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11 June 2025
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CSC 378-01
Lab 1: Report

1. <https://bobjoe400.itch.io/the-missing-goat>
2. "Lab 1" is an interactive fiction mystery set in the peaceful village of Clearhollow, where you wake up as Rowan to discover your prized goat has mysteriously vanished from its pen. The story unfolds over the course of a single day, from 7:01 AM to 8:00 PM, as you investigate the disappearance by exploring the village's various districts - from the rustic West Village where you live, to the bustling tavern areas, wheat fields, and surrounding forests. The mystery deepens when you discover your goat trapped in a freshly dug hole in the wheat field, leading to questions about who would deliberately trap an innocent animal and why. Through conversations with five key villagers (Joseph, Hope, Melia, Tom, and Allen) and careful investigation of clues like a suspicious shovel, you must piece together the truth behind your goat's disappearance before nightfall.
3. One of my most impressive technical accomplishments in this Inform 7 story is the sophisticated NPC scheduling and movement system I created. I gave each of the five non-player characters detailed daily schedules stored in individual tables, with automatic movement between locations at specific times using a breadth-first pathfinding algorithm I implemented. My system dynamically calculates optimal routes between any two rooms in the village, allowing NPCs to navigate the complex geography naturally. What makes this particularly elegant is how I designed the movement system to handle player interaction - when an NPC is engaged in conversation, they'll pause their scheduled movement and acknowledge their destination, but if the conversation goes on too long, they'll politely excuse themselves to continue their routine. This creates a living, breathing village where characters have their own lives and priorities independent of the player's actions.

The second major technical achievement I'm proud of is the sophisticated NPC awareness and conversation system I built that tracks multiple layers of character knowledge states. I designed each NPC to maintain awareness of the goat situation through a custom "goat-status" property that progresses from "unaware" to "knows-missing," "knows-stable," and "knows-found," allowing for contextually appropriate dialogue responses. My system elegantly handles the complex logic of who knows what and when - for instance, I programmed NPCs to automatically become aware that the goat is safe when they're present in the stable with it, and their subsequent conversations reflect this knowledge. Additionally, I implemented a nuanced conversation state system where NPCs remember who they're talking to and can be interrupted by movement or other events, while also tracking specialized knowledge like whether each character knows Allen is guilty, creating a web of information that feels organic and realistic rather than scripted.

4. I didn't participate in the surveys, so I didn't receive any feedback.
5. See 4.