Omar007 wrote on Mon, 28 July 2014 19:43Actually, what you're seeing in 3.4.4 is wrong. In 3.4.4 everything is stretched whereas in 4.X the game is actually displayed proportionally correct.
This is why the menus have black bars; the menus are created for 4:3 aspect ratios. Where 3.4.4 would just stretch the whole thing to fit, 4.X fills while maintaining the correct aspect ratio. This means black bars will be added left and right for 16:9 or 16:10 resolutions.
This also applies to ingame. 3.4.4 renders the game at a 4:3 aspect ratio and stretches that to fill the screen. 4.0 renders the game at the proper aspect ratio so no stretching occurs.

If you want to see this in action, play 3.4.4 on a 4:3 resolution and 4.X on a 16:9 or 16:10 resolution. The object sizes/shapes should be the same when you compare those.

I have no internal knowledge of the Renegade rendering code but I'm 99% sure it is something like this. TT please correct me if I'm way off

Yeah, pretty much that. The ingame camera never actually set the aspect ratio to anything other than "800/600" so the horizontal FOV (which depends on the vertical FOV and aspect ratio) was incorrectly calculated. Since fixing that, I've also fixed it so that the vertical FOV is calculated instead of the horizontal one. Without that, ultra-widescreen displays (like 48:9) are rather unplayable.

ALSO: The big thing to note is that these calculations happen *before* rendering (as in, they are required to see anything at all) so incorrect values won't cause the "scaling artifacts" you'd see if it was actually rendered at a different resolution and stretched after.