

Noobwerkz platform – Progress report:

The past month has been spent learning a new and rather different system for graphics – BGFX – that allows an application to display graphics on anything that has a screen. It took a while to get adjusted to its way of doing things (two or three layers of abstraction and attendant toolkits), but I am proud to state that it now runs on both Android and desktop perfectly.

The loss of time from having had to replace a deeply-buried component has slowed down development by more than two weeks. However burdensome and unrewarding this effort was in the short-term, it will prove to be a great effort-saver in the long run, as BGFX contains working cross-platform implementations of a number of advanced graphics techniques. The time it took to integrate was a reflection of tricky design decisions that had to be made; most had to do with where this library fits in conceptually (deeper than what the programmer should usually see in day-to-day work) and if incorporating it would require a change of the entire build system (thankfully, it didn't.)

Now, work is back on track almost precisely where it was last month, with the grand exception that whatever is written will now run on almost all consumer hardware. This is a major win. At present, I estimate that the platform is 30% complete. This may seem lackluster, but most difficult decisions and much of the toughest work have been completed upfront and a rapid speedup in development can be reasonably predicted.

Work directly related to the game engine that needs to take place:

1. Redo 3D model loading code using BGFX instead of OpenGL – easy
2. Write a gradient mapping shader – fewer big files shunted around in memory (very costly) at the expense of a few more calculations on the video card (rather cheap) – medium difficulty
3. Terrain generation – medium difficulty
4. Terrain rendering (tri-planar shader + keeping triangle count low) – medium/advanced difficulty
5. Physics engine (re)integration – easy
6. Particle system - easy
7. Skeletal animation – medium
8. Pathfinding/navigation – medium/advanced difficulty
9. Sound – easy
10. Networking – easy/medium difficulty (as far as the needs of our games are concerned)

Also of note is the amount of learning with regards to web services – I have been reading up a lot on the pros and cons of various web server software and the niche in which each of those components belong. For a static, public-facing website I shall likely use a web server called Nginx, which is very easy to use and helps loading webpages quickly.

Finally, in order to test as many platforms as possible I will procure a power supply that'll feed my spare video card, which is a common brand that is unfortunately known to have issues due to driver quality (or lack thereof.)