Team Blade

Project “Monopoly Game”

Team Members

* Joanna Mareva (jo.thirdeyevision) – graphic designer, presentation
* Geno Genov (G.Genov) – developer, product manager
* Martin Antov (FractaL) – developer, graphic designer
* Martin Tonkov (m.tonkov) – QA, documentation
* Svetlozar Todorov (Svetlozaurus) – QA, documentation
* Svetoslav Enchev (svetoslav.enchev) – source control management, presentation

Project Explanation

We’ve created a Monopoly-based game (official rules can be found [here](http://en.wikibooks.org/wiki/Monopoly/Official_Rules)).

1. Rules we have implemented in our game.
2. Gameplay.
3. Technical implementation.
4. Known issues.
5. Further development.

Rules we’ve implemented

Monopoly can be played by two players. There is currently no single player mode, i.e. there is no AI. The two players alternate turns and go through the game board. They can buy properties, and their goal is to bankrupt the other player! There is a prison, where players spend 3 turns if they step on the “Keep calm and go to the jail” tile. There are also Chance and Community chest cards, which provide various bonuses, penalties, or move players to different parts of the game board. The victory condition of the game is to survive until the other player’s money is less than zero.

Gameplay

The game starts at the “GO” tile. Players start with 1500 dollars each.

When a player’s turn comes, they Roll the two dice and their pawn is moved across the board. There are several types of tiles they can land on, that have different behavior:

* Property tiles: when players land on these, they can either choose to buy (by clicking the “Buy” button), or to skip buying. A property that has been bought is assigned a small triangle with the player’s color (appearing in the upper half of the property tile). If a property is already owned by another player, the player that has stepped on it has to pay rent.
* Chance/Community chest tiles: a random card is drawn that gives or takes money from the player, or moves them to a tile on the board.
* Just visiting jail/Parking/Go to jail: players wait for a turn when visiting jail, or stopping at a parking, but must wait for three turns, if they land on the “Keep calm and go to the jail” tile.
* Penalty/Salary tiles: when a player steps on a penalty tile, they have to pay the amount on the tile. When they pass the “Go” tile, they receive a salary of 200 dollars.

Technical implementation

The team decided that we have enough resources and time to create a graphic game instead of a console one. This required us to assign a new role: graphic designer.

The game is built using the MonoGame engine. This is very useful should we decide to export the game to different consoles because MonoGame supports Android, iOS, Windows8, Xbox etc. This presented us with a few challenges such as moving the players, drawing text on the screen and OOP.

* **Multi-dimensional arrays:** 5 dictionaries for players and different kinds of tiles.
* **One-dimensional arrays:** different streets, taxes, jail and chance cards with their respective information.
* **Methods**: well over 10 various methods related to the drawing and logic of the game.
* **.NET classes**: System.Random, Xna.Framework classes
* **Exception handlings:** current roll and winner are given in separate text files. We have handled some exceptions that may occur when writing in a file.
* **Use of external text file:**  two external text files for current roll and winner.

Known Issues

No known issues. The game runs smoothly as developed. However, there are many options for further development, described below.

Further development

* Double dice
* AI and single player mode
* Houses and hotels
* Trades
* Mortgage

TFS Repository URL:

<https://teamblade.codeplex.com/>