

In this thesis, we designed and implemented in the Unity game engine a demo version of a rogue-like tower defense game. We employed various procedural generation techniques, including wave function collapse and simulated annealing, to generate level terrain and attacker paths. We also developed an algorithm to procedurally generate attacker wave composition. We implemented the primary gameplay systems, including resource management, tower and production building placement, special attacker abilities, and a blueprint collection system. We also created a simple tutorial to guide new players. Finally, we conducted a playtest to gather user feedback, verifying our design choices and identifying key areas for improvement, such as the user interface and the resource economy.