



GAME-601-Fiona Gao

Number Guessing Game

Abstract:

Two players secretly choose a number from 0-150 respectively, whoever guesses the number chosen by the other player first will win. The game will be played in the form of questions and answers, and after each round of questions and answers, both players will write down their guessed numbers on paper and then reveal them at the same time, with a total of 10 rounds of questions and answers. The player who guesses first wins.

Rules:

It's a two-player game. Each player secretly chooses a number from 0-150 and writes it on a piece of paper, without letting the other player see it. The game will be played in a Q&A format. After both players have completed the Q&A part, both write down the guessed numbers on the paper and reveal them at the same time. The player who guesses the correct number first wins.

Each game is played for a maximum of ten rounds. If at the end of ten rounds neither player has guessed the number chosen by the other, both players are considered to have failed. If both players guess the number in the same round, both players are considered successful.

About the questioner:

1. The questioner can only ask "yes or no" questions.
2. You are not allowed to ask questions about the range of numbers, for example, "Is this number greater than 50? "
3. A question cannot contain more than one piece of information. For example, " Is this number a multiple of 3 or 4?".
4. If the questioner asks the same question twice, the questioner will be considered to have given up the round but will still be able to guess the number.
5. Each round of questions is limited to 15 seconds and each round of answers is limited to 15 seconds.
6. Please feel free to use your imagination to ask questions while following the rules.

About the respondent:

1. Stay honest.

Design Process:

The simplest and most common number guessing game is to pick a number from 1-100, where one player is only responsible for asking questions and one player is only responsible for answering them. The type of question is only about the range of the number, for example, "Is this number within 50? ". It's not a very interesting game, and for adults, we rarely play it on our own initiative. The rules are too simple, and lack of interactivity and fun, so I tried to fix these shortcomings.

First, I increase the range of numbers to choose from and the range of questions to ask. 0-150 doesn't add too many numbers, but it adds more possibilities to the game. You can ask any question which definitely adds complexity, but it can't be a range of numbers. If you just keep asking the range of the numbers, this game will become very boring and much less difficult.

But it also brings a couple of new problems. While trying to play the game, I found that I needed to record my questions with pen and paper, otherwise, after a few rounds, I would forget the questions I had asked earlier. So, I design the game as a game that requires paper.

The second problem is that the questions are too broad in scope. The questioner could easily get the answer, so I specify that the type of question could only be a "yes or no" question. The questioner is not allowed to have multiple questions within the

question. This motivates players to think about how to ask questions effectively and exercises their sensitivity to numbers.

The third problem is time. During the game, I found that I needed time to organize the information I was getting. In one round, I even took a minute to think and answer. But I didn't want the game to be a drawn-out, slow game, but rather a tense, exercise puzzle game. So, I add another rule: "Each round of questions is limited to 15 seconds and each round of answers is limited to 15 seconds." This adds excitement and tension for the player, especially later in the game when the more information you get, the more time you need to put it together and think about the answers.

The last modification I make is to change it to a two-player game. The original game is undoubtedly lacking in interactivity and competition, but these drawbacks disappear when everyone is a questioner and an answerer. During playing, I found one problem. I started by setting it up so that player 1 would ask and answer first, and then player 2 would ask and answer. The order in which the two players answered sometimes decided the game, which was unfair to the other player. I change it. After both players finish the questioning session, write down the answers on paper and reveal them at the same time. However, this also brings the possibility of a tie, so I set it to a tie if both players guess the correct number in the same round, or if no one guesses the correct answer after ten rounds.

