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Project 1 - Guess the Air!

For this project, I create a minigame where the goal is to guess which city has cleaner air between two options. The data is provided from the World Air Quality Index API and it is live which means that every round is based on real measurements. The goal of making this project was to practice using Python and working with APIs. I also wanted to make it fun and visually interesting.

The game starts with a starting menu, where players select the difficulty level. The difficulty level is based on how many cities are included in the list that the game will select randomly for you to compare. Easy has a very short list of 9 well-known cities, so the player can really ease into the game, medium includes 23 cities, still pretty well-known, and for hard, the list is very long, with 90 cities from everywhere around the world. The difficulty affects the guessing screen by determining how many clouds move across the screen and how “smoggy” the background appears.

On the guessing screen, players select the city that they think has cleaner air and earn points if they are correct, or lose lives if they are wrong. You start with three lives, and the game shows your current lives with heart emojis and your score. The screen also reacts with little animations and sounds, depending on whether your guess was right or not. I added a “sunburst” animation and a happy “ding” for correct answers, and a puff of smoke animation with a puff sound for incorrect answers.

Once a round ends, the result screen shows your immediate outcome, including the correct city, your updated score, and remaining lives.

When you lose all three lives, the game over screen appears with a summary of how well you played, including your final score, your accuracy percentage, and a message and emoji based on how accurate you were. The background of the game over screen also varies depending on your accuracy score. I thought about adding the accuracy at the end to encourage players to try again and improve, which is reflected in the little messages I added.

The driving idea behind this project was to make something that is technically functional and playful at the same time. I wanted to experiment with how programming can be used to create a fun, engaging experience and bring data to life by combining all of the different elements creatively: data, sound, visuals, and interactivity. Everything runs in Python, and all the sounds are Creative Commons from Freesound with proper credit, found as comments in the Python file and in the game itself.

I also wanted the game to have some replay value. Since the cities are picked randomly and the data is live, no two rounds are ever exactly the same. Players might want to try again to beat their previous score, improve their accuracy, or just see how different cities compare. The little animations, sounds, and changing backgrounds give each round a fun, fresh feel, which makes coming back for another round more engaging.

Overall, this project was about exploring how code can be expressive and fun. I really enjoyed thinking about the creative fun details once I had the core completed, like animations, colours, icons, sounds, etc.