**Sprint 2: AI**

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| 1. **Summary data** | |
| Project number | 37 |
| Sprint technical | Gary |
| Sprint start date | 12/03/2022 |
| Sprint end date | 01/04/2022 |

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| 1. **User stories / task cards** |
| AI implementation:  At first, I decided to create a separate class for AI, then after consideration the AI Function with the player class since it would have taken more memory and there would have been an access of repeated code as I would gotten a memory error as the data would have been separated in two different places because there would have been two instances of player.  To reduce redundancy, I decided to add extra parameter called probability, with this parameter I would be able to figure out which player would have been AI due to AI Having probability greater than zero  Task cards:   * Implementation of dice roll was simple as we just needed to figure out which player had a probability hence the movement on the board * Check double roll for AI * Implementation of jail function for the AI * Buying cards & auction functions for AI using probability * Making the AI more advanced by monitoring other player purchases * Buying properties for AI by evaluating the most expensive set * Selling card and properties * Potluck and Opportunity knock |

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| 1. **Requirements analysis** |
| One autonomous player: Mandatory  At least one autonomous player where the game can now be played by only one human player VS AI |

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| 1. **Test plan and evidence of testing** |
| |  |  |  |  | | --- | --- | --- | --- | | Requirement | Description | Expected | Pass/fail | | Dice rolls | AI will roll the dice automatically in it turn where the player must click on the dice button | Display a random number from 1-6 | Pass | | Player moves round upon roll | The players tokens progress forward according to the random number of the dice rolls | The players will move on board | Pass | | Check double | To check if both dice have same random number | When a player gets same number from both of dices, he can roll another time and move according to the value shown in all 4 dices | Pass | | Jail properties | Players can fall into jail, where they can get out of jail either by paying or using jail pass from | Player can leave the jail after paying or using the jail pass | Pass | | Special cards | When landing on Potluck or Opportunity knocks on the board you can a special card that can either have positive or negative impact on the player progress |  | Pass | | Buying cards | You can buy cards from the banker which will allow player to own the properties that corresponding to that card | To own the property of the card | Pass | | Developing owned properties | Player can develop the properties the own by building houses and hotels | To own houses and hotels on those properties which will allow more income for the property owner when another play land on these properties | Pass | | Sell cards | Players can sell their unwanted cards to the bank for same amount of money it was bought for | Players will no longer own rent fees when another player land on that property now | Pass | | Sell properties | Players can sell the properties they owned such as houses and hotels | Players will get money for giving up some properties | Pass | | Auction bid | players who want same card can start raising offers to buy it | Player who offered the highest amount of money can have the card | Pass | |

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| 1. **Summary of sprint** |
| **Did you achieve your objectives for this sprint?**   * Yes, I achieved the objective from this sprint as I wanted to improve the AI wish I did and I made it more advanced   **Is there a working prototype?**   * Yes, there is working prototype but on console code, without GUI   **What went well, and what did not go well? If things did not go well, what have you learned and what will you do differently for the next sprint?**   * My allocation issue was sorted out which made everything start working as planned   I**s there any feedback from the customer?**   * No, there’s no feedback from the costumer as the game is only functional on console code |