

06/20/20

Forked the project from

"https://github.com/cejasmamas/software-rasterizer-ultibo-"

commit ad8fd4c4881a9d0213a427dd2adeb5ab4c527ef9 (HEAD -> master, origin/master, origin/HEAD)

Author: cejasmamas <65371443+cejasmamas@users.noreply.github.com>

Date: Sat Jun 20 22:33:35 2020 -0600

Add files via upload

Since my original forked "ad8fd4c4881a9d0213a427dd2adeb5ab4c527ef9" had gone thru several modifications. A merge was required.

git remote add upstream https://github.com/cejasmamas/software-rasterizer-ultibo-

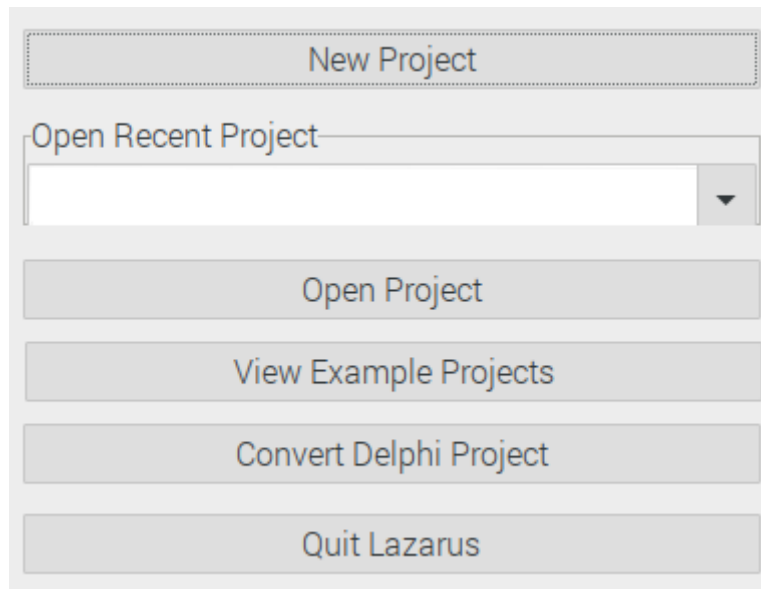
git fetch upstream

git merge upstream/master

git push origin master

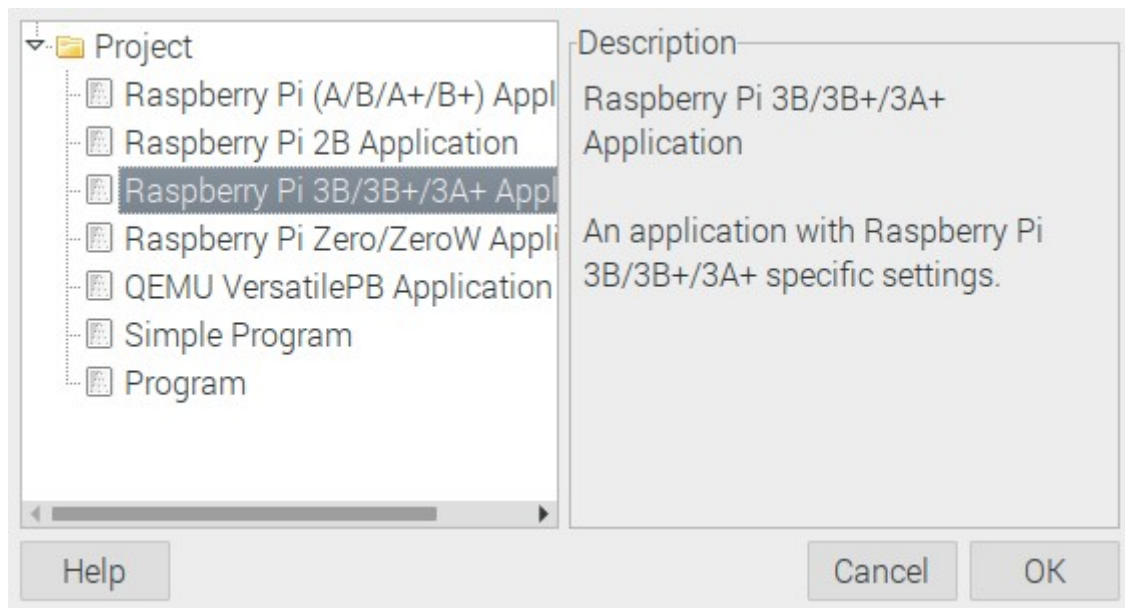
This update the project to the same as **Ultibo member JRsamyoa**

"57fc04fa13fe90c0cdca9ff6cd37b0a74bc5561c" on github.



Depress New Project

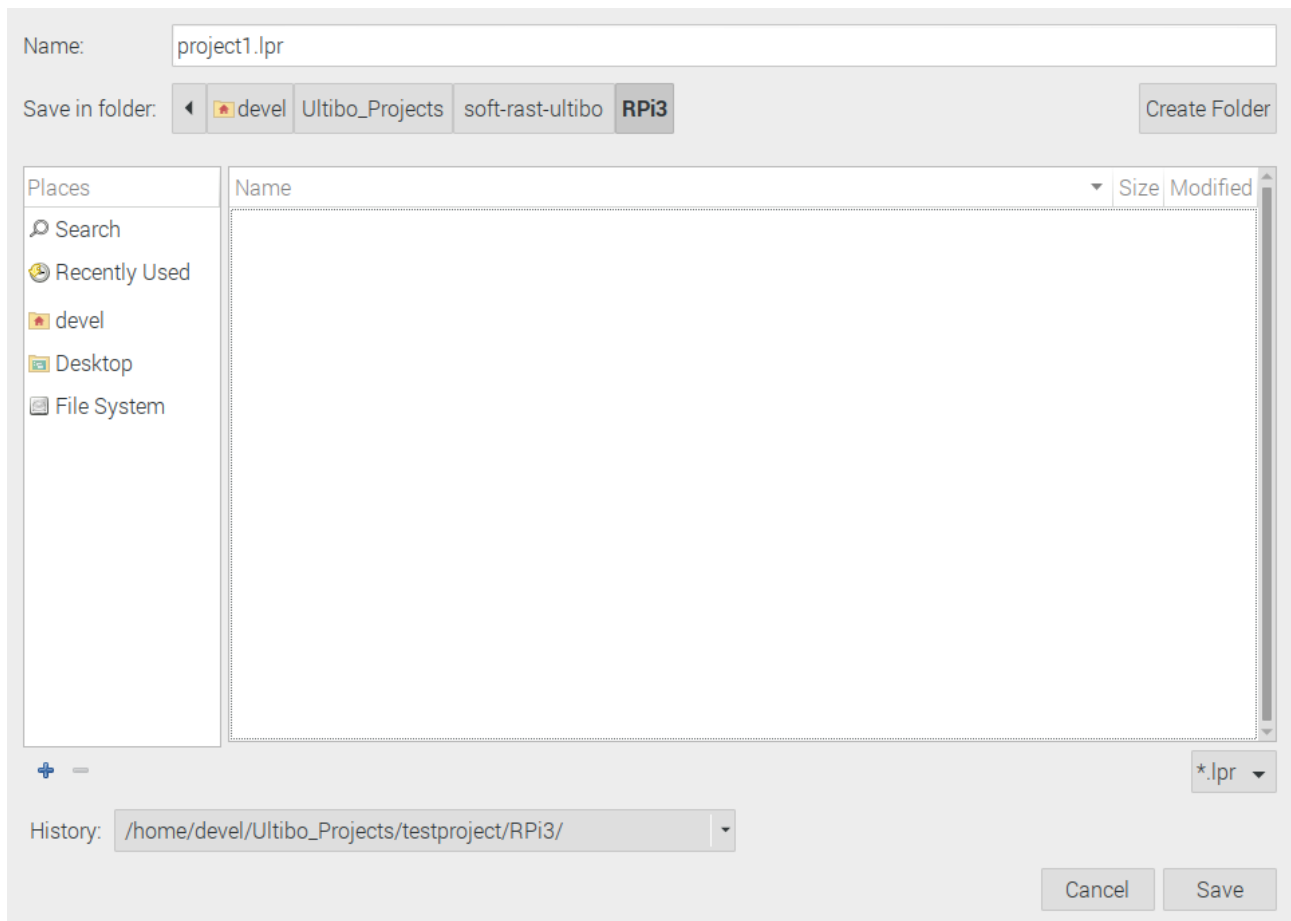
This project will be for a Raspberry Pi 3



Depress OK

Lazarus IDE (Ultibo Edition)
In my Ultibo_Projects
soft-rast-ultibo/Rpi3

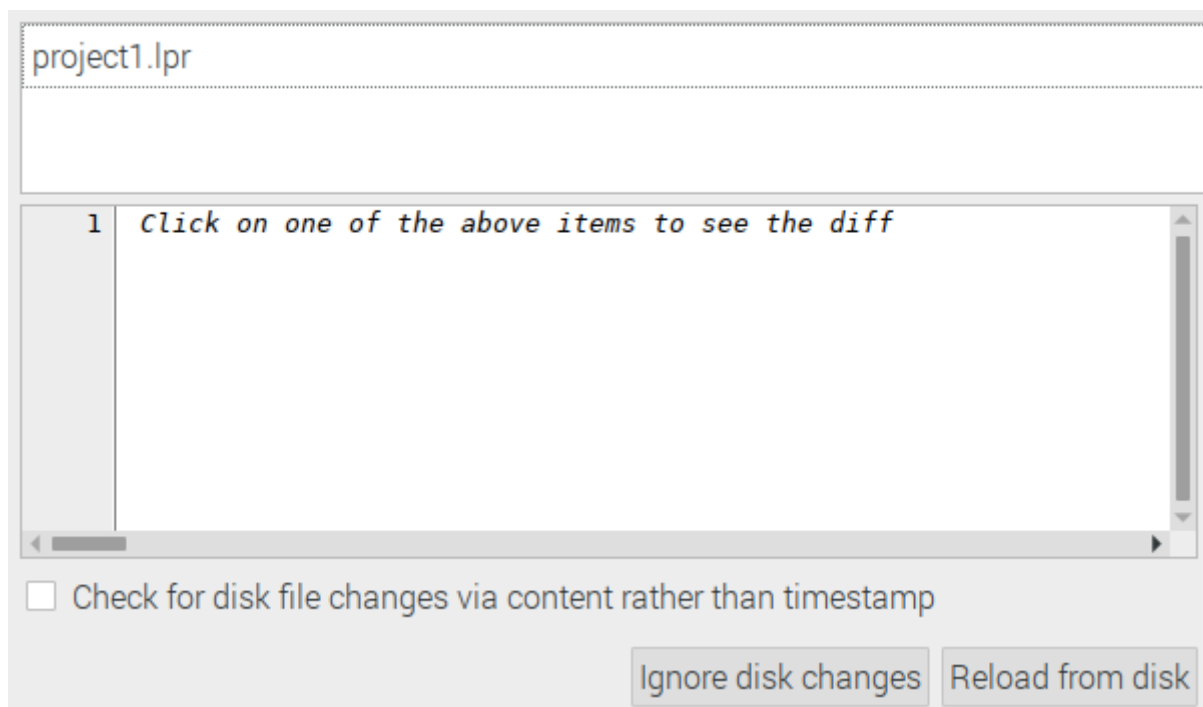
Note: The name was project1.lpr. This was the name Ultibo member JRsamyoa used in his project. This is the point where a new name could have been selected.



Over write the project1.lpr with the file from software-rasterizer-ultibo-/project1.lpr

cp software-rasterizer-ultibo-/project1.lpr Ultibo_Projects/soft-rast-ultibo/Rpi3/

This will prompt to Reload from disk



Depress Reload from disk

At this point the project needs to several C libraries.

```
{${linklib Testnanogl}  
{${linklib t3dlib1}  
{${linklib t3dlib4}  
{${linklib t3dlib5}  
{${linklib t3dlib6}  
{${linklib t3dlib7}  
{${linklib t3dlib8}  
{${linklib t3dlib9}  
{${linklib t3dlib10}  
{${linklib t3dlib11}  
{${linklib t3dlib12}  
{${linklib t3dlib13}
```

The above C & headers are in a folder “**t3eng**”

In additon the main C library is needed.

```
procedure test; cdecl; external 'libTestnanogl' name 'test';
```

Adding the 2nd project Ultibo_Projects/soft-rast-ultibo/

Ultibo member JRsamayoa must work on MS Windows where upper/lower case is not a problem. I work on a RPi4. This require the headers to be lower case.

modified:

```
t3deng/t3dlib10.c t3deng/t3dlib13.c t3deng/t3dlib5.c t3deng/t3dlib8.c  
t3deng/t3dlib11.c t3deng/t3dlib1.c t3deng/t3dlib6.c t3deng/t3dlib9.c  
t3deng/t3dlib12.c t3deng/t3dlib4.c t3deng/t3dlib7.c
```

Since the headers were lower case.

```
t3deng/t3dlib10.h t3deng/t3dlib13.h t3deng/t3dlib5.h t3deng/t3dlib8.h  
t3deng/t3dlib11.h t3deng/t3dlib1.h t3deng/t3dlib6.h t3deng/t3dlib9.h  
t3deng/t3dlib12.h t3deng/t3dlib4.h t3deng/t3dlib7.h
```

Added a script buildlibs.sh which compiles

```
t3deng/t3dlib10.c t3deng/t3dlib13.c t3deng/t3dlib5.c t3deng/t3dlib8.c  
t3deng/t3dlib11.c t3deng/t3dlib1.c t3deng/t3dlib6.c t3deng/t3dlib9.c  
t3deng/t3dlib12.c t3deng/t3dlib4.c t3deng/t3dlib7.c
```

and raiders3d.c in ~/Ultibo_Projects/soft-rast-ultibo/raiders3d_ultibo_source/RPI3
create the libraries needed for the project.

```
libraider3d.a libt3dlib11.a libt3dlib1.a libt3dlib6.a libt3dlib9.a  
libraiders3d.a libt3dlib12.a libt3dlib4.a libt3dlib7.a  
libt3dlib10.a libt3dlib13.a libt3dlib5.a libt3dlib8.a
```

At this point the project needs to several C libraries.

```
{${linklib raiders3d}  
{${linklib t3dlib1}  
{${linklib t3dlib4}  
{${linklib t3dlib5}  
{${linklib t3dlib7}  
{${linklib t3dlib6}  
{${linklib t3dlib8}
```

```

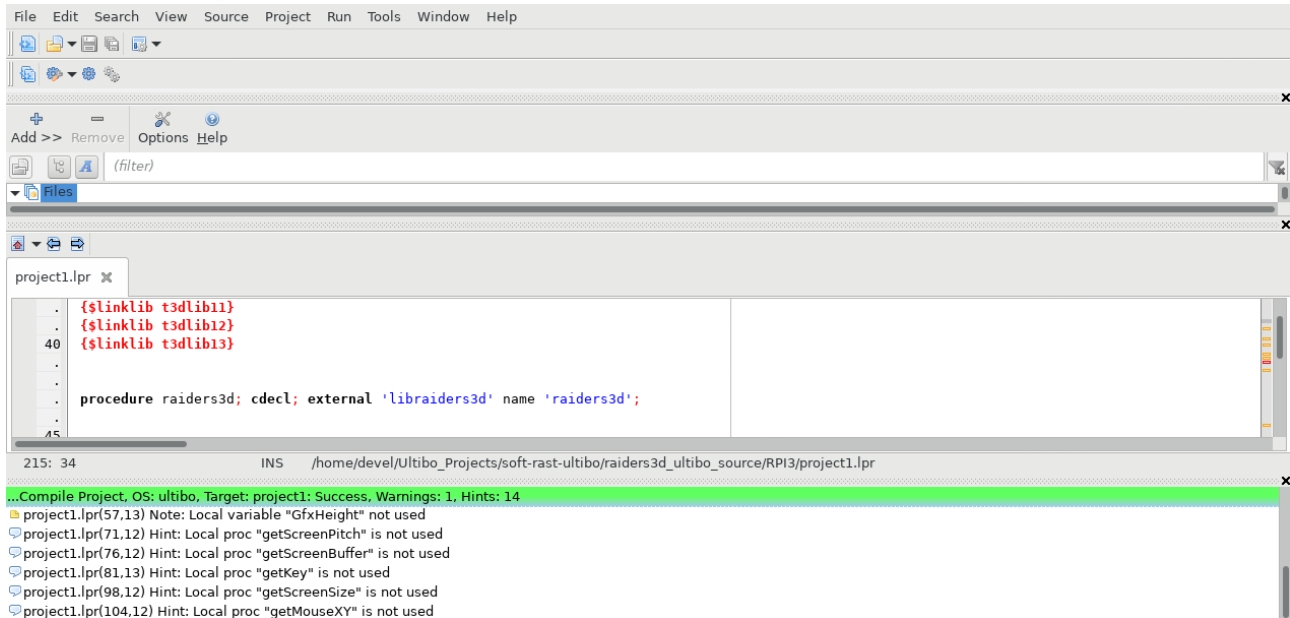
{$linklib t3dlib9}
{$linklib t3dlib10}
{$linklib t3dlib11}
{$linklib t3dlib12}
{$linklib t3dlib13}

```

```

procedure raiders3d; cdecl; external 'libraiders3d' name 'raiders3d';

```



After pressing the Run/Compile and the green bar appears the kernel7.img is ready to be transferred to the micro sd.

```

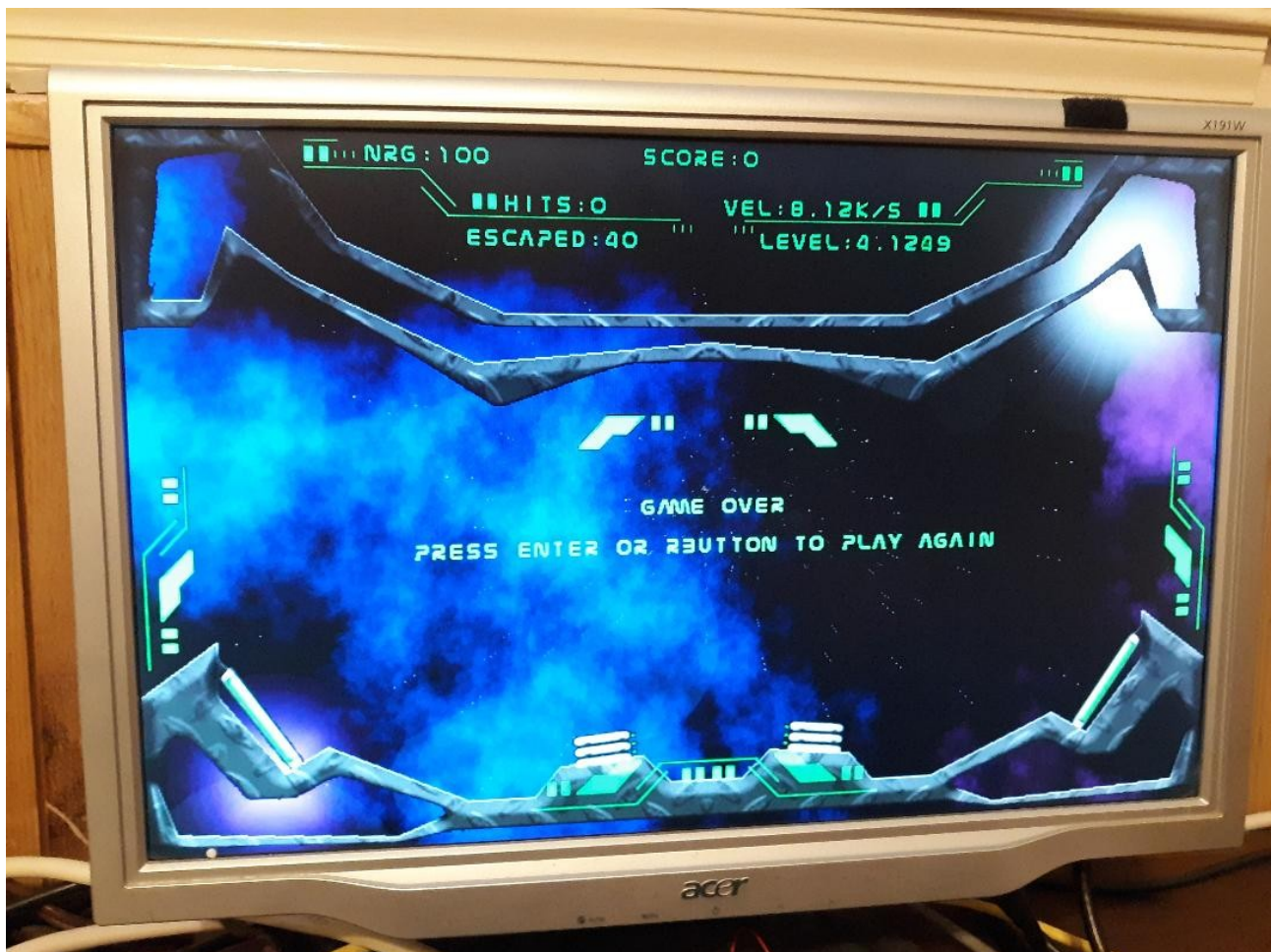
bootcode.bin  crosshair01.bmp  kernel7.img    start_db.elf
cockpit03b.bmp ERROR.TXT      LICENCE.broadcom start.elf
cockpit03.bmp  fixup_cd.dat    nebblue01.bmp  start_x.elf
cockpit03bW.bmp fixup.dat      nebgreen03.bmp tech_char_set_01.bmp
cockpit03W.bmp fixup_db.dat    nebred01.bmp   tie04.cob
config.txt     fixup_x.dat    start_cd.elf

```

```

md5sum firmwar_for_ultibo/022720/*
156a886d5855e42a887f0dd9316fb4e3 firmwar_for_ultibo/022720/bootcode.bin
5fc4614096c4b753fd940b75b1fa2247 firmwar_for_ultibo/022720/fixup.dat
fb8e67c4e54427fdca9fab410d41ce2e firmwar_for_ultibo/022720/fixup_x.dat
9864d17fa3bcd20738ee9c0c67b2330c firmwar_for_ultibo/022720/start.elf
6fa698231abdd267ba84c4cf3c7ab8d2 firmwar_for_ultibo/022720/start_x.elf

```



Use the mouse to move the targeting reticule and the left mouse button to fire. To exit, press Esc. The gameplay logic is very simple: You must destroy the incoming enemies with your particle beam weapons. When 25 enemies escape your clutches, the game ends. To restart, simply press Return. Some of the other engine controls are still available, for example:

- W—Toggles the wireframe mode
- I—Toggles the primary sun point light
- A—Toggles the ambient light