

Tetris - Basic Implementation Practice for Android

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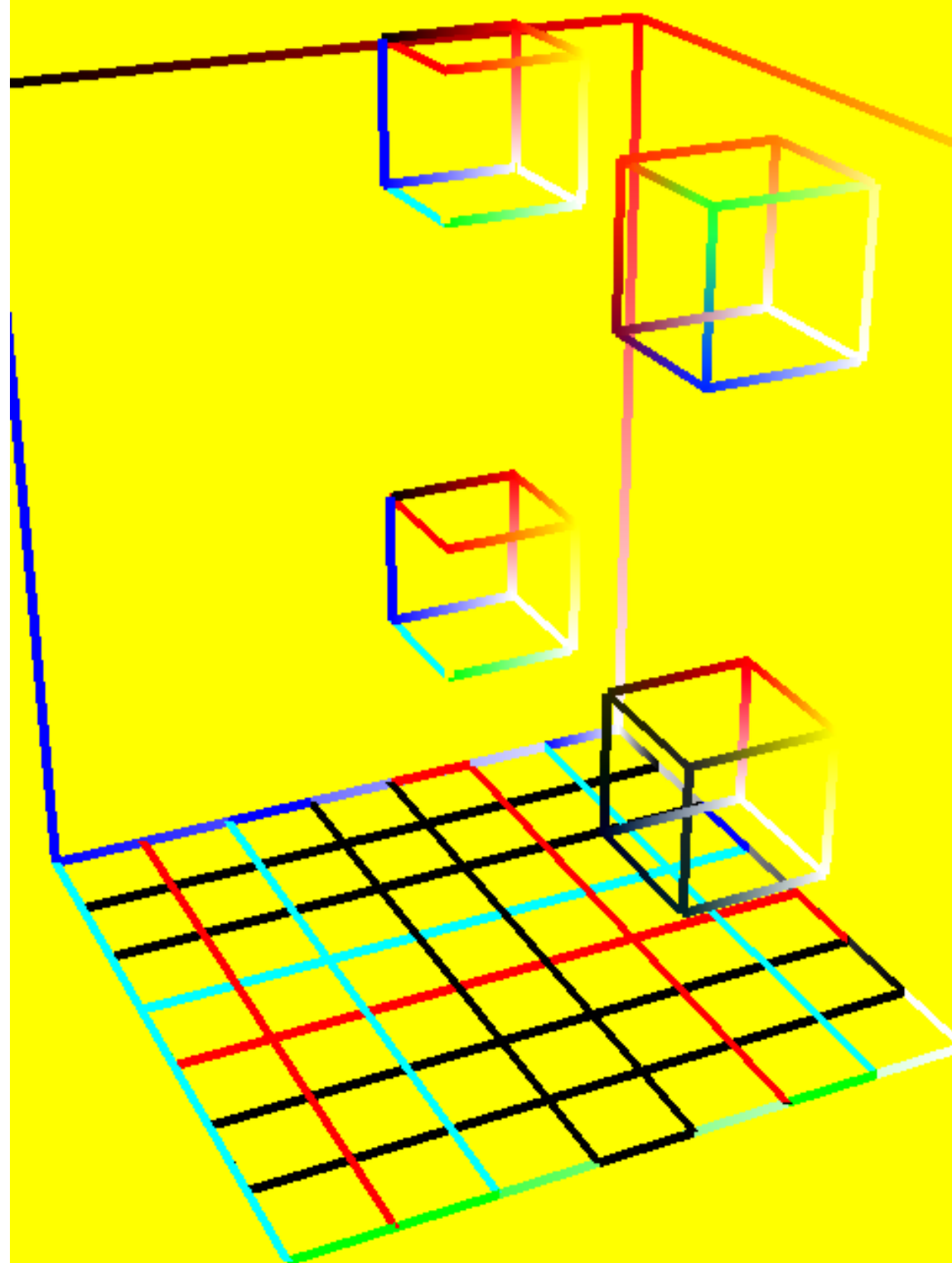
Contents

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	6

1 Better version, pretty good

- OpenGL 3D version status:
 - I believe about MVP, I am correct now, and I am using the same world center now.
 - For translation, rotation, calculation transformation matrix, I still have to write these utilities in order for my Cubes/Blocks to move.
 - And I should NOT have been blocked by this drawing for so long, but at least now I know I am correct.
 - Will work on Cube==>Block==>Model game flow on Monday, and will update on Monday latest in the evening.
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 - I think I understand all the theories now, but for drawing grids correctly, something are still wrong. Will work on it this weekend, and problem will be solved by coming Monday. Checkpoints include:
 - * Move shader and drawing back to Cube, my flow of drawing direction is inverted. I could write and get my own UNV R^T matrix and translation matrix (though it's just a wrapper from OpenGL api functions) by calculating from setLookAtM function parameters, I believe this matrix should NOT multiply on my translated & scaled coordinates.
 - * (model translate ==> model rotate ==> $V * ModelTransRotate$ result ==> $P * V * M$, left multiply for opengl matrix, which is WRONG). the correct should be:
 - * (model Rotate ==> model Translate ==> $V * ModelTransRotate$ result ==> $P * V * M$, left multiply for opengl matrix). NO no no
 - * $Vector(ofNewVertex) = M_{Projection[from \text{ screen ratio}]} * (M_{Translation[opposite \text{ eye position}]} * (M_{Rotation[UNV \text{ directions, from LookAt parameters for } Q^{(-1)} = Q^T] * Vector(ofOriginalVertex)}))$, now is right
 - * Shader can be packed into Utility, as well as MatrixState. May separate system out...
 - * quareType works fine, but not lineType, or one cube in certer, to think where is the world center (0, 0, 0)?
 - * Translation and & Rotation, I understand and I am clear what's about, maybe just move cube drawing method into cube
 - * Cube center should be an important concept here, and I need to add the 3 parameters back.
 - Once this one done, project should be left slightly easy, and will update the other "Undertable..." repository accordingly on Monday.
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- 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 referencing).
- 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:



- most challenge part for tonight, matrix translations & rotations...will continue work on it tonight
- 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 References

2.1 3D design

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2.2 GLSurfaceView

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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/hellogv/article/details/5986835>

2.4 Canvas Path subclass

- how to define drawLine to be drawShapes?

2.5 SurfaceView

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