Sprint 6

1) Summary	
Sprint leader(s)	Vivien
Sprint start date	20/04/2020
Sprint end date	21/04/2020

2) Individual key contributions	
Team member	Key Contribution(s)
Neumann, Vivien	Task Cards, Requirement Analysis & adjust Gantt Chart
Jiao, Haotian (Hallton)	Adjust Auction + Trading mechanic
Wang, Mingfeng (Foret)	
Banes, Hayden J	
Tang, Zhenyu (tang)	Establish the player turn order

3) User stories / task card

Task Card 1: Establish the player turn order
Priority: 3
Value: 5
In the beginning of the game, the players have to decide the turn order. This should be done by throwing the dice in the beginning of the game. The player with the highest thrown number starts the game, then the one with the second highest number and so on.

Task Card 2: Adjust Auction
Priority: 2
Value: 4
During the property auction, every player makes a single private bid and the highest bidder wins. But when 2 or more players bid the same maximum bid, all players are allowed to bid again (should be implemented in the GUI). Before the players bid again, the information for the highest bid should be available for all players (GUI). This feature is still missing in the auctioning method and has to be

implemented to ensure that only one player wins the auction. The progress of the GUI is not as far yet, so for now, the code to ensure that only there is only one winner is the priority.

Task Card 3: Trading mechanic
Priority: 1
Value: 8
Players can also sell properties to other players without having the bank involved. This feature requires the communication between two players. If a player wants to buy a property of another player (e.g. to own the full colour coded group), they have to be able to find out who owns the specific property and then ask the owner for the price. When trading properties between players, the price can vary and does not necessarily need to be the original value.
In order to find out who is the owner of a property, the player can either ask all players or ask the bank to then directly communicate with the owner (should later be implemented in the GUI side). It is important that a player can decide whether they want to sell their property or not. It is not mandatory to sell a property. In addition, when the two players have defined a price for the property, the buyer has to transfer the money to the corresponding bank account and has to report the transaction to the bank which changes the owner in the game card.

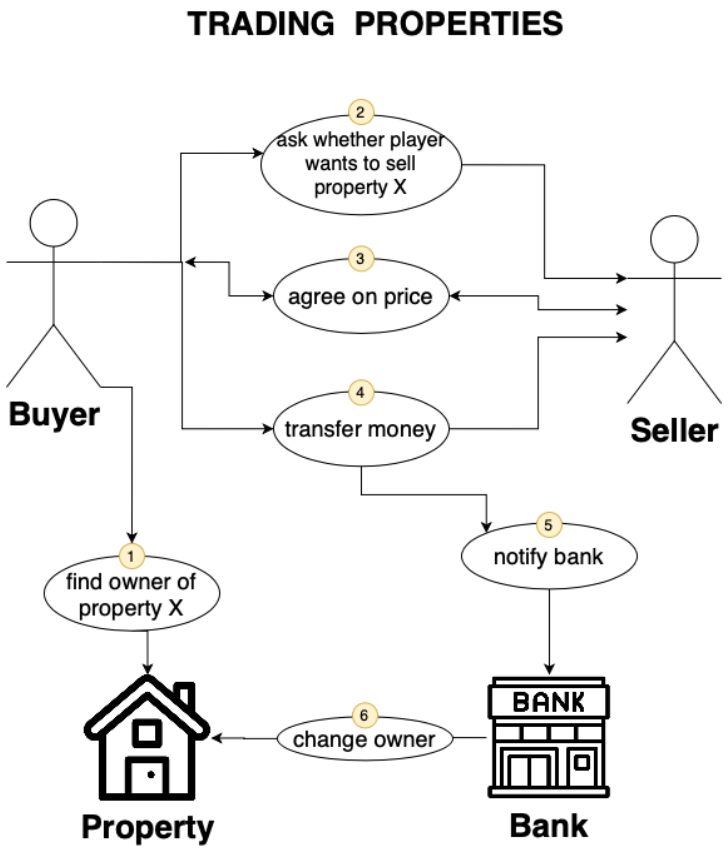
Task Card 3: Gantt Chart
Priority: 3
Value: 1
Adjust the project plan from the beginning and create the 'real' version of it. This should also include all responsibilities.

4) Requirement analysis

	Functional
TC1: Establish turn order	TC1-F1: Before a game starts, this method shall run to establish the turn order TC1-F2: Each player shall throw the dice without moving their token TC1-F3: The numbers shall be sorted to select the player with the highest number starts TC1-F4: If players threw the same number, these players should throw the dice again to decide who comes first TC1-F5: Turn order shall be saved and is used for the rest of the game TC1-F6: Turn order shall not change throughout the game
TC3: Trading mechanics	TC3-F1: Players should be able to communicate with each other TC3-F2: Players shall know who owns which property TC3-F3: Price discussion during the trading should be allowed

	TC3-F4: A player should be able to sell the property for more than the original value TC3-F5: When buying the property, the buyer shall transfer the money to the seller's bank account TC3-F6: The owner of the property shall be changed TC3-F7: Trading between players should be shown in the GUI

5) Design



6) Test plan and evidence of testing

TC3-F1: Players should be able to communicate with each other

System test:

Result: should be implemented in GUI

TC3-F2: Players shall know who owns which property

System test:

Result: should be implemented in GUI

TC3-F3: Price discussion during the trading should be allowed

System test:

Result: should be implemented in GUI

TC3-F4: A player should be able to sell the property for more than the original value

System test:

Build Bank
Build a player
Build the second player
Add a property to the bank
Call buyProperty() in Bank Class with player 1
Call sellPropertyToPlayer() in Player Class with player 1 and sell to player 2 with doubled cost
Expected output: player 2 is the owner
Result: Passed

TC3-F5: When buying the property, the buyer shall transfer the money to the seller's bank account

System test:

Build Bank
Build a player
Build the second player
Add a property to the bank
Call buyProperty() in Bank Class with player 1
Call sellPropertyToPlayer() in Player Class with player 1 and sell to player 2 with doubled cost
Call getMoney() with player 1
Expected output: player 1's account has more than 1500
Result: Passed

TC3-F6: The owner of the property shall be changed

System test:

Result: tested in TC3-F4

TC3-F7: Trading between players should be shown in the GUI

System test:

Result: should be implemented in GUI

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7) Summary of sprint

Status Task Cards:
Trading Mechanics and **Establish Turn Order**:

- The basic code of the features 'trading mechanics' and 'establishing turn order' is done, but since the development of the GUI is not as progressed, the implementation of these features are still missing

Adjusting Auction Method:

- Adjusting the auction method is also finished apart from the GUI parts.
- Some features need GUI to be completed → we didn't continue working on the GUI
- Discussed the handouts plan.

Gantt Chart:

- We updated the Gantt Chart from the beginning to a newer version considering all delays and issues (corona, remote working, etc.)