Which C++ architecture(s) could best support QoE-oriented map streaming in a player-building-based multiplayer game?

COMP130 - Computing Architecture

1707981

March 11, 2018

An exploration into QoE techniques and their compatibility with various softwrae architecture reveals something that isn't revealed until I finish this flipping essay. Also, QoS is linked to QoE is linked to QoP is linked to Soviet Russia.

1 Proposal

2 Challenges of low bandwidth

3 Notes

3.1 China market findings

China is in fact the most profitable games market as of 2017 [**?**], yet the Internet speeds lag behind (figuratively speaking) at 7.6Mbps. Another country notorious for its online gaming community is Brazil, notorious for its unreliable Internet speeds, which averaged about the same–6.8Mbps–in 2017.[**?**]. While a marked improvement over time is evident (doubling since 2015 [**?**]), to the extent that low-bandwidth games such as FPSes are comfortably playable, and the player reputation as in [] is reduced.

This presents a heavy roadblock for MMO developers

Internet speeds in Brazil are notoriously low, which is remarkable for the fifth top source of DDoS attacks in Q1 201[**?**]

3.2 Link between computer specs and Internet speeds

References

[1] J. Smed, "Networking for computer games," *International Journal of Computer Games Technology*, 2008.

[2] F. Glinka, A. Ploss, S. Gorlatch, and J. Mller-Iden, "High-level development of multiserver online games," *International Journal of Computer Games Technology*, 2008.

[3] A. Inge Wang, M. Jarrett, and E. Sorteberg, "Experiences from implementing a mobile multiplayer real-time game for wireless networks with high latency," *International Journal of Computer Games Technology*, 2009.

[4] M. Suznjevic, J. Saldana, M. Matijasevic, J. Fernndez-Navajas, and J. Ruiz-Mas, "Analyzing the effect of tcp and server population on massively multiplayer games," *International Journal of Computer Games Technology*, 2014.

[5] P. Seeling, F. H. P. Fitzek, G. Ertli, A. Pulipaka, and M. Reisslein, "Video network traffic and quality comparison of vp8 and h.264 svc," in *Proceedings of the 3rd Workshop on Mobile Video Delivery*, MoViD '10, (New York, NY, USA), pp. 33–38, ACM, 2010.

[6] M. Usman, A. Iqbal, and M. Kiran, "A bandwidth friendly architecture for cloud gaming," in *2017 International Conference on Information Networking (ICOIN)*, pp. 179–184, Jan 2017.

[7] D. Maggiorini, L. A. Ripamonti, E. Zanon, A. Bujari, and C. E. Palazzi, "Smash: A distributed game engine architecture," in *2016 IEEE Symposium on Computers and Communication (ISCC)*, pp. 196–201, June 2016.

[8] T. Ollsson, D. Toll, A. Wingkvist, and M. Ericsson, "Evolution and evaluation of the model-view-controller architecture in games," in *2015 IEEE/ACM 4th International Workshop on Games and Software Engineering*, pp. 8–14, May 2015.

[9] T. Hampel, T. Bopp, and R. Hinn, "A peer-to-peer architecture for massive multiplayer online games," in *Proceedings of 5th ACM SIGCOMM Workshop on Network and System Support for Games*, NetGames '06, (New York, NY, USA), ACM, 2006.