

# Tetris - Basic Implementation Practice for Android

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## 1 Better version, pretty good

- 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**.
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- 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.
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- 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 其它类似游戏参考

### 2.1 iTetris 俄罗斯方块

这是一款针对手机触屏的经典俄罗斯方块，可以选择传统及酷炫模式，用户可根据各自喜好自定义游戏背景。人性化的操作体验，让您重温儿时经典。该款游戏特征：

1. 尽量大的利用屏幕空间显示游戏，加大了游戏的可玩性
2. 支持触屏手势，同时支持虚拟按键
3. 虚拟方向按键盘初始在在右上角，用户可长按按键盘中心提起按键盘，拖动到自己任意觉得顺手的地方
4. 长按游戏空间任何地方可以隐藏、显示方向按键盘
5. 长按虚拟按键盘中左中下键将发送连续按键信息，达到加速效果
6. 触摸游戏规则：点击屏幕改变方块形状；左右滑动改变方块左右位置，位置改变幅度与手指滑动速度与幅度有关，例如幅度较小滑动，方块将运行一格的位置，稍大滑动将运行两格位置，等等。向下加速也是这样。
7. 支持自定义游戏背景，如果有好的背景图片，用户可自行进入“菜单-游戏背景”里选择图片进行设置

## 3 References

### 3.1 GLSurfaceView

- <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/fanfanxiaoze/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>

### 3.2 eventQueue vs SurfaceView threads

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

### 3.3 Canvas Path subclass

- how to define drawLine to be drawShapes?

### 3.4 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](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>
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### 3.5 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>
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- <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>
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- AI: <http://www.cnblogs.com/youngshall/archive/2009/03/24/1420682.html>
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- <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](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