Marmara University

Faculty of Engineering
Department of Computer Engineering

Fall 2017 – CSE3063 Object Oriented Software Design

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Monopoly (City Edition) Project

Second Iteration Report

Introduction

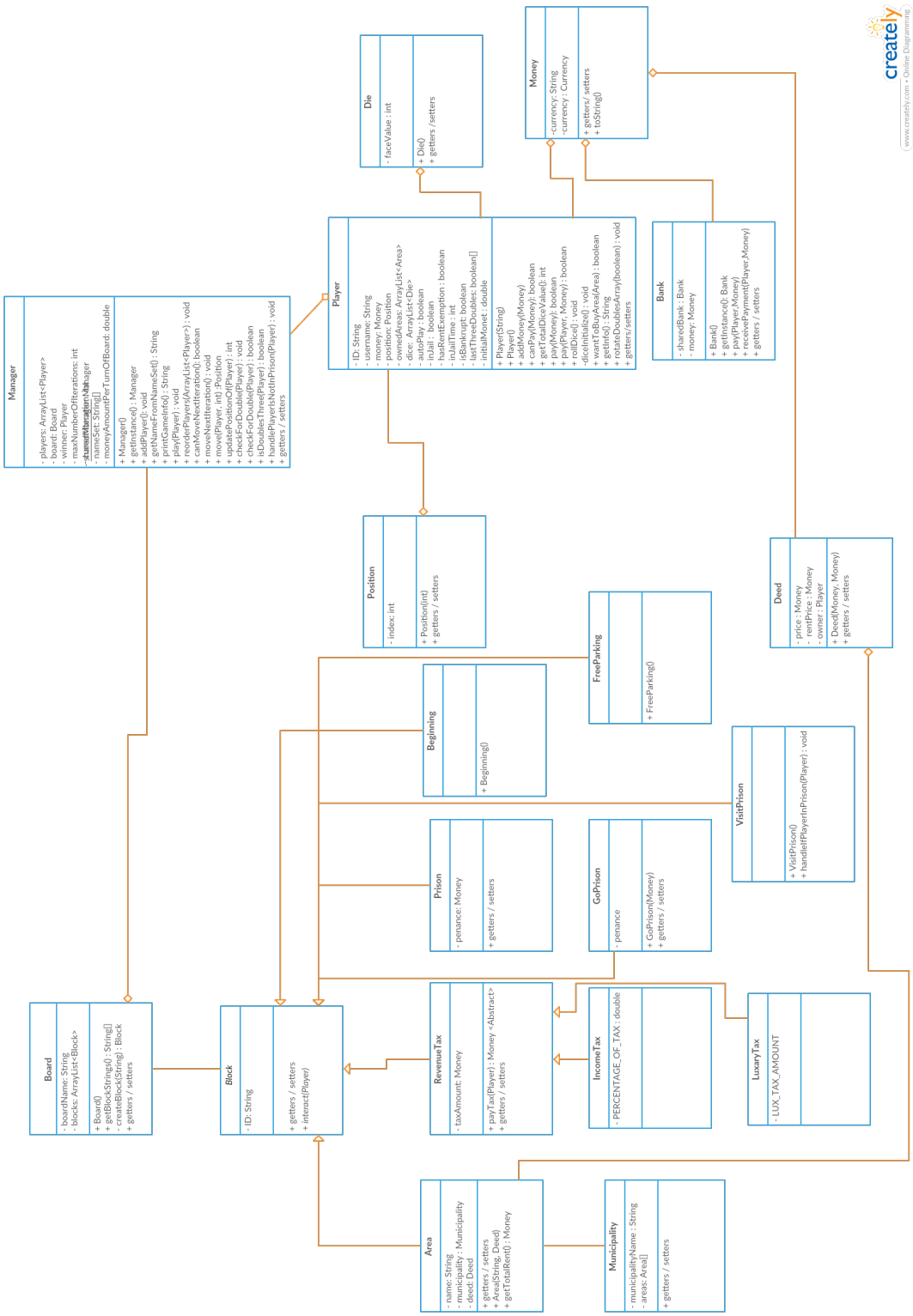
Monopoly is a strategy game which players aim to be the richest one and have other players bankrupt at the end of the game. It's played with at least 2 players and at most 8 players. People are walking on a board which consists of several types of blocks. Those blocks can be an area which can be bought by people, a revenue tax block where you need to pay 10% of your current money when you step on or a prison that you will be punished for two turns of game.

When you step on a area block, if that area is owned by another player then you have to pay rent to its owner. You can buy that area for a specified amount of money. If this area is owned by another player, then price of the area to buy will increase.

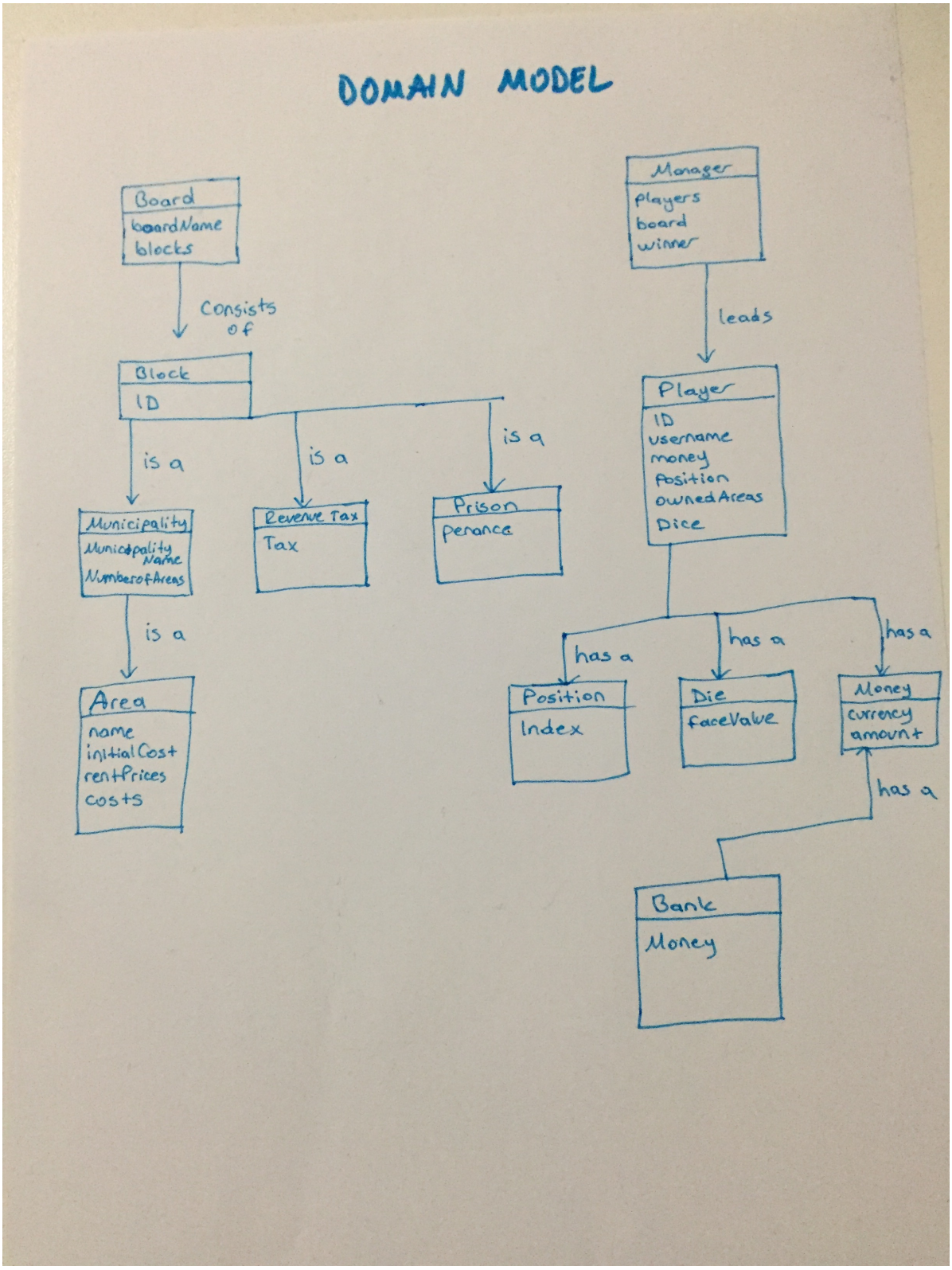
Game continues for a number of iterations where each iteration means one turn of all payers, if specified. Otherwise, game will continue until everyone except one bankrupt and the remaining player will be the winner.

UML Class Diagram

Original size of UML diagram can be found in our Github private repository.



Domain Model



Application Flow & Requirements Analysis

Please remind that requirements include second iteration of the entire project.

- User is asked to prompt username.
- User is asked how many players are going to attend to the game.
- User is asked to determine whether s/he is intend to play with iteration or not. (This iteration doesn't have the reply for N answer, because it will be implemented in third iteration.
- In order to determine the first player and others order, user is asked to press any button to roll dice. Afterwards order will be announced from command line.
- After starting game, every one in the game receive Beginning payment which is 200000 Turkish Liras.
- Depending on the block type players will be faced with some conditions. These conditions are:
- If user lands on visitPrison block, without any interaction user will be wait for others to finish their process.
- If user lands on goPrison block, user needs to pay to penance to be able to avoid from prison. If user doesn't have enough money, user will be derailed from playing for 3 rounds. In addition, user may ends up in prison if he/she gets doubles three times in a row.

- If user lands on incomeTax block, user needs to pay ten percent of his/her current money to Bank.

- If user lands on luxuryTax block, user needs to pay predefined amount of money to Bank.

- If user lands on any area and area has no owner, user needs to decide whether he/she is willing to purchase this area or not. If user decides to purchase the area user needs to pay the price to the bank and user gets deed for this area. If the area has an owner, our user needs to pay the rentPrice unless he/she has rentExemption.

- If user lands on freeParking block, user obtains rent exemption for one round.

• At the end of the game (Iteration is reached to max number) all users will be ordered in console regarding to their money status and winner will be declared.

Expected Output

Welcome to Monopoly!

Who is this?

- Serdar

How many players would you like to play with?

ENTER PLAYER NUMBER EXCEPT YOU (1..7) :

- 3

Would you like to determine a maximum number of iterations?

If so, the richest player will win the game at the end of those iterations. (y / n)

- y

ENTER NUMBER OF ITERATION :

- 40

Let's play!

These are dice of other players:

John Doe: 4,5

Jane Doe: 1,1

Hugo: 2,3

Press any button to roll your dice:

- ş

Serdar: 3,4

John Doe will begin!

John Doe has moved 9 blocks. Now, he is in big trouble. He will be waiting for 2 turns at jail.

Hugo has moved 5 blocks. He is in Bağlarbaşı. He decided to buy Bağlarbaşı for $1,2M.

You have moved 7 blocks.

Oopss! You're at Revenue Tax. You have to pay %10 of your money.

Your debt: $286K

Press any button to pay.

- ö

John Doe is in JAIL! He will not be able to move 1 more turn.

Jane Doe has moved 6 blocks. He has paid $400K for rent to Hugo at Bağcılar.

Hugo has moved 4 blocks. He has decided to buy Kadıköy from John Doe for $1,8M.

You have moved 12 blocks.

Hey, you're on your lucky day! You have a luck card. (will be added in next iteration)

-- END OF ITERATIONS --

Iteration Limit Exceeded!

Hugo has won the game with $38M.

#2: Jane Doe with $20M

#3: Serdar with $19M

#4: John Doe with $-12M

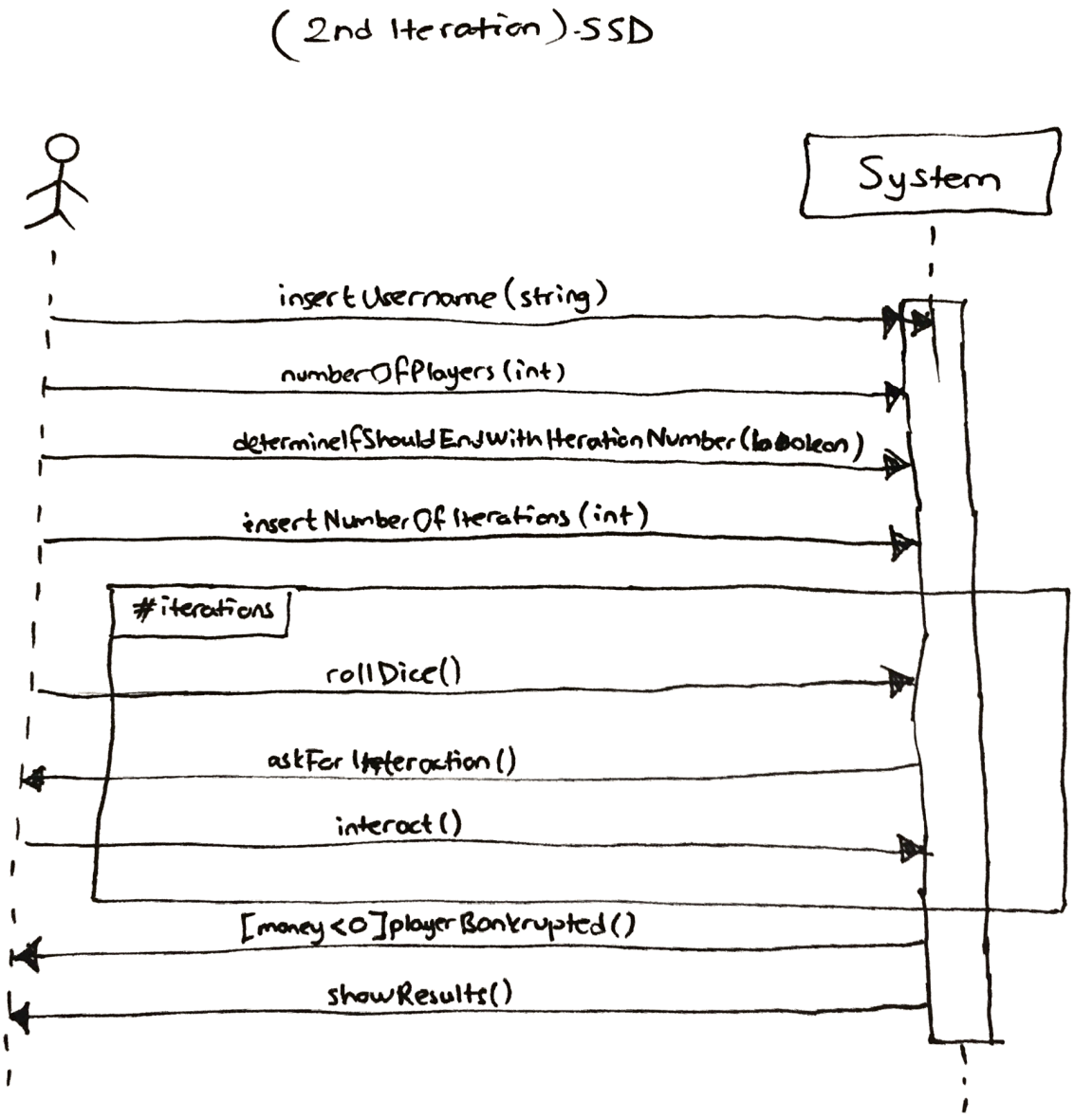
Timechart Work Report

Original size of UML diagram can be found in our Github private repository.

ISSUES , GROUP BY WORK AUTHOR		TIME ESTIMATED	TIME SPENT
Bilgehan Nal (bilgehanl.03)			**9h40m**
MP-58	Bankruptchy Control in Money Issues	1h	45m
MP-55	Blocks will be created using txt file	1h	45m
MP-53	Dice array will be converted to ArrayList	5m	5m
MP-45	Luxury Tax Block will be implemented	1h	45m
MP-60	New areas will be added in board.txt	30m	30m
MP-59	Not enough money control to buy an area	45m	15m
MP-44	Renting System will be implemented	2h	2h45m
MP-68	Tax System will be implemented	3h	2h45m
MP-38	UML will be updated	45m	45m
MP-66	winner will be determined	5m	5m
MP-64	İflas etme olayı çözülmeli	15m	15m
Serdar Sayın (srdrsayin)			**5h**
MP-40	Requirement Analysis will be updated	1h	1h
MP-67	Unit Tests will be implemented	4h	4h
Yusuf Kamil Ak (ykamilak)			**9h47m**
MP-57	Any minor bug found until the delivery of iteration will be fixed	—	45m
MP-51	Any other logic relevant to Bank will be implemented.	—	30m
MP-29	Bank class will be updated	—	5m
MP-17	Bitbucket slack integration will be held.	—	15m
MP-49	Currency will be determined as enumeration	15m	30m
MP-48	Distributing money to players logic will be implemented	30m	1m
MP-26	Domain Model will be updated.	—	20m
MP-46	Free parking system will be implemented	30m	10m
MP-47	Initial money logic of Bank will be implemented	1h	30m
MP-36	Iteration part of main will be implemented	—	1h15m
MP-61	Prison Position Bug will be fixed	—	20m
MP-23	Program Flow before the iteration loop will be implemented all together.	4h	2h
MP-7	Project should be divided into three parts	—	15m
MP-8	Project should be initialized and distributed to all developers.	—	30m
MP-65	Rapor yazılacak, timechart çıkarılacak	—	1m
MP-30	Readme.md file will be edited.	—	15m
MP-33	Report of First Iteration will be received from Youtrack	—	10m
MP-62	Sahibi hapiste olan playera kira ödenmeyecek	—	20m
MP-22	Slack integration for GitHub	—	15m
MP-9	Sourcetree, bitbucket, sourceControl training will be held.	—	30m
MP-50	Starting block will be implemented.	15m	10m
MP-35	UML diagram will be simplified according to the needs of first iteration	—	15m
MP-32	UML will be updated again.	—	25m

Total time spent: 24h27m
out of 21h55m

System Sequence Diagram



Conclusion

Latest version of our project is committed to the private repository of the project. We continue to develop it by extending requirements and enhancing functionality of the entire project. In this period, we are using professional tools such as YouTrack Agile by Jetbrains, Sourcetree and Github for version control. We also use Slack to communicate each other and get used to it.
Developing such a project let us improve our software designing and implementation capabilities, gets us prepared to the industry.