3v3 sch finished @ Sun Jul 30 19:50:00  
张蔚桐: [A] PCB lib for AD add in, @ Sun Jul 30 19:08:30  
张蔚桐: [U] report tasks @ Sun Jul 30 11:25:30  
张蔚桐: [A] blank task table finished @ Sun Jul 30 11:16:58  
线上修改: Update README.md @ Sun Jul 30 11:09:12  
张蔚桐: [A] Readme @ Sun Jul 30 11:03:05  
张蔚桐: [A] README @ Sun Jul 30 11:01:59  
张蔚桐: [A] CHN datasheet and SCCB code @ Sat Jul 29 15:59:44  
张蔚桐: [A] OV datasheet and summary @ Sat Jul 29 12:05:27  
张蔚桐: Initial commit @ Sun Jul 9 09:31:41