Elder Scrolls Explorer

# TODO:

#### Media Release

1. Before making cam studio I want to??
2. Remove oblivion gate madness from tes4 (note huntersneaker needs this too)
3. Esc dialog are you sure should really be decent 3d based interface
4. Show off swing integration with inventory and esc function too
5. Maybe the HUD should be a little tidier? At least nicely laid out with info in the sides properly
6. Skyrim texture not animating (can’t even find the water fall to be honest)
7. Perhaps start the video with grag world for fun, then just blast through the others?
8. Need to explain in user guide how to convert skyrim hkx file into kf files using the tool I found, and then how to package it back into a bsa file using FOMM
9. Need to explain in user guide that the skyrim trees used in oblivion are out of a mini bsa file I pulled together, how can I distribute trees and kfs bsas?
10. The –Dj3d.antialiasing=”implicit” Need to explain how to set it in the instructions now it comes through the config file
11. Include instructions somewhere for bundle jre, and re-test it
12. Update install readme, lots of old ideas about java version and java3d
13. Need to attempt to map more skyrim trees to oblivion
14. The camera in J debug sometimes does mad angles, like up high
15. In oblivion lots of clothes that are not worn are using the worn nif
16. Fallout and skyrim still don’t organise lods properly big gaps etc
17. TES3 particles good example here F:\game media\Morrowind\Meshes\steam\_lavariver.nif
18. Morrowind doors no open PhysicsDynamics. updateRECOToggleOpen needs the artificial pivot of J3dDOOR added and listneed to by the NBKinematicRigidBody

#### HunterSneaker

1. In order to make a good tight huntersneaker, I need to cut my esm file down as well.
2. Cut out oblivion gates
3. Got my esm and 2 bsas ready to roll but they seem slower, note I put compression on
4. Note think about mesh texture separation in bsa files file locking etc

#### Physics

1. NBStaticRigidBody has a major question in it about multiplying up to the root! Also see thoughts on performance below, I notice the gate to megaton is crazy in J-physics this question is wrong for megaton walls! Needs careful thought
2. I notice my “don’t fall infinite distance” check seems rubbish. I also notice if I’m half way through the terrain and I turn F on I fall down to about 2 meters below terrain then stop (which I suppose is roughly correct?)
3. Need to make kcc unable to walk up steep slopes
4. Physics catches on things all the time morrowind, possibly between the grids, nothing shows in the J debug, I’ve fixed up the collision shape cache for morrowind, check again
5. Also sometimes physic races away (cannon shot) in a direction now, but it never used to before KCC update, debug info spews out now, and rejects
6. I have a gimbal lock flick 0,0,0,1 issue again (this might be navigation not physics)
7. PhysicsDynamics.addRECO is calling addChild to scene graphs not in a behaviour! Could be trouble
8. I need a new type of physics kcc freefly-physics that is normal except gravity doesn’t apply and upward movement is fine
9. Also I see the physics lines drawn in the wrong place but J physics is good at oblivion 29,60,-70
10. God damn tes3 has collision boxes that overlap (and are in front of) door collision boxes!! God dam it.
11. I need to make a simpler version of VisualPhysicalUniverse without physics, but CameraPanel assume it so I need to do lots of work Look into my use of VisualPhysicalUniverse, half my physics is not showing when the view specifics are disabled!! It’s madness, should I drop it totally? And make an add detach style physics branch
12. Investigate <https://github.com/aperfilev/jBullet> in case there are lots of good enhancement I need

#### Rendering

1. perhaps I should also set the polygon attributes and the transparency attributes and Coloring attributes and Texture attributes in the j3dgeometry calls, just to finish up the world nicely, I’ve set the first 2 permanently, it seems ok but may add this section to performance ideas (that is it best performance with less set) certainly the removeChild remove mirror code would benefit if the attribute is shared and increases the hashset load
2. I should improve nif display etc to take a source folder so it can be run on other computers in needed also the bsa extracted folder combo should be thought about
3. I should fork java3d commit my updates and offer hharrision a pull request
4. Load shaders now they can be decompiled to glsl, but they are hard to find, so I need to work out the defaults somehow (esm file perhaps for oblivion has heaps of them)
5. Shaders are failing on XPS-13 recheck them!
6. Water not overriding colors for skyrim and fallout, now fallout water is far too transparent!
7. Could water use the 0th row as the last row for vertex shaking to make perfect match ups? In the water.vert shader try to find a deterministic shader (current one looks deterministic to me but)
8. JInternalFrames for DisplayDialog to allow them to show on a full screen without jumping back or being lost on mac. The escape button exit should be on screen hud not popup because fullscreen and it don’t play nice
9. When a card gives back 16bit depth buffer (ever?) must reduce front and back clip
10. Distant textures appear to have black back in them again? In particular Fallout, notice yellow lines on road badly minify, and distant windmill by megaton front. Dds viewer does not show, must be appearance prob? But nifskope does show it too a bit. Did the addition of rendering attributes help this?
11. The gross lods are lit up more than the close ones? Check material light values for land and lods
12. LANDFar should be used by tes3 lod system as a lod builder with reduce of 4, in fact the far system should probably use distance vs size to determine what’s loaded too perhaps
13. Varying lod fader needs knots/frames system because close things don’t need check often either, in fact lod fader is a fixed 5 frames so not easy to correct
14. Fustum clipped animations allows horse to stop whilst on screen.
15. TES3 head go missing (e.g. cliff racer) possibly from bounds setting, test out auto bounds and see diff, I could auto bounds (cost?) and then extend my cache system moreso – autobounds set bounds needs to be in performance section
16. Interesting code <http://docs.oracle.com/javase/tutorial/extra/fullscreen/example.html>
17. Oriented shape has a constant scale mode that would be cool for mark-up text surely?
18. Tes3ModelSizes for far loading radius should be configurable from the render setting panel
19. I need to make ALL behaviors passive and then for the one time that the physics system need a non passive behaviour I should create a special active behaviour just for it!
20. Get attachments working in tes4? Some are still on the floor sometimes
21. I could experiment with multi texturing of the land to allow the use of the Gaussian overlay texture thingy
22. Megaton world x,y,z for the land cells is off, I see the edge of the crater outside the walls and up too high, perhaps I should be getting land from the parent world somehow?
23. Must recheck all apps have ra, especially in tools3d
24. If you alter render setting while a cell is loading the half made characters etc collapse
25. J3dNiVisController is not ever being called via update for TES3 ascended sleeper

#### Animation

1. Blended skeletons are Waaay broken, see alpha=1f; in the code
2. The varyinglod behavior might not be a good idea for the character behavior, find the distance might be a waste over simply updating the bones and skin, perhaps it should simply be set to a per frame behavior with frustum clip, particularly now I have both frustum clip and actor fade
3. The varying lod behavior needs to really have another version call points of interest varying, as the fade stuff was high speed checking at ever model change point and within say 10 of it (notice the distance is really related to max camera move not a fraction of total distance) in fact fade should probably also be over a distance (say 2 seconds of travel)
4. Tes3: my animations appear to be missing the base level rotation, knock out’s (e.g.) don’t get people onto the ground properly, check on this now perhaps they do in fact?
5. TES3: BSparticle system not working
6. TES4 I see fingers bending backwards in oblivion animations (I think its in fallout too)
7. TES5: animation accum bugs have decreased but are still present, but at the same time some fingers a twisting very strangely in oblivion, so perhaps related
8. Skyrim horse backlegs kickout appear to be gone (blending related?) however one of its bone is at 0,0,0 and a skin is attached (a saddle point in fact?)
9. Horse head still appear on ground, I still get a flick from attached geomorphs, recent buggering about hasn’t help, but now only a few goblins get this, possibly something to do with a double animation that’s less likely now?
10. Head attachments in oblivion are sideways (hats and hair)
11. TES3 geomorph control from links should be easy to sort out??
12. J3dNiControllerSequence has a single geommorph selector that’s rubbish but all of the oblivion kf files seem to point at all geommorphers for a single tribasedgeom but I want to pick and run only one of them. I would have thought dog attack would specifically select the mouth open geommmorpher but I can’t see it. Maybe it’s in an animation setting in the esm files?
13. There are shakey texture update see evtechpod in enclave dungeon for fallout, not sure why.
14. I notice in ravenrock that doors that default to open are showing as closed, but when you click them they do a double animation
15. If you click an opening door, it loses its mind

#### Performance

1. I should use Stack alloc in any performant areas?? How would I know there is an object burn issue? How would I test speed improvement?
2. I have a bunch of setting on command line, and in LAND and GeometryTriShapes statics that need playing with and understanding
3. ByteBuffer allow a setting of endian ness and then they have a bunch of data getters, I wonder if nif file loading might be faster with mappedbytebuffers too?
4. I need a test setup that will run and record the various performance metrics, then need to automate changing parameters and rerun the exact same tests
5. Try the split compress bsa file for morrowind, might make a nicer video – no files much smaller, but speed seems worse if anything, compare the 2 betterer, maybe totally uncompressed texture bsa
6. SimpleBethCellManager.getCellNameFormIdOf is slow because I’m supposed to have persistence in memory, probably ALL persistence everywhere at all times?? I wonder how much memory?

#### User Interface

1. If no folders set the help pops up, but the modal file setting dialog pops up on top of it, a bit crappy
2. I should move the “Info” crap from upper left to a proper nice looking bar at the top (or bottom)
3. Definitely write more in the user guide
4. Table should update on each cell change to show current at top
5. KeyMappings in the config file

#### Config

1. Need to remove all prefs usage for PropertyLoader, like Dune
2. The config loader, properties loader and prefs loader system should be bought together into a mega loader, with order of load, and command line loader notice the config an property loader are 2 different things one is semi-permanent (config.ini) and lives next to game files, one is more fluid and live under user data area
3. Why not smack it all in android? Java3d/awt not on android
4. MacOSX might need the implicit AA set in the command ine and ignore the graphics setting, in order to have it run, I should have a config setting to allow this to be turned on like opengles

#### Sound

1. Sounds in fallout produce errors, J3dSOUN and nifcharacter
2. I notice doors all have open/loop/close sounds

#### Input/Output

1. I should change ftp across to org.apache.commons.net.ftp.FTPClient
2. http://commons.apache.org/proper/commons-net/
3. Ftp download appears to lock up after a successful download sometimes
4. ftp = new FTPClient(FTP\_HOST\_NAME); definitely locks up! I can still make ftped files overlarge by pressing cancel somehow. dud file downloads cause havoc all round, must try more cancel resume to see if it can be sorted out

# Other Notes

## Performance

I put a check on a 2k users count and saw what it was ,it turns out it was a wildly reused material (from J3dLAND) so reproducing the bug (ArrayList-BalancedArrayList) is trivial, just create 10000 shapes with one static material

Investigate RenderBin.nodeComponentList and other arraylists

Multiple bsas with compression for morrowind – I think decompression time is not a problem, recalling also the requirement to get disk activity done well away from the java3d render thread

BG compiling might cause trouble testing BG as super of recoinst note also using detachable cap

tried app.setCap to make it non static in LAND

both attempts to force less compiling result in a slight decrease in fps

I could have a thread per grid loading up given I have structure thread

Need to do more profiling with morrowind, biggest structure pause of anyone

Physics is pausing more than it should on cell load? I feel it should only stutter as much as structure behaviour lags, as it's on a separate thread, the thread view very clearly shows the physic pause and what’s live during it

Also remember physics has transform listeners and transformgroup suck, perhaps it should use the transfromcache(the cache should have a changed bool too) in NifTransformGroup

Physics was loading model from file on a physics tick, this has been changed to load NifModels (on calling thread) totally then just attach them on a physics tick

//-Dj3d.disablecompile can't see a difference

//-Dj3d.docompaction=false

Need to recheck -Dj3d.allowSoleUser=true as I think I has a bad value before , re re checked terrible add/remove performance (note I accidentally had space=false)

optimizeForSpace seem to show terrible cell change ADD performance yep confirmed

space and user should be checked for FPS and tehn cell cehnge anaylsised, could be my hashset that slows it doen?

I need to recheck mappedbytebuffers for texture, see if they push the load time to the structure update behave (I think so)

If not how do they affect things if at all?

I just added rendering attributes to all geometries and an outling BG as well for outline, I MUST check the per hit on these

I should write this all up in the docs about performance

FPS, memory usage, cell load/unload times etc

put notes about texture loading, j3d thread versus other, interleave by ref etc, command line options (from ese.java)

put notes about using nif data moreso (like opt version of niobjects)

I should put a video of it all on youtube and an entry in jgo.net (whatever it's called)

## Rift:

1. <https://github.com/38leinaD/JRift>
2. NEW VERSION lots of rework required

## Mac use:

1. I found how to force antialiasing on screen: quite strangely you have to set *j3d.implicitAntialiasing* property to true.   
   I don't fully understand why this property has to be set if you already called GraphicsConfigTemplate3D.setSceneAntialiasing(GraphicsConfigTemplate3D.PREFERRED); but it works on my computer. Miserably it has no effect for offscreen rendering.
2. <https://developer.apple.com/library/mac/qa/qa1170/_index.html>

ftp login

gamemedia:vivec

## BSA files

BSA should be all together and set to low compression

## I need to:

Connect sourceforge to github

Write a note on what each jar file does why it’s there

In the note find a link to the original jar file or web site if possible

Make up a list of attributions to people, and try to find licensing

Do I care about licensing in my java files? Or is that boring

# Launcher:

Also launcher and setting go hand in hand, launcher sets setting before launch, note that setting and the menu screen esc are related, and Mac requires a menu screen with exit in the Pane3D world as it won’t switch resolution

I had more ideas, if we eschew the launcher parsing bat file, we still need a way to get reliable console output on screen, possibly the launcher could have a tick box to stay resident and show console outs on a scrollable panel in a second tab? Then all output can go to a single log file nicely unless you are debugging proper.

Launcher could then include a url to get latest from and unzip over the current jar, this probably means moving the launcher into a separate jar file to not over ride itself.

So how does the launcher get updated then? I really want the launcher to get the new files down unzip everything and then somehow rename the jar and relaunch itself?

A launcher in tools for general command line script and launcher in tools3d to adf display dialog, which needs to flip over to jpanel version too, then tools3d can include jogl version option, which probably drops the bat file parse option, but given noddraw etc. that’s probably fine. If launcher cant launch put debug launcher bat file

Launcher should hand –logout to app then app knows to send all sops out to a particular file, that way boot strap can exit and doesn’t hang around.

Tools3d launcher can extends tools launch and include standard lib file of java3d and jogl and ddraw=no etc. then app can send through its own lib path files and options, each app will still have a bootstrap class invoked form the meta info but it will be cut down, but the start server code can still be invoked from it.

The boot strap then calls the launcher which then calls the main app. So launcher is the main of the main app, but then calls a separate thread???

So is bootstrap and launcher the exact something?

I have 3 types of launch

Development:

No updater required, no bootstrap required, but display resolution including full screen and antialiasing I also want to be able to optionally go jogl2 but I have no class path without boot strap, though all jars is in fact fine isn’t it?

I also possibly just want setting to go so the display stuff could be property loader - ed and recalled for straight boot up, however what’s happened on a setting change? Restart is classic

Boot strap:

Jar file only, must spawn process, want to end this process, so best to hand a log file across and get the main to pump out to log.

Display selection does not require anything but core java, so bootstrap can use it too

However boot strap needs to be a separate jar form the main which means that the selections form boot strap need to go across to the main app, but that’s just the config ini file anyway.

Boot strap also wants to update the game from a url, unzip including replace the main jar, hence it’s on a separate jar.

Command Line:

Finally I need command line gear so I can test stuff, but that’s just dev anyway.

For mac shells

http://mathiasbynens.be/notes/shell-script-mac-apps