**Annotated Bibliography**

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**Brackeys (2017) *PERLIN NOISE in Unity - Procedural Generation Tutorial*. 17 May. Available at:** [**https://youtu.be/bG0uEXV6aHQ?si=Pp4PAXs3kxJ4dOBA**](https://youtu.be/bG0uEXV6aHQ?si=Pp4PAXs3kxJ4dOBA) **(Accessed: 1 November 2024).**

This video by the YouTube game development channel “Brackeys” (Asbjørn Thirslund) shows how to implement a Perlin Noise generator in Unity using the engine’s built in noise functions. It is a good source as the channel is reputable, having focused on programming and game development for years now, and Asbjørn also does a good job of clearly and concisely explaining how to implement the code into a project. It is done using an older version of Unity however this should not cause an issue since most of the functions are largely the same, however he is also writing this code with 3D generation in mind which means I may have to find ways to adapt this for the 2D setting of my own project.

**Snodgrass, S. and Ontanon, S. (2021). *Generating Maps Using Markov Chains.* Available at:** [**http://www.fdg2014.org/papers/fdg2014\_paper\_29.pdf**](http://www.fdg2014.org/papers/fdg2014_paper_29.pdf) **(Accessed: 5 November 2024).**

This thesis paper investigates using Markov Chain functions to adapt a classic 2D platformer, Super Mario Bros, to incorporate procedural level generation techniques. The study was motivated by the idea that having many developers manually creating levels can increase both monetary costs and time efficiency in game studios. I personally felt this could be a strong source for my project because, whilst the aims of this are different to my own, the idea of using Markov Chains to add variety into a level generator is a key part of my methodology, and this paper shows a strong knowledge of implementation. A key difference however would lie in the fact this model using a training algorithm to create levels similar to a classic Super Mario game, whereas I intend to use more of a parameterised system in my own model, where it would be adapted to make decisions based on rules given by the code, as opposed to being based on a pre-made level.

Chandranil Chakraborttii and Ferreirra, L. (2024). *Towards Generating Surprising Content in 2D Platform Games.* Available at: <https://doi.org/10.1145/3649921.3659848>. (Accessed: 8 November 2024).

Smith, G., Gan, E., Othenin-Girard, A. and Whitehead, J. (2011). *PCG-Based Game Design.*  Available at: <https://doi.org/10.1145/2000919.2000926>. (Accessed: 4 November 2024).

Arman Balali Moghadam and Marjan Kuchaki Rafsanjani (2017). *A genetic approach in procedural content generation for platformer games level creation.* Available at: <https://doi.org/10.1109/csiec.2017.7940160>. (Accessed: 13 November 2024).