

Implementation of the investment game Acquire

The goal of our project is to create a computer simulation of the board game Acquire and study the effects of various strategies (risky, conservative, ...) as well as of initial conditions on a players success. We plan to implement a slightly simplified version of the game using python, in which we program 4 players following different strategies to play against each other. We will then discuss the effects and outcomes of the different behaviours and try to evaluate which strategy is the most successful and how much the outcome depends on the initial conditions and luck during the course of the game.

Short summary of "Acquire"

The object of the game is to buy and sell stock of various hotel chains as they emerge, grow and disappear during the game to come out as the player who makes the most money. The hotel chains are represented as tiles which are placed on the board (a 12x9 squared grid) each turn and the core of the game happens when two hotels merge together, with the larger one swallowing the smaller.

The players must try to foresee which hotels will prosper and bail out early on those that will fail. They must also find the right balance between holding the right stock at the right time and also holding enough cash back for future investments.

Implementation and research topics

- Implement a simulation of the game between four players, all playing with an identical basic strategy.
- Once the simulation runs stable, we will try to adjust certain parameters and thus create different playing styles and strategies and examine how the different approaches pay off over a large number of games simulated
- To what extent do uncontrollable effects such as the drawing of valuable tiles effect the success of a player in the long run?
- What are the difficulties in creating a player that makes wise decisions during the game? How can human intuition, which is key to being a successful investor in this game, be turned into rational functions that a computer program can follow?

