Sprint 3

1) Summary	
Sprint leader(s)	Vivien
Sprint start date	27/03/2020
Sprint end date	06/04/2020

2) Individual key contributions	
Team member	Key Contribution(s)
Neumann, Vivien	Task Cards, Requirement Analysis + Planning, Use Case Diagrams Documentation best practices,
Jiao, Haotian (Hallton)	Auction - Central Control & Player & Bank & Property
Wang, Mingfeng (Foret)	Free Park fines + collect & Receive £200 when passing go
Banes, Hayden J	Update GUI ? *+ Back-up for Task Cards, if it takes longer than expected.*
Tang, Zhenyu (tang)	Mortgage Testing (Sprint 2 and 3)

3) User stories / task card
Task card 1: Auctioning **Priority: 1** **Value: 7** **Player can make a bid:** If players decide not to buy the property on the space they landed, the property is auctioned by the bank. Therefore, each player makes a bid to the bank. This means, each player should have a form where they can type in their bid. Since it is not mandatory to make a bid, the player can also insert 0 (accepted numbers between 0 and the max money they have). Nevertheless, every player has to submit the form to ensure that everyone made a bid but only players who have completed one circuit

of the board are allowed to make a bid. Hence, it has to be checked, whether each player has completed a full circuit.
The bank sells the property to the highest bidder. The field 'owner' is then changed in the database and the winner of the auction transfers the money to the bank. Update of all bank accounts is necessary. If there are no bids, then the property remains unsold.

Task card 2: Mortgage
Priority: 2
Value: 7
Player can mortgage a property with the bank:
If a player needs to raise funds, they may mortgage a property with the bank. Therefore, the bank will pay the player one half of the value of the property as shown on the game card. The bank checks the value of the property from the included configuration file, calculates the price and transfers the money to the player's account. All bank accounts have to be updated.
Whilst a property is under mortgage, the player may not collect rents for that property. This means, the status 'under mortgage' needs to be changed in the corresponding database so other players do not pay rent to the owner.
A player can also sell a mortgaged property back to the bank. It is then sold for one half of the property price as shown on the card. The fields 'Owner' and 'Under mortgage' have to be updated, the player receives the second half of the original value from the bank and all bank accounts are updated.

Task Card 3: Free Parking
Priority: 3
Value: 7
Player pays fines and collects money when on free parking space:
Players have to pay fines during the game (either through pot luck/opportunity cards or when they get out of jail). These fines are accumulated on the free parking space in the centre of the board. This means that the (current) amount of money has to be displayed in the middle of the board at all times (--> GUI). In addition, every time a player has to pay a fine, the amount has to be added to the current amount of money on the free parking space (in the centre of the board) and additionally, the GUI has to be updated with the new number.
When a player lands on free parking, they collect all the funds currently on the free parking space. The money is then transferred to the player's bank account and the amount of money is changed to £0 as well as the number displayed on the GUI.

Task card 4: Player passes Go
Priority: 3
Value: 6

When a player passes Go, they receive £200 from the bank. Show a message that the player has passed Go, and inform them that they receive £200. Transfer the money from the bank to the player who passed the space Go and update all bank accounts.

Sprint 3

4) Requirement analysis

	Functional	**Non-Functional**
TC1: Auctioning	TC1-F1: Before a player is allowed to make a bid, it shall be checked whether a player has completed one full circuit TC1-F2: It should be checked that the player's bid is a valid number TC1-F3: The player with the highest bid shall buy the property	- Transfer money and change the corresponding owner field of property - Update bank accounts of players and bank - Ensure that the right player receives the money
TC2: Mortgage Property	TC2-F1: Check whether the player who wants to mortgage a property is the owner of that property TC2-F2: The value of the property shall be divide it by 2 in order to calculate the mortgage TC2-F3: The bank shall transfer the money to the player TC2-F4: The 'undermortgage' attribute of the property shall be changed so the owner cannot collect rent	
TC3: Free Parking - Pay fines	TC3-F1: The paid fine should be compared with the stated number on the special card / when getting out of jail TC3-F2: The current amount of money at Free Parking shall be stored and available at any time TC3-F3: The money shall be transferred from the player's bank account to Free Parking TC3-F4: After paying a fine, the Free Parking space shall be updated. TC3-F5: The current amount of money at Free Parking should be stored in the middle of the board (include in GUI)	- Current amount of money has to be stored - Update the money on Free Parking after a player had to pay a fine or when a player landed on this space - Update bank accounts of players, bank and Free Parking space - Ensure that the money is subtracted from the player's bank account

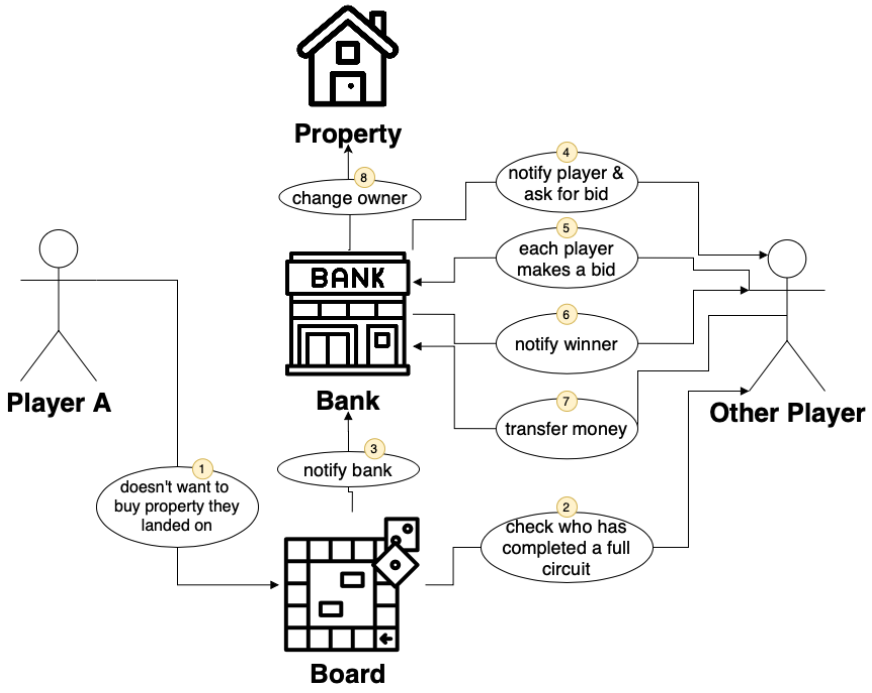
Sprint 3

TC3: Player collects money when on Free Parking space	TC3-F6: When a player lands on Free Parking space, the money shall be transferred to the player TC3-F7: After the money was collected, the Free Parking space shall be updated and the stored number has to be £0	- Ensure that the GUI shows the exact number - Ensure that after the player has received the money, the number stored at Free Parking is £0 - Ensure that the right player receives the money
GUI	- Include Free Parking in the centre of the board (show current amount of money collected) - Start full or abridged game (with specified time) - Add players to the game	- Update Free Parking in the centre after a player pays a fine or lands on the Free Parking Space
TC4: Receive £200 when passed Go	TC4-1: When a player passes go, they should be notified TC4-2: The bank shall transfer the £200 to the player's bank account immediately	- Update bank accounts of players and bank - Ensure that the right player receives the money

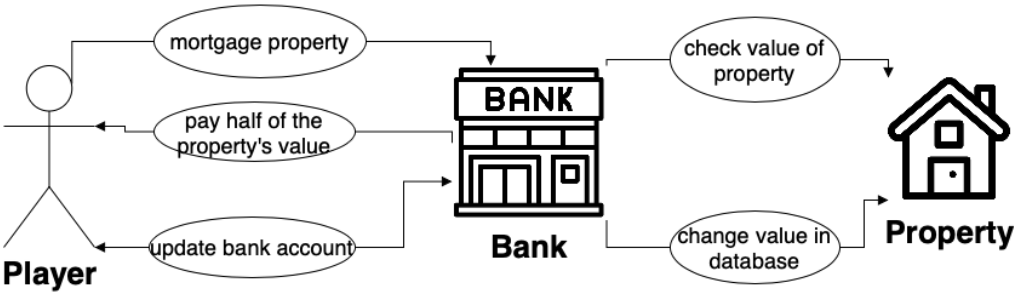
5) Design

Sprint 3

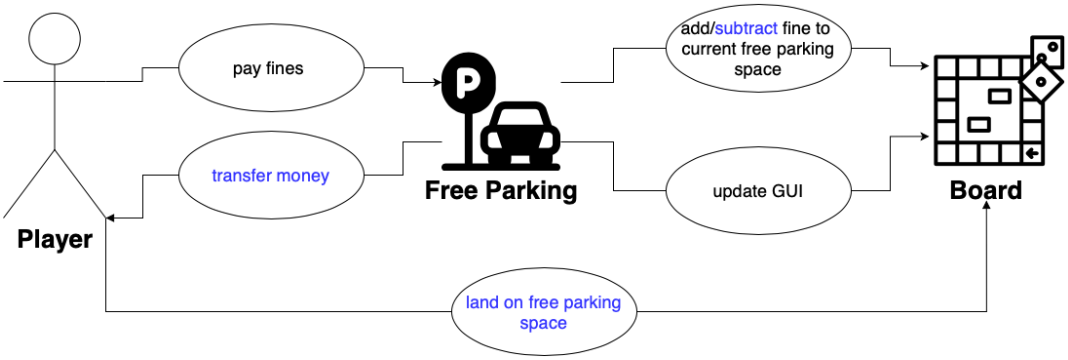
AUCTION



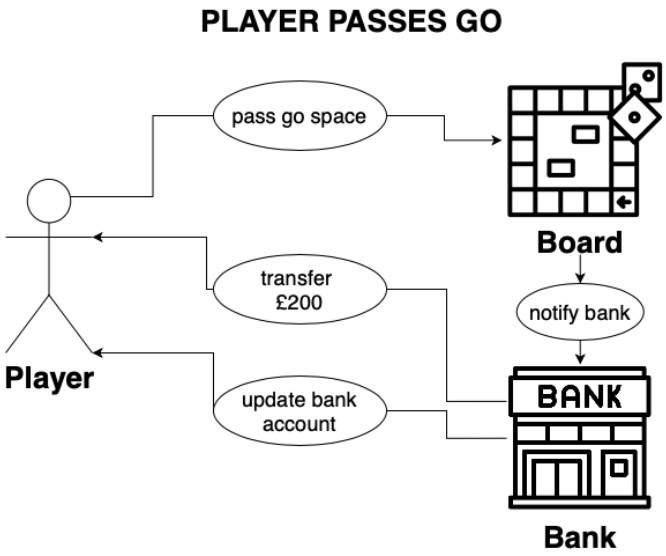
MORTGAGE



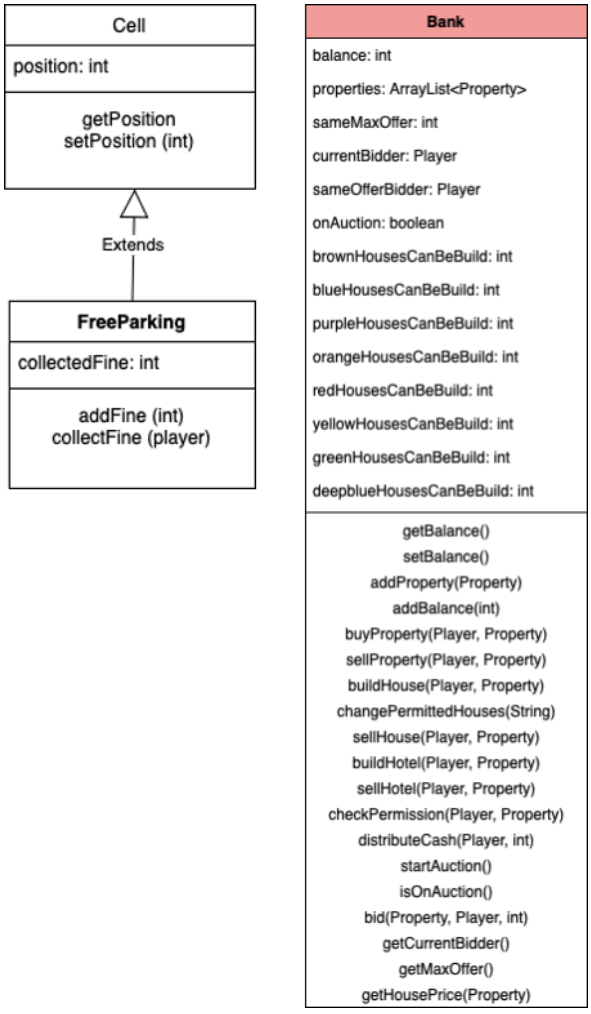
FREE PARKING



Sprint 3



Class diagrams:



6) Test plan and evidence of testing

TC1-F1: Before a player is allowed to make a bid, it shall be checked whether a player has completed one full circuit

System test 1:

Build Bank
Build a player
Add a property to the bank
Call bid()
Expected output: the BankException
Result: Passed

System test 2:

Build Bank
Build a player
Add a property to the bank
Call setPassGo() to set player passed GO
Call bid()
Call getCurrentBidder()
Expected output: the current bidder is the player
Result: Passed

TC1-F2: It should be checked that the player's bid is a valid number

System test 1:

Build Bank
Build a player
Add a property to the bank
Call setPassGo() to set player passed GO
Call bid() but input a negative number
Call getCurrentBidder()
Expected output: the current bidder is null
Result: Passed

System test 2:

Build Bank
Build a player
Add a property to the bank
Call setPassGo() to set player passed GO
Call bid() with a positive number

Call getCurrentBidder()
Expected output: the player is the current bidder
Result: Passed

TC1-F3: The player with the highest bid shall buy the property
System test:
Result: should be implemented in GUI

***Sprint TC3-F2*: The current amount of money at Free Parking shall be stored and available at any time**
System test1:
Add 50$ to park
Check money of the park
Ensure money is 50$.

***Sprint 03 TC3-F6*: When a player lands on Free Parking space, the money shall be transferred to the player**
***TC3-F7:* After the money was collected, the Free Parking space shall be updated and the stored number has to be £0**
System test1:
Add 50$ to park
Player collect money of the park
(Cannot roll dice first and if player`s position equals 21, then collect money from park. Because it is random to get a number going ahead. We will specially do tests about roll dice with different locations)
Ensure player`s money is added by 50.
Money in the park is changed into 0$.

***Sprint 3 TC4-1*: When a player passes go, they should be notified**
***&& Sprint 3 TC4-2:* The bank shall transfer the £200 to the player's bank account immediately**
System test1:
Set player`s position as 38
Roll dice
Ensure the player is marked as passed.
add player`s money by 200
minus bank's money by 200

7) Summary of sprint

→ we had to delay the Sprint meeting and therefore, also extended the Sprint duration.

Status Task Cards:

Sprint 3

Auctioning:

- Check whether the player has enough money to bid is still missing → Hallton will finish it tonight
- GUI is not implemented
- Testing is missing

Mortgage: almost finish but didn't finish testing

Free parking:

- Is finished
- Testing is missing

Receive £200 when passed Go

- Finished
- Testing is missing

GUI:

- Isn’t completely finished for all task cards which we have implemented yet (e.g. auctioning is missing)
- Challenge: you can constantly add new things and improve the GUI, therefore we have prioritise a working GUI instead of having a fancy design