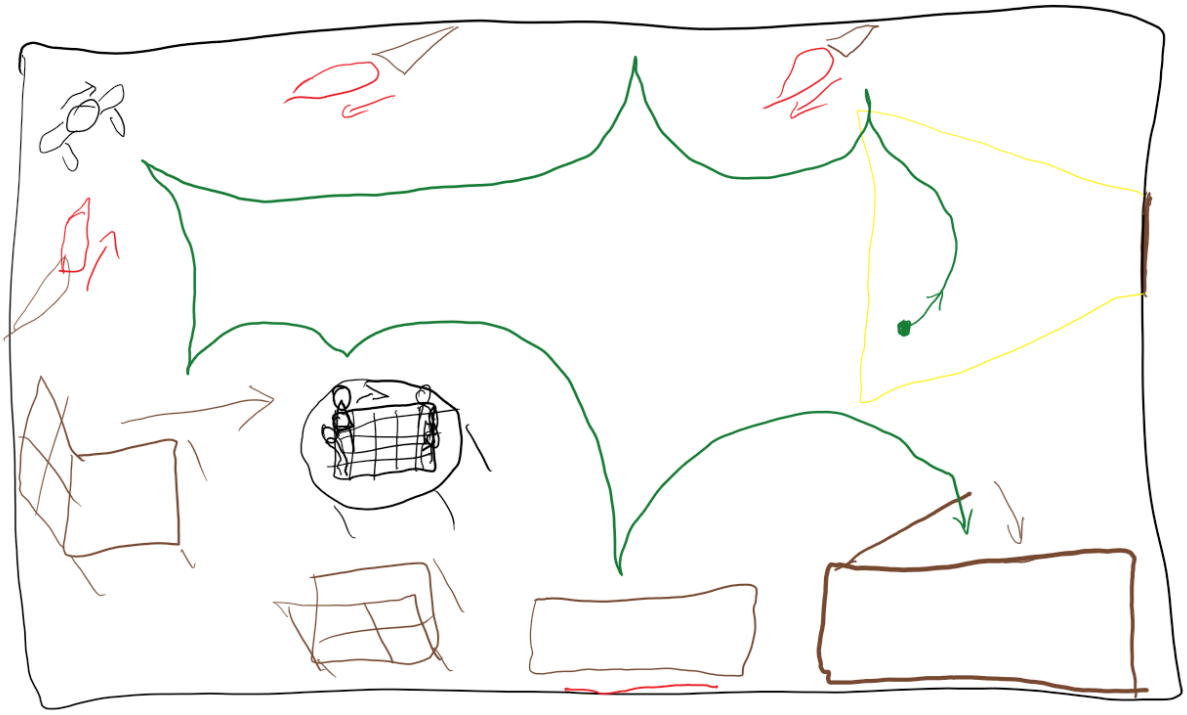
EZG18 - Haunted Castle – Proposal

Story

We encounter us in a medieval dark room that seems to be haunted. Only light falls inside throw a small window and we can barely identify the objects around us. Suddenly torches catch fire as if by ghost hand. We take a look around the room and see different things moving: A chair that is moving forward, chess figure starting moving, torches move to an upright position and paintings falling down.

Scene

Medieval room with torches on fire, knight armors, chairs with chess desk, stone walls, paintings and closet.



Effects

- Shadow Mapping with PCF (all objects in scene)
- Fire with Particle Effect (applied on torch)
- Glow + Light Rays (Window)
- Bump Mapping (Stone Wall)

Sources

- Shadow Mapping with PCF:
  Liu, N., & Pang, M. Y. (2009, January). Shadow mapping algorithms: a complete survey. In Computer Network and Multimedia Technology, 2009.

CNMT 2009. International Symposium on (pp. 1-5). IEEE. https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5374715
Reeves, W. T., Salesin, D. H., & Cook, R. L. (1987, August). Rendering antialiased shadows with depth maps. In ACM Siggraph Computer Graphics (Vol. 21, No. 4, pp. 283-291). https://dl.acm.org/citation.cfm?id=37435

- Fire with Particle Effect:
  Reeves, W. T. (1983). Particle systems—a technique for modeling a class of fuzzy objects. ACM Transactions on Graphics (TOG), 2(2), 91-108. https://dl.acm.org/citation.cfm?id=357320

- Glow + Light Rays:
  http://harkal.sylphis3d.com/2006/05/20/how-to-do-good-bloom-for-hdr-rendering/

- Bump Mapping:
  Kilgard, M. J. (2000, July). A practical and robust bump-mapping technique for today's GPUs. In Game Developers Conference 2000 (pp. 1-39). https://www.cg.tuwien.ac.at/courses/Realtime/slides/VU.WS.2013/PracticalBumpMap.pdf