

# Tetris - Basic Implementation Practice for Android

deepwaterooo

May 4, 2016

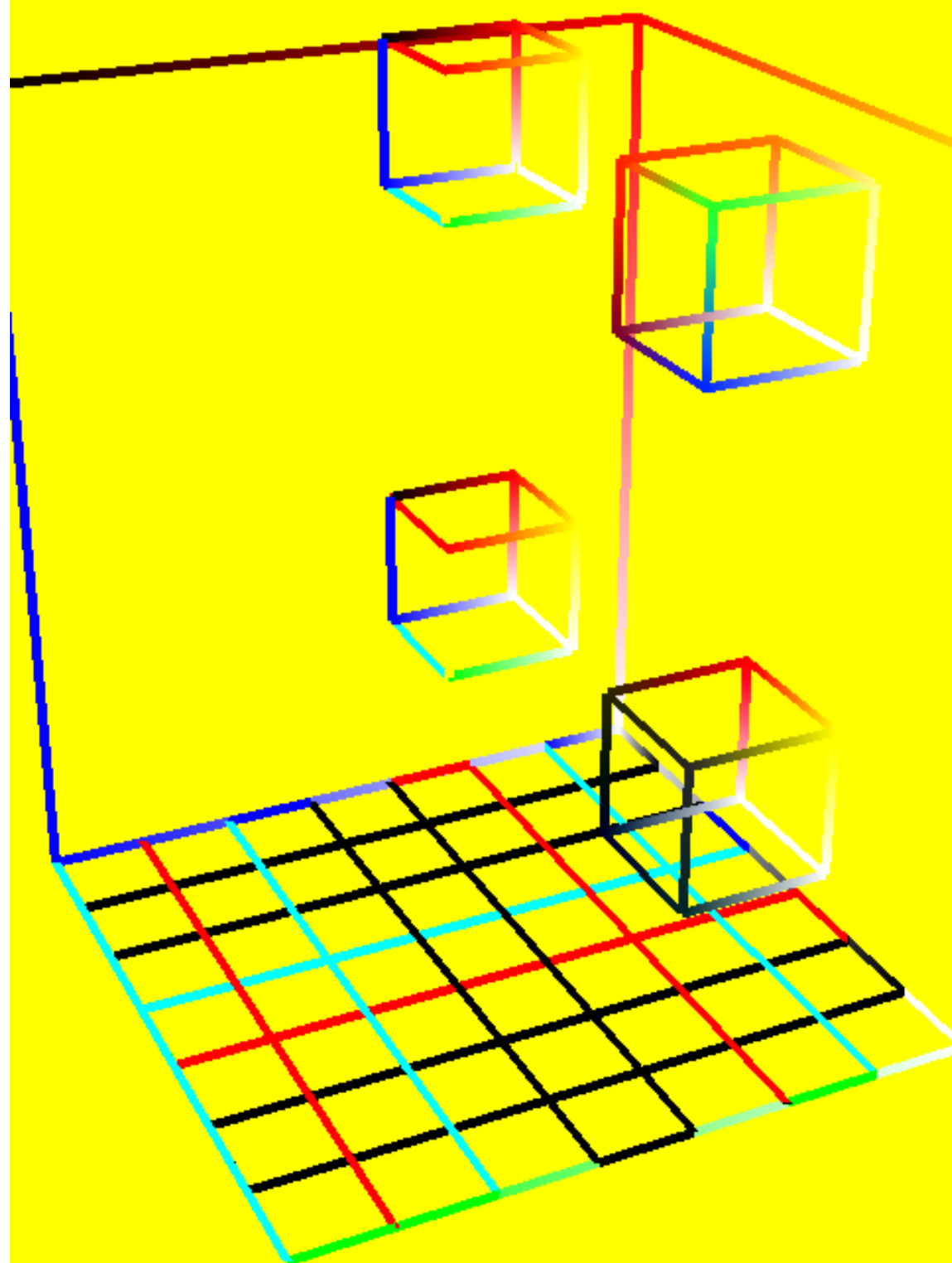
## Contents

1	Better version, pretty good	1
1.1	OpenGL 3D tetris status	1
1.2	folders	3
2	References	3
2.1	Activity.runOnUiThread()	3
2.2	3D design	3
2.3	GLSurfaceView	4
2.4	eventQueue vs SurfaceView threads	5
2.5	Canvas Path subclass	5
2.6	SurfaceView	5
2.7	gestures	6

## 1 Better version, pretty good

### 1.1 OpenGL 3D tetris status

- I didn't do anything, but Emacs + Auctex + org-mode export pdf Chinese just displayed as I wished~ !!!!
- Will work on Cube project, and build a simple version of opengl tetris game from that app first, and come back to this one later.
- This project will be ongoing secondary priority project fo recent days considering my first priority will be current course projects.
- 3d game layout structure:



- a video for this Tetris game can be directly watched at <https://www.youtube.com/watch?v=Ht4N0rEUtFk>
- A video for the previous DrawingFun Android App can be watched at <https://www.youtube.com/watch?v=YV78Tk>, or by searching deepwaterooo Wang.

## 1.2 folders

- lame2d: the very first version of the game.
- 2d: SurfaceView rednering 2d Implementation.
- 3d: will work on a simple opengl 3d version first.
- glar3d: opengl 3d adapt from tetrisglar app, will implement when simple 3d version is done. (After having understood texture and lights better, tried to debug this one for a while, but still complicated design and layout still make this one to some extend difficult for me for now.)

## 2 References

### 2.1 Activity.runOnUiThread()

- <http://stackvoid.com/introduction-to-Message-Handler-in-Android/>
- <http://m.oschina.net/blog/97619>
- AssetManager: <http://m.jb51.net/article/57341.htm>
- A 3d reference: <https://github.com/kdomic/android-3d-tetris>

### 2.2 3D design

- c++ version: <https://github.com/matachi/tetris-cpp>
- refer 6 [http://www.oschina.net/question/614942\\_62370](http://www.oschina.net/question/614942_62370)
- [http://www.oschina.net/question/565065\\_67280](http://www.oschina.net/question/565065_67280)
- triangle: <http://stackoverflow.com/questions/9945321/triangle-opengl-in-android>
- <https://gist.github.com/SebastianJay/3316001>
- 射线拾取: <http://itdocument.com/479827008/>
- 旋转及手势: <http://vaero.blog.51cto.com/4350852/790620>
- 2 <http://vaero.blog.51cto.com/4350852/790637>
- <http://www.lai18.com/content/951343.html>
- opengl 选择与反馈: <http://zhidao.baidu.com/question/496046750245095004.html>
- <http://wenku.baidu.com/view/58190d1efad6195f312ba6f7.html>
- c++ <http://blog.csdn.net/u010223072/article/details/45369075>
- <http://codercdy.com/2015/06/17/openglxue-xi-bi-ji-xuan-ze-he-fan-kui/>
- [https://books.google.com/books?id=u6EHM\\_0zaFQC&pg=PA1987&lpg=PA1987&dq=opengl%E9%80%89%E6%A9%E4%B8%8E%E5%8F%8D%E9%A6%88&source=bl&ots=L9Y66QSEhu&sig=f1h\\_RadXRDFsa9L5IY430HGTG34&hl=es&sa=X&ved=0ahUKewjA6vTRo\\_jLAhVH3mMKHQIXBxYQ6AEIPDAE#v=onepage&q=opengl%E9%80%89%E6%A9%E4%B8%8E%E5%8F%8D%E9%A6%88&f=false](https://books.google.com/books?id=u6EHM_0zaFQC&pg=PA1987&lpg=PA1987&dq=opengl%E9%80%89%E6%A9%E4%B8%8E%E5%8F%8D%E9%A6%88&source=bl&ots=L9Y66QSEhu&sig=f1h_RadXRDFsa9L5IY430HGTG34&hl=es&sa=X&ved=0ahUKewjA6vTRo_jLAhVH3mMKHQIXBxYQ6AEIPDAE#v=onepage&q=opengl%E9%80%89%E6%A9%E4%B8%8E%E5%8F%8D%E9%A6%88&f=false)
- c++ codes: <http://dev.gameres.com/program/Visual/3D/Selection.htm>
- 画线: c++ <http://www.programgo.com/article/43724048060/>
- draw line: <http://www.linuxdc.com/Linux/2011-09/42307p3.htm>

- <http://stackoverflow.com/questions/9217702/open-gl-es-2-0-drawing-a-simple-line>
- 距阵变换: <http://www.cnblogs.com/caster99/p/4780984.html>
- <http://www.flakor.cn/2014-05-15-384.html>
- shader util: <http://blog.csdn.net/shulianghan/article/details/17020359>
- 详解距阵变换: [http://www.cnblogs.com/kesalin/archive/2012/12/06/3D\\_math.html](http://www.cnblogs.com/kesalin/archive/2012/12/06/3D_math.html)
- <http://mail.cfanz.cn/index.php?c=article&a=read&id=270244>
- one example: <http://www.apkbus.com/blog-99192-39498.html>
- ex2 for shader matrix: [http://www.voidcn.com/blog/peanut\\_\\_love/article/p-2891341.html](http://www.voidcn.com/blog/peanut__love/article/p-2891341.html)
- 西蒙 iPhone-OpenGL ES 中文教程专题: <http://www.cocoachina.com/special/2010/0126/404.html>
- 运动: <http://www.cocoachina.com/bbs/read.php?tid-7601-fpage-10.html>
- 
- 距阵: <http://blog.csdn.net/wangdingqiaoit/article/details/39010077>
- <http://blog.csdn.net/popy007/article/details/5120158> UNV
- <http://www.tqcto.com/article/mobile/23873.html> eye
- <http://blog.csdn.net/wangdingqiaoit/article/details/39937019>
- [https://developer.apple.com/library/ios/documentation/3DDrawing/Conceptual/OpenGL\\_ES\\_Program\\_Introduction/Introduction.html](https://developer.apple.com/library/ios/documentation/3DDrawing/Conceptual/OpenGL_ES_Program_Introduction/Introduction.html)
- <http://blog.csdn.net/shulianghan/article/details/46680803>
- rotation: <http://stackoverflow.com/questions/13480043/opengl-es-android-matrix-transformation>
- glsl example: <http://cse.csusb.edu/tongyu/courses/cs520/notes/android-es2.php>
- shader parser: <http://stackoverflow.com/questions/19452240/opengl-glsl-void-parse-error-on-ver>
- separate file: <http://stackoverflow.com/questions/30345816/splitting-a-text-file-into-multiple->
- 
- 
- 
- 

## 2.3 GLSurfaceView

- opengl: <http://androidblog.reindustries.com/a-real-open-gl-es-2-0-2d-tutorial-part-1/>
- Graphics architecture: <https://source.android.com/devices/graphics/architecture.html>
- <http://stackoverflow.com/questions/5169338/android-deciding-between-surfaceview-and-opengl>
- 引路蜂 better: <http://blog.csdn.net/mapdigit/article/details/7526556>
- 真正的 3D 图形: <http://www.imobilebbs.com/wordpress/archives/1554>
- a Cube: [http://www.oschina.net/question/4873\\_28325](http://www.oschina.net/question/4873_28325)
- modification: <https://github.com/googleglass/gdk-apidemo-sample/blob/master/app/src/main/java/com/google/android/glass/sample/apidemo/opengl/Cube.java>
- Android OpenGL ES 简明开发教程小结: <http://www.imobilebbs.com/wordpress/archives/1583>
-

- 
- 
- <http://hellosure.github.io/android/2015/06/01/android-glsurfaceview/>
- <http://ju.outofmemory.cn/entry/172850>
- 画图: <http://www.mobile-open.com/2015/81568.html>
- <http://tangzm.com/blog/?p=20>
- <http://www.apkbus.com/blog-99192-39584.html>
- onDrawFrame intro: <http://www.jayway.com/2009/12/03/opengl-es-tutorial-for-android-part-i/>
- failed: <http://stackoverflow.com/questions/28711850/android-opengl-how-to-draw-a-rectangle>
- onTouchEvent: [http://blog.csdn.net/niu\\_gao/article/details/8673662](http://blog.csdn.net/niu_gao/article/details/8673662)
- volatile <http://www.voidcn.com/blog/fanfanxiaozi/article/p-3668133.html>
- <http://mobile.51cto.com/aengine-437172.htm>
- OpenGL ES related: <http://stackoverflow.com/questions/9945321/triangle-opengl-in-android>
- OpenGL ES 2.0 Sample Code: <http://androidbook.com/item/4254>
- intros: 详解 [http://blog.csdn.net/niu\\_gao/article/details/7566297](http://blog.csdn.net/niu_gao/article/details/7566297)
- 画线: <http://www.cnblogs.com/lhxin/archive/2012/06/01/2530828.html>
- <http://bbs.9ria.com/thread-201740-1-1.html>
- <http://imgtec.eetrend.com/blog/5078>
- draw a ball [http://shikezhi.com/html/2015/android\\_1022/561912.html](http://shikezhi.com/html/2015/android_1022/561912.html)
- for Board c++: <http://www.jiancool.com/article/24471349949/>
- possible? [http://code1.okbase.net/codefile/CCFormatter.java\\_2015072733469\\_393.htm](http://code1.okbase.net/codefile/CCFormatter.java_2015072733469_393.htm)
- <http://www.mobile-open.com/2015/80379.html>

## 2.4 eventQueue vs SurfaceView threads

- Deeper summary, android graphics architecture: <http://hukai.me/android-deeper-graphics-architecture/>
- 2 threads, load, read, <http://blog.csdn.net/hellojv/article/details/5986835>

## 2.5 Canvas Path subclass

- how to define drawLine to be drawShapes?

## 2.6 SurfaceView

- Surface runnable <http://android.okhelp.cz/surfaceview-implements-runnable-android-code/>
- Example: <http://technicalsearch.iteye.com/blog/1967616>
- <http://www.jcodecraeer.com/a/anzhuokaifa/androidkaifa/2012/1201/656.html>
- Event Queue: <http://www.leestorm.com/post/17.html>
- lockCanvas(Rect 小图) [http://blog.csdn.net/alexander\\_xfl/article/details/13000347](http://blog.csdn.net/alexander_xfl/article/details/13000347)
- example: <http://fanli7.net/a/JAVAbiancheng/ANT/20120424/160203.html>
- MotionEvent: <http://android.jobbole.com/82072/>

- surfaceview 双缓冲: <http://blog.csdn.net/cnblogger/article/details/7404485>
- sth worth try: <http://www.lxway.com/969295592.htm>
- Dont Understand: [http://blog.sina.com.cn/s/blog\\_5a6f39cf01012rtv.html](http://blog.sina.com.cn/s/blog_5a6f39cf01012rtv.html)
- tried: <http://bbs.csdn.net/topics/370074255> drawBitmap 2 canvas
- slightly complicated: <http://www.lxway.com/148606691.htm>
- slightly complicated: <http://www.lxway.com/186948856.htm>

## 2.7 gestures

- <http://www.cnblogs.com/akira90/archive/2013/03/10/2952886.html>
- Android 触摸手势基础官方文档概览: <http://www.lxway.com/445554926.htm>
- 手势: <http://wiki.jikexueyuan.com/project/material-design/patterns/gestures.html>
- <http://www.lxway.com/601620614.htm>
- <http://www.lxway.com/282219004.htm>
- <http://www.lxway.com/906451412.htm>
- <http://www.lxway.com/146619692.htm>
- <http://www.lxway.com/4420294641.htm>
- <http://www.lxway.com/155059816.htm>
- <http://www.lxway.com/4019928952.htm>
- 例子: <http://bbs.chinaunix.net/thread-3634477-1-1.html>
- 例子: <http://www.bestappsmarket.com/p/app?appId=1192877&title=tetris-%E4%BF%84%E7%BD%97%E6%96%AF%E6%96%B9%E5%9D%97>
- 例子: <http://bbs.chinaunix.net/thread-3634477-1-1.html>
- iTetris: <http://searchapp.soft4fun.net/article/information/iTetris%20%E4%BF%84%E7%BD%97%E6%96%AF%E6%96%B9%E5%9D%97/313319>
- left right: <http://www.jb51.net/article/77028.htm>
- AI: <http://www.cnblogs.com/youngshall/archive/2009/03/24/1420682.html>
- 
- 3/11/2016 Friday
- <https://github.com/Almeros/android-gesture-detectors> mac
- <http://www.jcodecraeer.com/a/anzhuokaifa/androidkaifa/2015/0211/2467.html>
- <http://www.hejun.biz/81.html>
- <http://www.jb51.net/article/38166.htm>
- <http://www.jb51.net/article/37717.htm>
- <http://mobile.51cto.com/aprogram-394841.htm>
- TetrisBattle 特殊轉入教學 (Z S J L I)
  - [https://www.youtube.com/watch?v=zW6Gp\\_7jl9I](https://www.youtube.com/watch?v=zW6Gp_7jl9I)
- 推箱子: 第 11 章 Android 游戏开发视频教程益智游戏——推箱子
  - <https://www.youtube.com/watch?v=glzxII1-P0A> 2.5D
- 祖码游戏的设计与实现