

Tetris - Basic Implementation Practice for Android

deepwaterooo

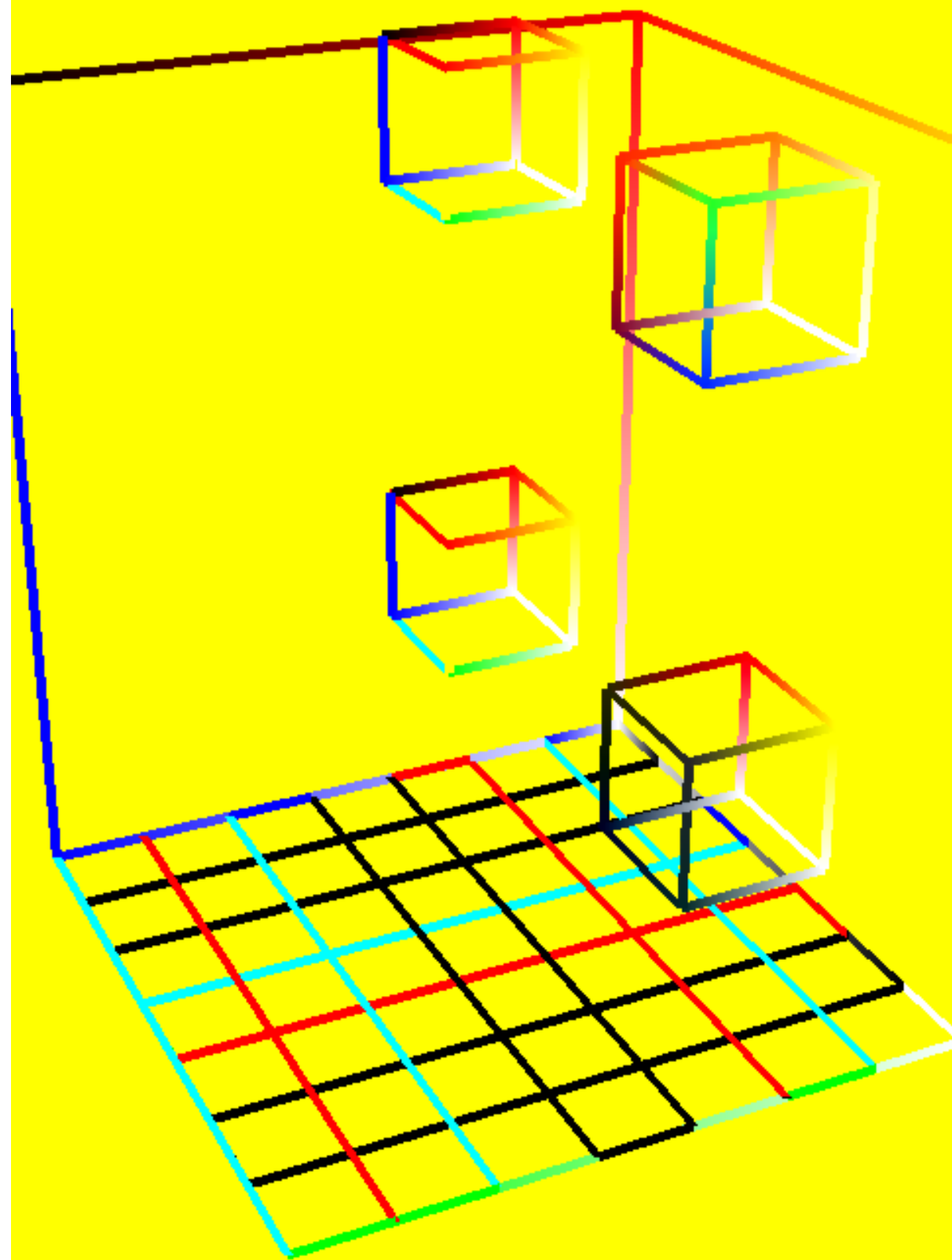
April 7, 2016

Contents

1	Better version, pretty good	1
2	References	3
2.1	3D design	3
2.2	GLSurfaceView	4
2.3	eventQueue vs SurfaceView threads	5
2.4	Canvas Path subclass	5
2.5	SurfaceView	5
2.6	gestures	5

1 Better version, pretty good

- OpenGL 3D version status:
 - Have spent two days tried to review someone else's code, but it was too complicated rather than developing my own code (`tetrisglard9qpjwxc.apk` is included in home directory for referrencing).
 - So from late this afternoon, working on my own codes, partially still referring to the other apk, but it's my flow-chart-ideas and implementation now.
 - I believe I got at least some ideas for most of the basic ideas and OpenGL technical difficulties, so the implementation won't be too hard.
 - 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=YV78Tk5--5M> , or by searching **deepwaterooo Wang**.
-
- Starting my trial for OpenGL ES, need to figure out how to draw a game board.
- Won't be able to work on it this weekend, but will work on it later on.
-
- These video will serve as the indication that as an educated well practiced graduated student, I have the solid technological background, my problem solving skills, the spirit of implementing whatever ideas for apps that I feel I am capable, as well as confidence as an entry level mobile app programmer.
- For the Tetris game, it's NOT the best product in my mind yet (though it is pretty good now and I will make it a my version of Tetris), but I want to record it so that more friends can enjoy the so far already achieved progress, and for those who just know me would be able to know what is my interested field.
- By using SurfaceView who has a separate thread for drawing/painting, this game actually it pretty good already, at least should be about 80 out of 100.
- Though I will continuous refine this game later on when I have time (Better version will be recorded and uploaded later within a month or so.), but I won't be able to work on it day in and day out recently, having other things occupied.

2 References

2.1 3D design

- c++ version: <https://github.com/matachi/tetris-cpp>
- refer 6 http://www.oschina.net/question/614942_62370
- 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%8A9%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%8B%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.linuxidc.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>
-
-

2.2 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
- 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
- volatile <http://www.voidcn.com/blog/fanfanxiaoazu/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
- 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
- for Board c++: <http://www.jiancool.com/article/24471349949/>
- possible? http://code1.okbase.net/codefile/CCFormatter.java_2015072733469_393.htm
- <http://www.mobile-open.com/2015/80379.html>

2.3 eventQueue vs SurfaceView threads

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

2.4 Canvas Path subclass

- how to define drawLine to be drawShapes?

2.5 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 小区) 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
- 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>

2.6 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_7j19I
- 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-POA> 2.5D
- 祖码游戏的设计与实现