CSE3063 Object Oriented Analysis and Design

MONOPOLY GAME REPORT FOR the 2nd ITERATION

Group Members :

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VİSİON

In the second iteration of our project we were needed to add some more properties to Monopoly Game as our customer requirements. Then according to this we designed our project and then wrote our code and tested it lastly, for the 2nd iteration of our project. It is important for us to take feedbacks from our customer to see ourselves in which step we are.

PROBLEM STATEMENT

The project simulates a monopoly game simply according to the values which given by the user at the beginning of the game as in the first iteration. In our designing stage, we changed of course some plans and determined the constraints of the monopoly game simply and we defined our attributes and methods in our UML Class Diagram. Then we defined the ways which simulation follows step by step in our Sequence Diagram.

SCOPE

We determined the scope of our project as giving a simulation game for our customer requirements and making a successful project. We determined it as doing the best we could. While we are doing our project, we are always trying to keep it simple. Reaching our aim is important but at the end there should be an understandable and not a complex project ofcourse.

SYSTEM CONSTRAINTS

Additional to the first iteration we included some constraints to the game:

1. 2 to 8 players,
2. A board which contains 40 squares,

3. And implemented different types of squares and their actions(they were defined in Class Diagrams) such as,
    - **GoSquare**
    - **Jail**
    - **GoJail**
    - **FreeParkingSquare**
    - **IncomeSquare**
    - **LuxurySquare**
    - **OrdinarySquare**

4. Pieces for each player,
5. 2 dice for moving our player to another location,
6. At most 6 + 6= 12 squares a player can move for each playDice(),
7. We implemented a "Money" class which keeps the amount of player's Money.
8. Monopoly game lasts for the rounds count which is given at the beginning of the game or it finishes when each player has no Money before the predefined number of game iterations.

STAKEHOLDERS

Murat Can Ganiz (Customer)
MehmetHan GÜR and Yasin TOY(Project Manager, Analyst/Programmer)
Necmettin ILGIN (Librarian, Analyst/Programmer)

GLOSSARY OF TERMS

Board: is a part which monopoly game is played on and contains 40 squares in it.

Die: has 6 faces and numbers from 1 to 6 in each face. Two dice gives the total number of moving step on the board.

Monopoly Game: is a game which players sell and buy estate until their money finish.

Piece: is an object which is a shape of good or a shape of an animal. Each piece refers to a player in the game.

Player: plays the monopoly game and tries not to bankrupt along the game.

Square: is a part of the board which gives directions to the player what to do.

GoSquare: is the start square of the game.

Jail: is a square that a player can not continue the game until it Rolls Doubles in next 3 turns or until it pays $50 for punishment.

Gojail: is the square which the player is sent to jail.

FreeParkingSquare: Nothing happens here when a player lands of it. The player goes on the next turn.

IncomeSquare: When a player lands on it he or she pays %10 of the total value of it's Money.

LuxurySquare: When a player lands on it he or she pays $75 to cash means reduces $75 the amount of her or his Money.

OrdinarySquare: is the name of other squares which has no any instances. I mean it refers to the remaining 34 squares.

Money: is given to each player at the beginning of the game at a certain amount and each player tries to have the most amount of Money in the game. According to the special squares, each player pays or receives some amout of it.

USE CASES

First enter the number of players and their names. Second, enter the number of rounds that you want to play. Then first player playDice acoording to the total value and the index of piece moves to a square on the board. At the end of each turn we are printing player's name, cash, current square, dice face values, dice total, landed square and actions associated with landed square.

If a player moves more than 40 squares he or she finishes the first round and passes to the second round.

If a player lands on the "GoSquare" while finisihing a round, he or she receives $200.

If a player lands on 4th square which means "IncomeSquare", he pays %10 of total amount of his Money.

If a player lands on the 10th square which means "go to jail" then player moves to "jail" square or if a player roll doubles three times in succession in one move then he or she goes to jail square.

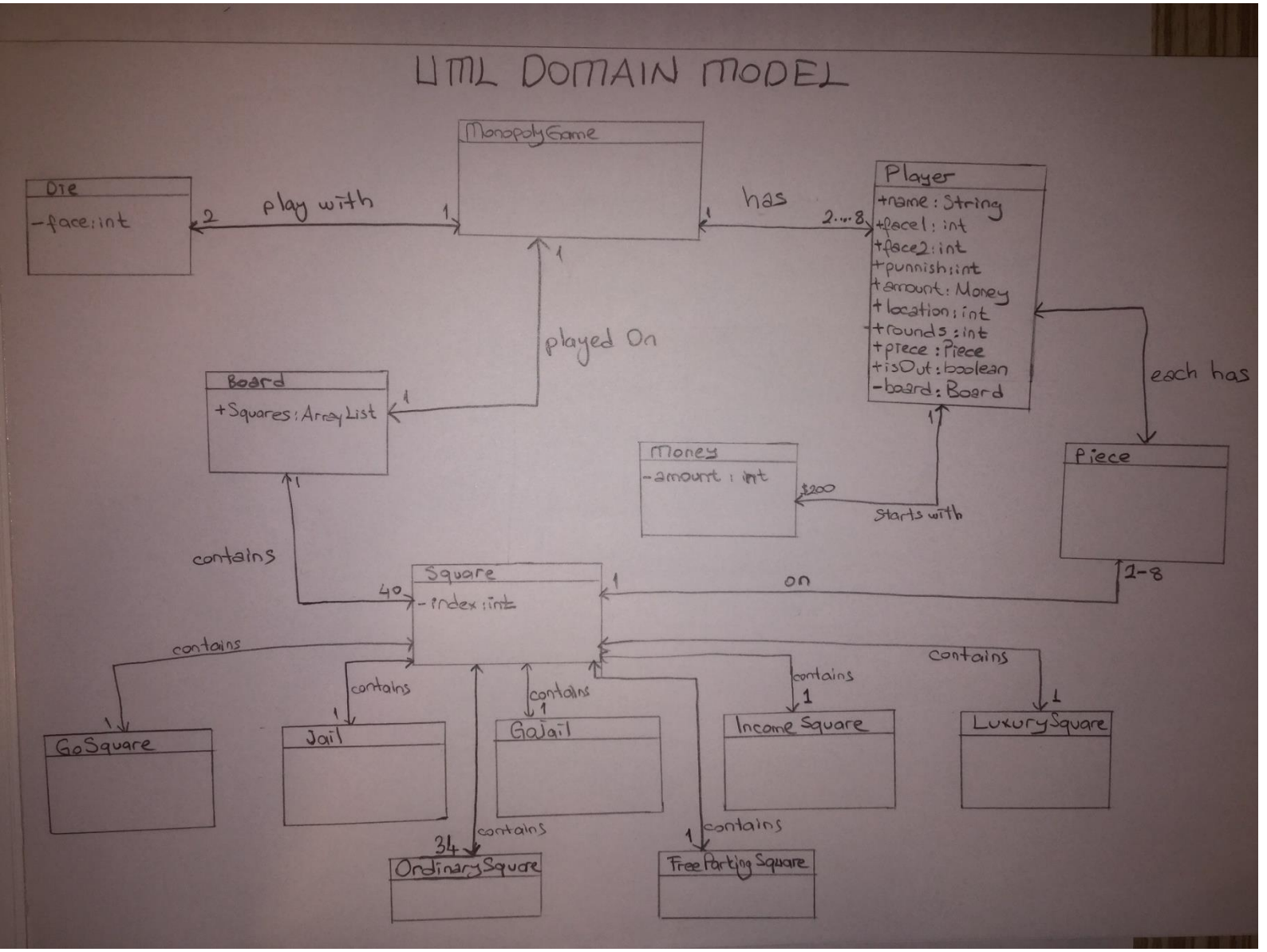
If a player lands on 20th square which means FreeParkingSquare, nothing happens as punishment or reward he or she continues on the next turn.

If a player lands on the 30th square which means "jail" the states which ı mentioned above happens.

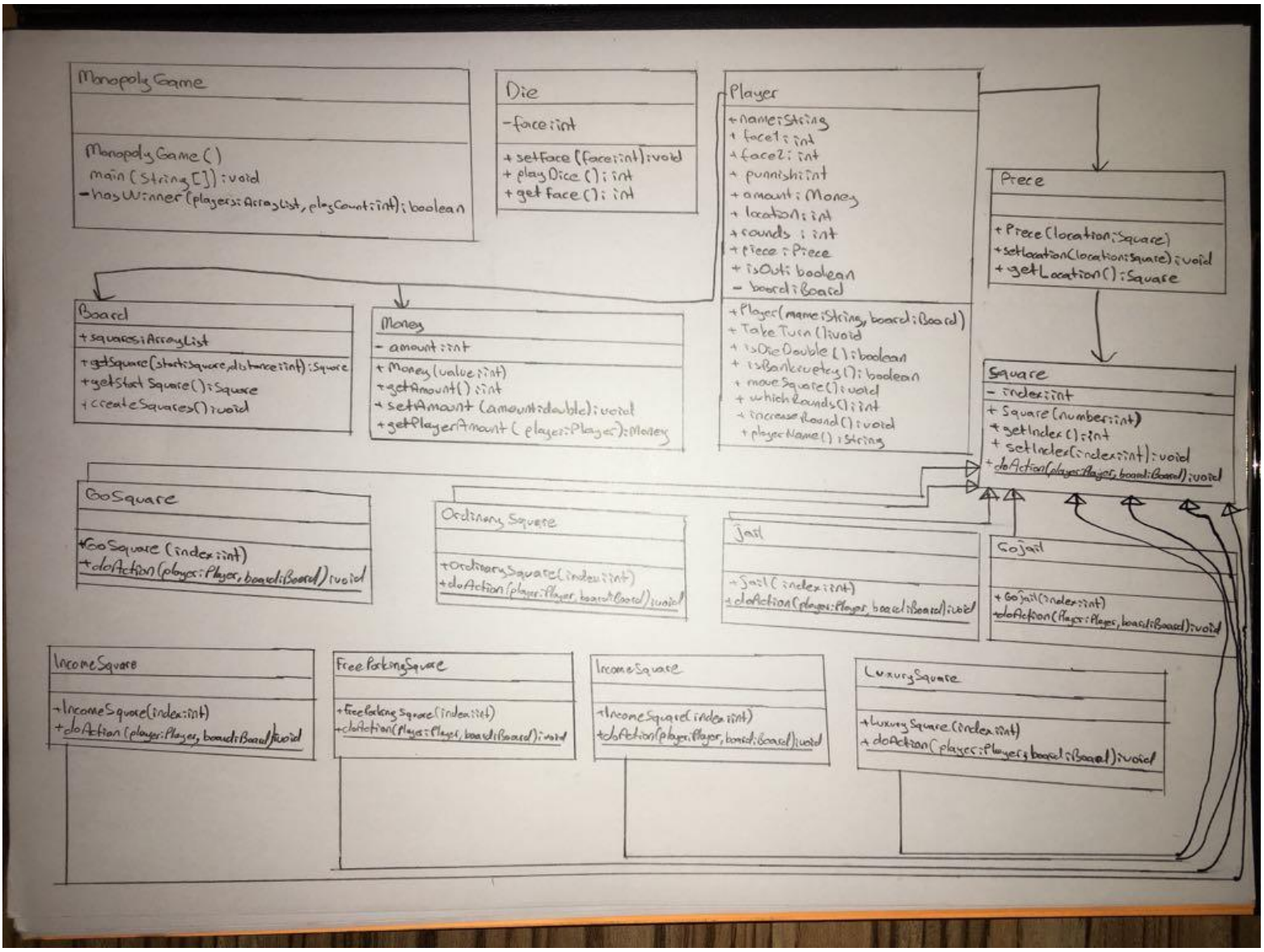
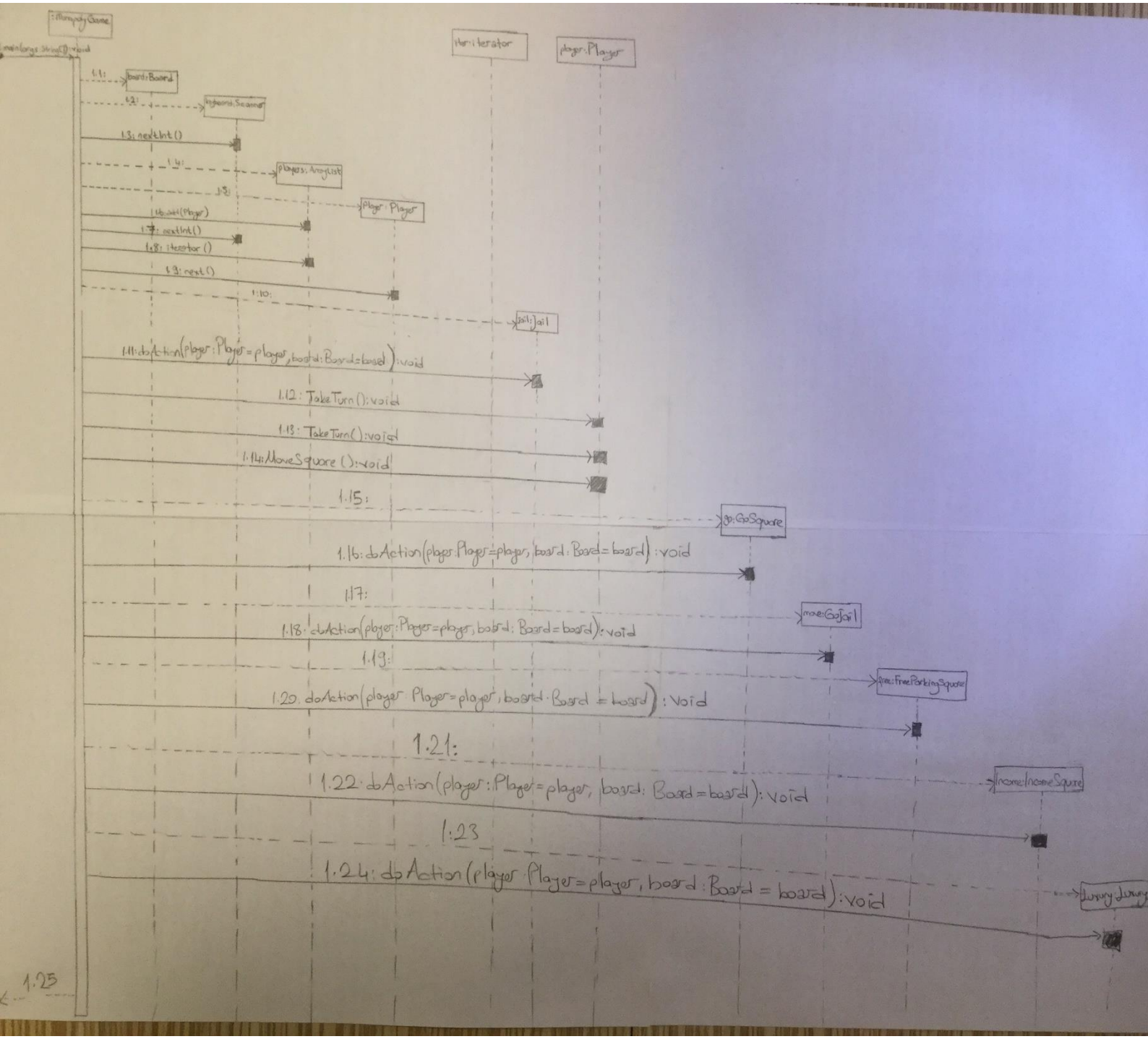
If a player lands on 34th square which means "LuxurySquare" he pays $75 to the bank meanly his Money amount reduces $75.

When a player who reaches the final round first, he or she wins the game and the game finishes or If all players go bankruptcy before the predefined number of game iterations, the game finishes.

UML DOMAIN MODEL



UML CLASS DIAGRAM



UML SEQUENCE DIAGRAM