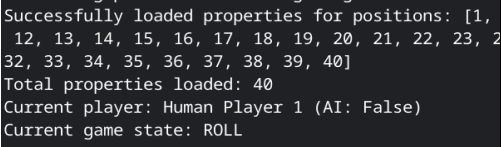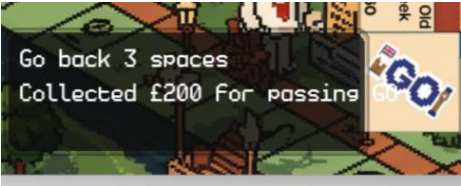# Group 5 – Software Engineering Project-Property Tycoon System Level Testing

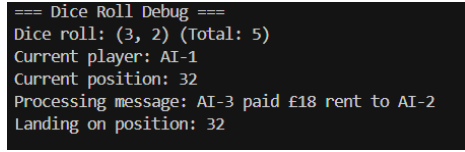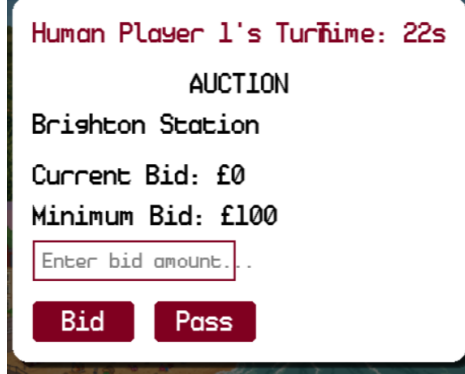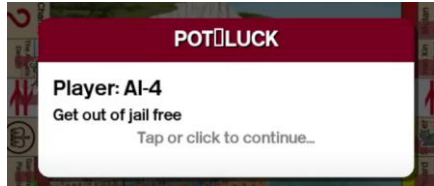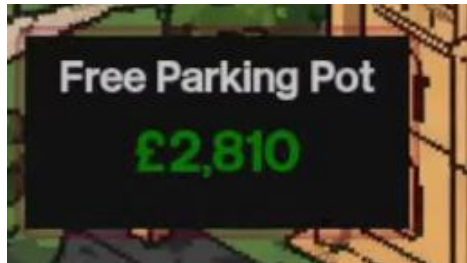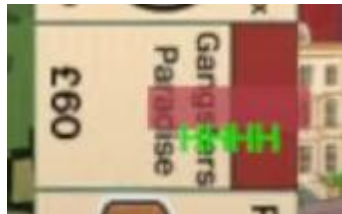Test Date: 18/03/2025
Test Environment: PC

Testing Build Version: Build.16.03.2025

Execution Mode: Running from Built Executable

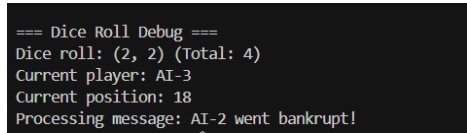| Test ID	Description	Input	Expected Outcome	Actual Outcome	Screenshot	Pass /Fail	What Next?	Notes
1	Game Initialization	Start a new game with 2 human players and 1 AI player	The game should initialise with correct player money (£1,500 each), board setup, and game pieces, load data from an Excel file	The cmd output shows the game has been Initialized in the correct way	Successfully loaded properties for positions: [1, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 2 32, 33, 34, 35, 36, 37, 38, 39, 40] Total properties loaded: 40 Current player: Human Player 1 (AI: False) Current game state: ROLL	Pass	No action needed	The test bank limit is £50,000
2	Dice Rolling and Movement	Click the "Roll" button during the player's turn	Dice animation should display random values 1-6, and the player token should move the correct number of spaces	dice animation is working and stops in a few seconds		Pass	No action needed	Check double rolls logic
3	Player Passing GO	Move the player across the GO space	The player should receive £200, lap counter should increment	The player should receive £200, and be able to buy the property after passing go on the first time	Go back 3 spaces Collected £200 for passing GO!	Pass	No action needed	/

Test ID	Description	Input	Expected Outcome	Actual Outcome	Screenshot	Pass /Fail	What Next?	Notes
4	Property Purchase	Land on unowned property, click the "Buy" button	Player money should decrease by property price, property should show ownership	show ownership on the player card with a colour box	Gangsters Paradise Price: £60 Base Rent: £4 1 House: £20 2 Houses: £60 3 Houses: £180 4 Houses: £320 5 Houses: £450 Buy Pass AI-2 £2,128	Pass	No action needed	Test with different property types
5	Rent Payment	Land on property owned by another player	Correct rent should be calculated and transferred from the landing player to the owner.	Rent paid successfully	=== Dice Roll Debug === Dice roll: (3, 2) (Total: 5) Current player: AI-1 Current position: 32 Processing message: AI-3 paid £18 rent to AI-2 Landing on position: 32	Pass	No action needed	Test different rent scenarios
6	Auction System	Decline to purchase property when landing on it	An auction interface should appear, and all players should be able to bid	yes, works, but not for players in jail	Human Player 1's Turn Time: 22s AUCTION Brighton Station Current Bid: £0 Minimum Bid: £100 Enter bid amount... Bid Pass	Pass	No action needed	Test AI bidding behaviour

Test ID	Description	Input	Expected Outcome	Actual Outcome	Screenshot	Pass/Fail	What Next?	Notes
7	Card Drawing	Land on "Pot Luck" or "Opportunity Knocks" spaces	A card should be drawn and its effect applied to the player	The card drawing UI is one lap late to display after the player lands on the card area.		Fail	Fix the flow of handling card spaces	Check all card types
8	Jail Mechanics	Roll three consecutive doubles or land on "Go to Jail"	The player should move to jail, miss turns until conditions meet	working, player position move to jail		Pass	No action needed	Test all jail escape options
9	Free Parking	Land on Free Parking space	The player should collect accumulated fine money (if the house rule is enabled)	working, the total amount of free parking space has been showing on the UI		Pass	No action needed	Optional house rule
10	House Building	Select a property from a complete set, click "Build House"	House should be added to the property, rent values should increase	House added and showed on ui and the board		Pass	No action needed	Test after the first lap
11	Bankruptcy Handling	Force players to pay more money than they have	The player should go bankrupt, and assets transferred to the bank	the player was marked as bankrupt		Pass	No action needed	fixed:

Test ID	Description	Input	Expected Outcome	Actual Outcome	Screenshot	Pass /Fail	What Next?	Notes
12	AI Player Turn Processing	Wait for the AI player to turn	AI should make decisions based on difficulty level	working		Pass	No action needed	Tests are both easy and hard difficulty
13	Game End Condition	Play until only one player remains solvent	The game should end and declare winner	show end game screen		Pass	No action needed	Check winner calculation
14	Time Limit (Abridged Game)	Play abridged game mode for set time	Games should end after time expires	show end game screen		Pass	No action needed	180min max