Monopoly - electronic version

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Revisions

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Notes:

07.05.2018 - Andrej Jurčo: Document created
13.05.2018 - Andrej Jurčo: Minor UI and functional requirements specification edits
07.07.2018 - Andrej Jurčo: Deadline change (delay)

Product Goal

The program is supposed to succeed at the entertainment market as a direct competitor of other hot-seat games. The project aims to satisfy the social, communicative, friend-making, friendship-breaking and emotional needs of individuals who decide to play this game. Eventually, this game can enhance player's entrepreneurial skills and business skills and therefore this can also be seen as a form of 'school as a game' approach possibly ranking itself among other educational tools. However, this is not the main purpose of the game and shall not be viewed as an educational software in the first place.
The concept of the game is a fairly simple financial game where each of the players involved are trying to acquire as big game-fortune as possible using nothing but their business skills and trade skills when trading with other human and AI players. The rules match the ones of the original printed version of the game and does not aims to offer a non-commercial electronic version of the game.

Functional description

The application simulates a game of monopoly. This is a fairly simple structure, but the added value is a smarter-than-stupid AI player functionality, which decides dynamically, not very predictably with a partly randomised decision-making logics to make the game more interesting, unpredictable with possibly shocking outcomes.
The player is going to be, however, able to avoid playing with the AI random players by populating the player slots with human players. The game is to be saveable as a Monopoly game can last for as long as several days of gametime.

User interface

Since this is not planned to be some kind of a simple low-graded B-game, it is going to contain a unique, self-generated UI drawn with GDI+, which is going to be controllable either conservatively - using mouse, or for those who would find it more comfortable, even by keyboard keys.

Functional requirements

The program is supposed to provide following functions:

- Allow user to play his turn
- Allow the player to play with other hot-seat human players
- Allow the player to play with AI opponents
- Restrict the player(s) from playing an illegal move
- Be able to simulate an AI player behaviour
- Perform artificial decision-making which will at least approximately simulate the decisions a real human would make
    - Non-uniform decisions
    - Aggressive or passive behaviour
    - Situation risk-evaluation
    - AI-to-AI and AI-to-Player trades
    - Bankruptcy-avoiding
- Keep the correct game-flow
- Allow user to save, load and pause game

Data inputs

The program is going to use one standard file data input for reading all the necessary initialisation information - mostly just field data and their attributes needed for constructing the gamefield. Also, the saved game could be saved in a file, although it is possible that serialisation would be used in order to save the state of the game. As this is relatively easier and more natural. This is not decided yet and this matter is going to be reviewed and disclosed.

Deadline

The program is planned to be deployed by September 15, 2018.