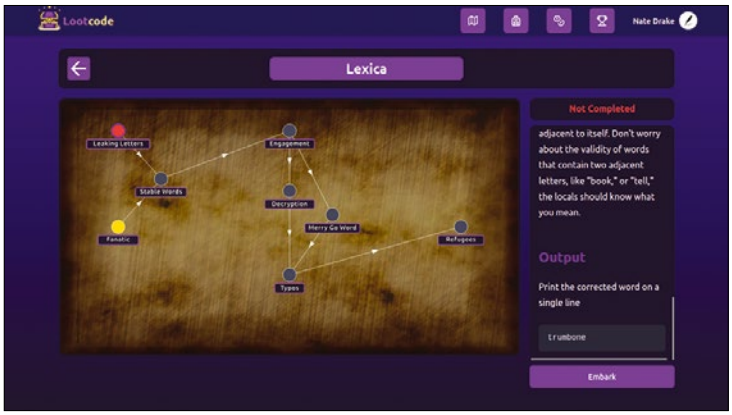
Coding game

Lootcode



Game progression is non-sequential. This allows players to learn about data structures in any order they want.

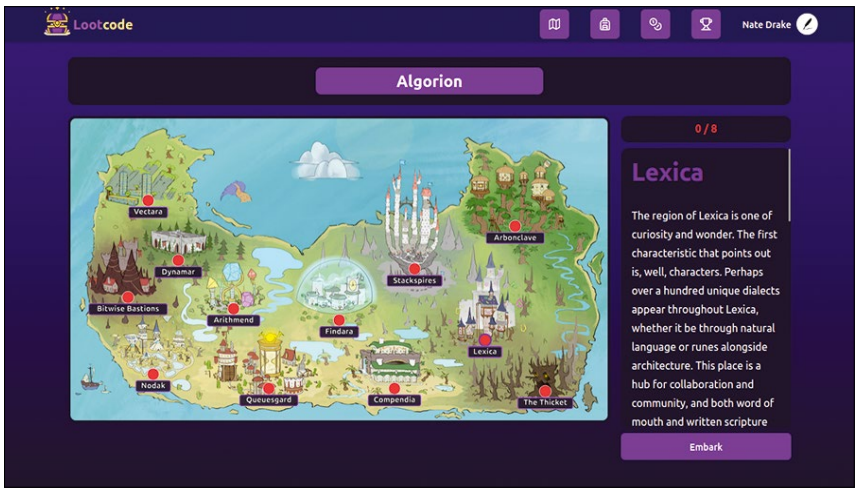
I always have a soft space in my heart for those who try to make learning fun, because frankly, it often isn't. This is especially true for those trying to learn Data Structures and Algorithms (DSA). University of Central Florida (UCF) computer science student Dylan Vidal and friends Leo and Luke have proven themselves equal to this task through developing Lootcode. In describing it, I can do no better than the project's own GitHub page: "A fantasy-themed, gamified, DSA problem-practice platform to help you ace the technical interview."

Although the source code is available on GitHub, the exercises posed in the game are progressively more difficult, so players (for want of a better word) are encouraged to access Lootcode via the main site, which requires you to sign in with your Discord, GitHub, or Google credentials. Upon doing so I entered the world of Algorion where players navigate a series of DSA problems in a fantasy setting.

For instance, I began my personal journey in Lexica, a region where the locals adorn themselves with runic tattoos. The first challenge, dubbed "Leaking Letters," centers around the people's loss of interest in the written word: Players must write a script to remove adjacent duplicate letters from strings of text to spell valid words. On choosing to "Embark," you're free to use Python, Java, C++, or C.

Players can run code to determine how well they've succeeded and move on to successively more difficult quests as each is completed. Beneath the hood, the developers make use of Docker to procedurally create isolated sandbox environments to allow safe remote code execution.

This incredibly original take on the mundane activity of learning DSA inspired me to reach out to the developers. They very kindly agreed to an interview on Discord. Here Dylan explained that he, Leo, and Luke are members of a software development club at UCF named Knight Hacks. The team was given a blank whiteboard and they challenged themselves to write down what they'd like to see in a project.



The world of Algorion is in disarray. Will you be the one to complete DSA quests to restore its mathematical perfection?

Their respective experiences with fantasy storytelling, the International Collegiate Programming Contest (ICPC), and competitive programming, as well as the fact that Luke is a game developer, all came together to form the basis of Lootcode.

Dylan also summarized the ethos of Lootcode neatly: "What if the code runner gave us gold to play a game, and that game had a story?" This indeed has spilled over into Lootcode's implementation, in that the platform does have a leader board. To the team's knowledge Lootcode has yet to be used in competitive job interviews. I mentioned in passing that shadowy government agencies supposedly code logic puzzles into video games as a recruitment tool and they seemed enthusiastic about the idea. Competitive play is also enhanced by Lootcode's combat encounters. I didn't run into any of these foes myself, but the success of said combat is partly determined by unique magical items that you can buy in exchange for loot (gold). Loot is earned through solving one of the 75 unique in-game problems, so there seems to be plenty of potential for both random encounters and leveling up. During the interview, the team also informed me that Lootcode has now been upgraded to support C#, Rust, and Go, in addition to the programming languages listed.

Project Website

https://www.lootcode.dev