

Milestone 4 Design Document - Team Swapnendu Anwesa

Refactored model changes for Milestone 4

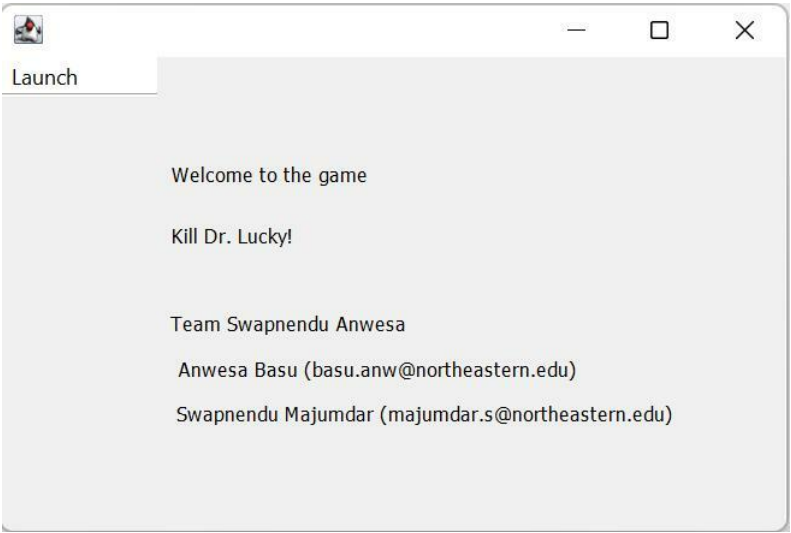
In order to develop a view for this application, some changes were required to be made in the model to facilitate the changes from a text-based controller to a controller that supports input from the view. One of the major changes was the introduction of the read-only model interface, which would enable the view to interact with the model without being able to mutate or corrupt the contents. The read-only model interface will contain only the method signatures of the getter methods in the model, thereby allowing the view to access only the value from the getter methods. We will also add some new methods which will allow the view to access more information through both the read-only model interface, as well as the controller. A few existing void methods will also now return String type status messages, for the same purpose. Finally, we will add a new method to keep a track of the number of players in the game, and also throw an exception and display an error message when the count of players exceeds the stipulated limit.

Reasons for choosing particular model

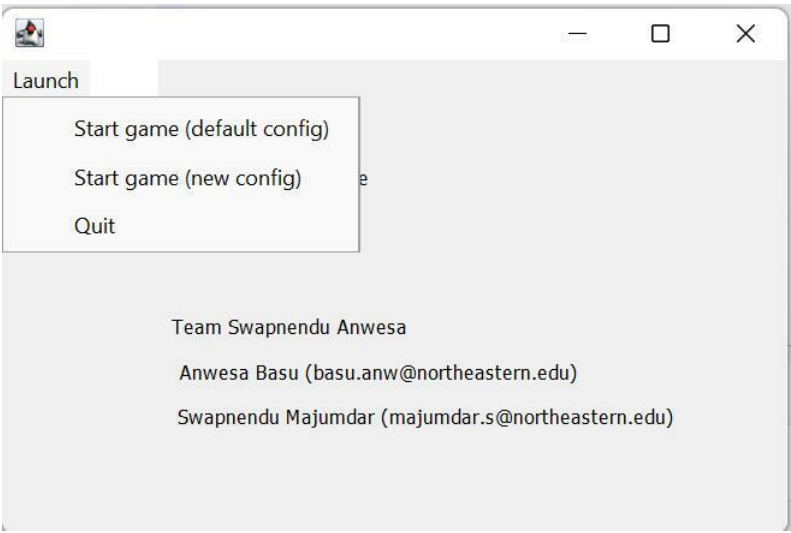
We are proceeding with the model previously submitted by Anwesa. Her implementation has all the necessary functions, and when compared to Swapnendu’s model, comes off as more complete than the latter. Anwesa’s implementation of the computer player also appears to be more thoroughly tested, and robust, when compared to Swapnendu's implementation. Keeping these reasons in mind, it has been decided by the duo to proceed with Milestone 4 using Anwesa’s model.

View Sketches -

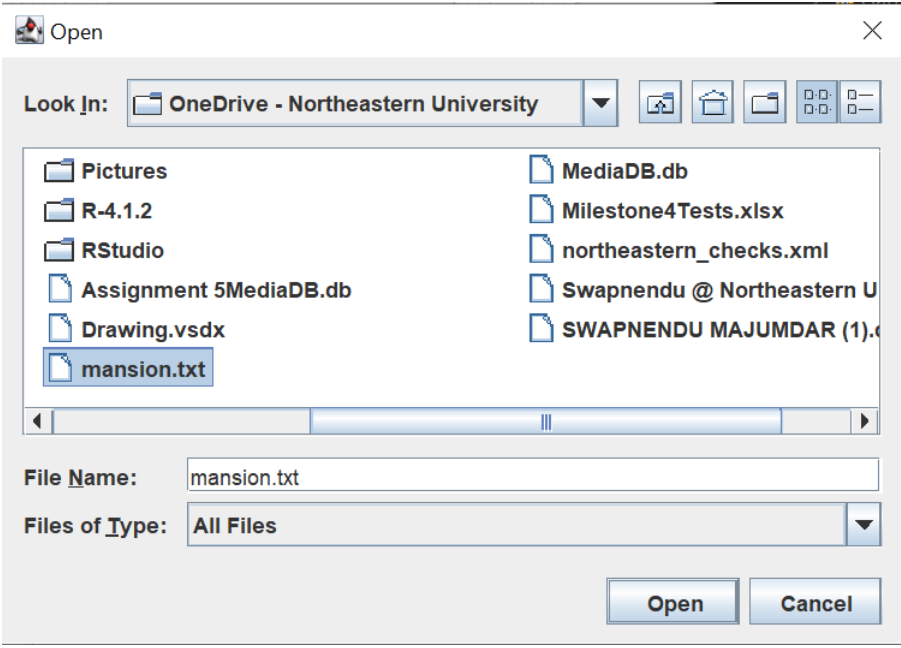
About Screen -



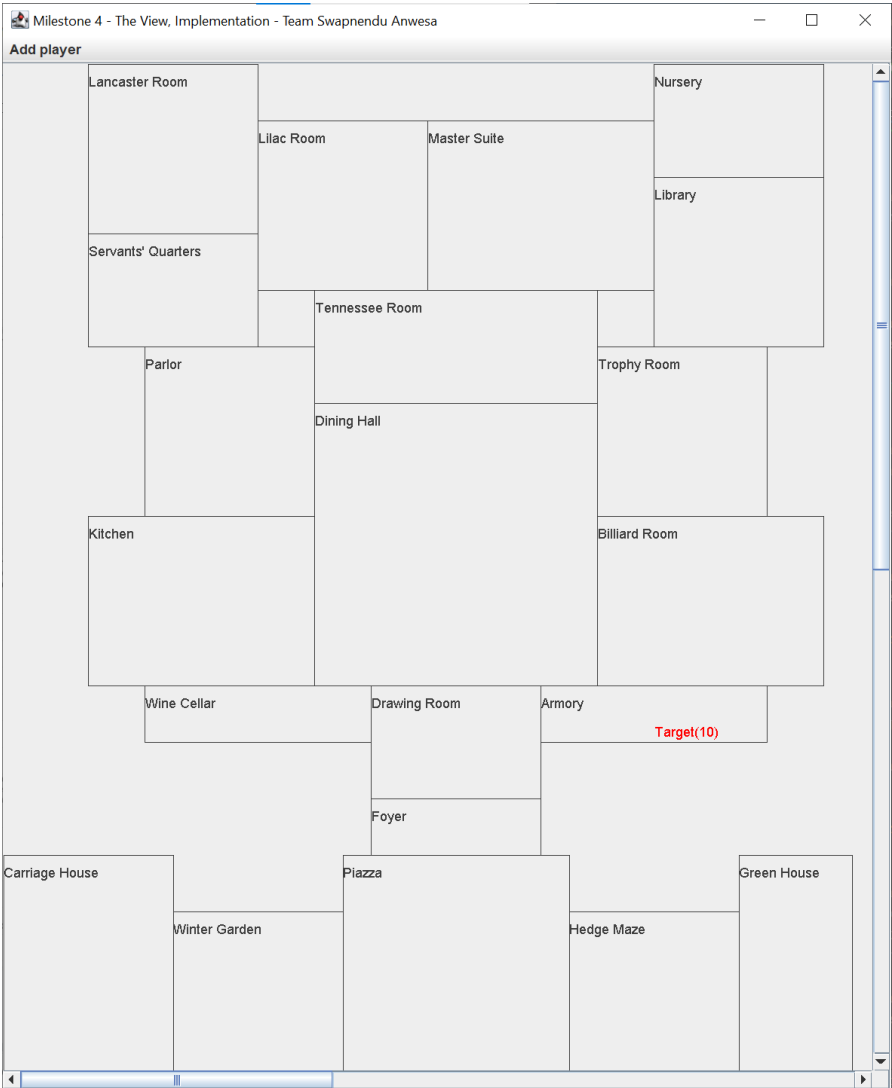
Clicking on the launch menu opens up the following options -



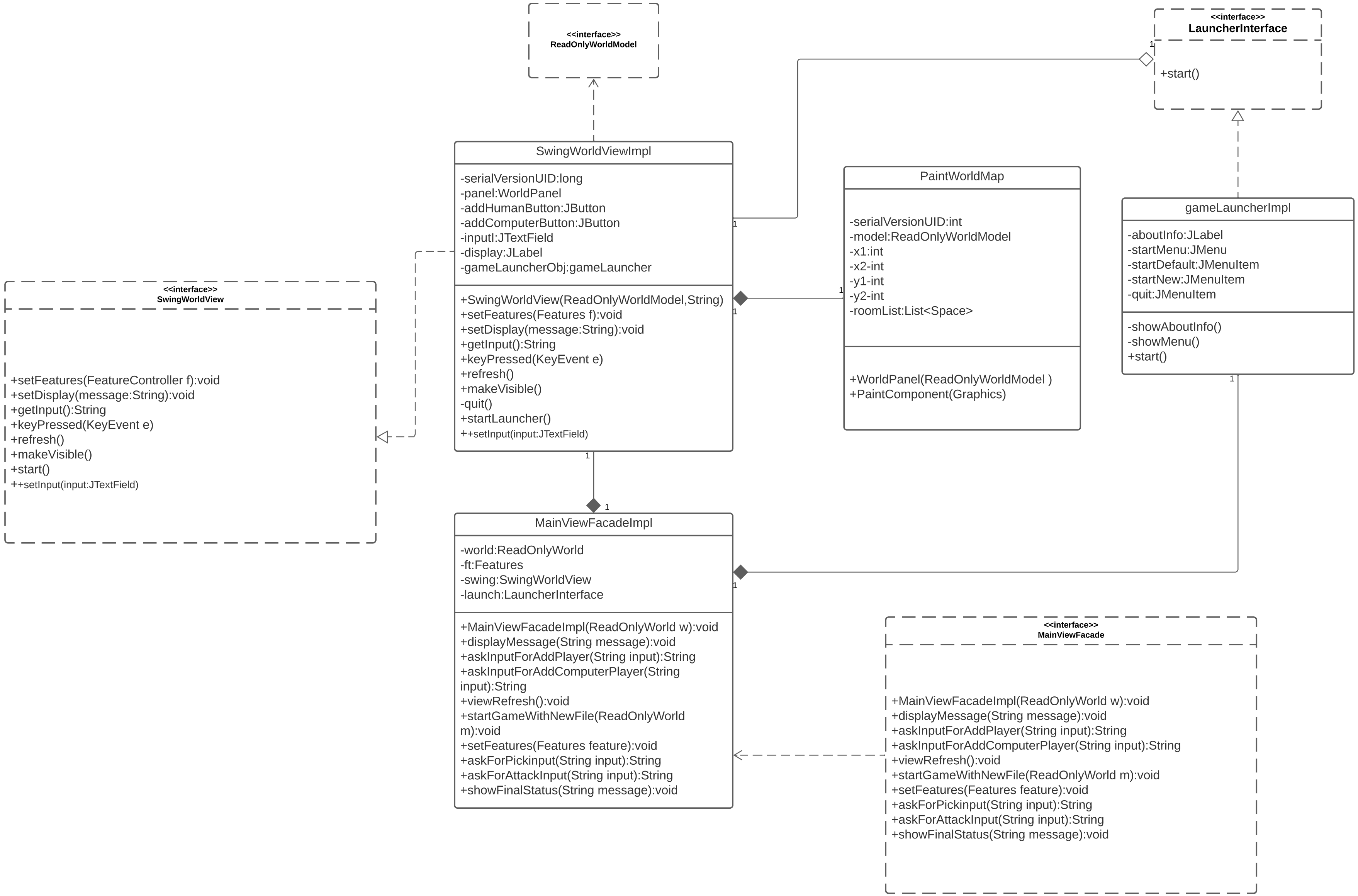
On choosing the "Start game (new config) " option from the launch menu, a JFileChooser window opens up to allow the user to upload the new configuration file -

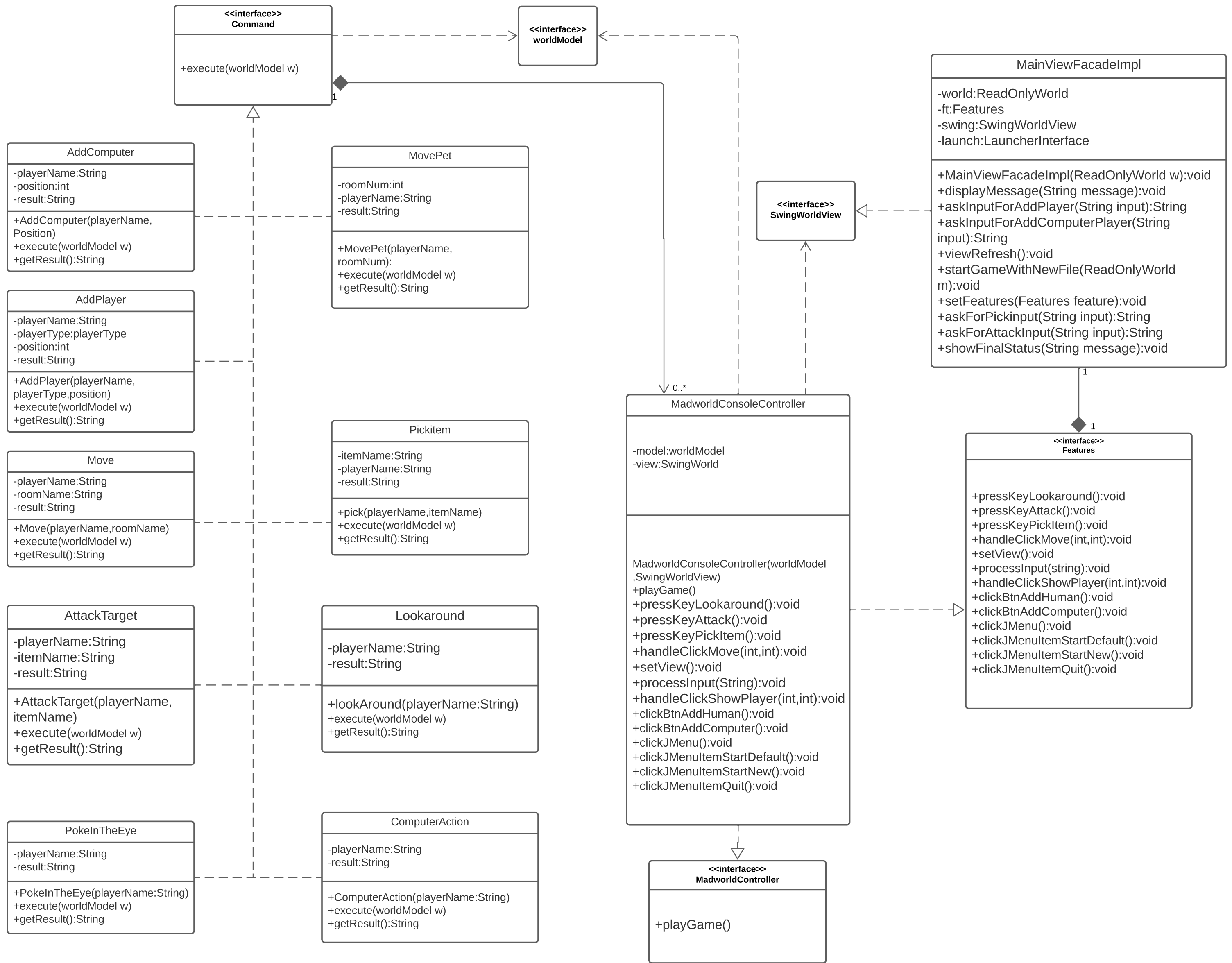


On providing a valid configuration file, or on choosing "Start game (default config), the following window opens up allowing the user to play the rest of the game -



Choosing the quit option from the launch menu allows the user to exit from the program.







Interface Name	Testing Methods/constructors	Input	Expected output	Exception Message(if any)
MadWorldConsoleController class (Interfaces - Features, MadworldController)	testhandleClickMove(int row,int col)	4,5	"Input: 4 5"	
	testinvalidHandleClickMove(int row,int	(-1),2	IA Exception	Invalid Position
	testhandleClickShowPlayer(int row,int	3,4	"Input:3 4"	
	testinvalidClickShowPlayer(int row,int	(-10),4	IA Exception	Invalid Position
	testpressKeyLookaround()	MockModel uniqueCode:- 2300	"2300"	
	testPressKeyAttack()		"Input:Revolver"	
	testInvalidPressKeyAttack()	Mockview.setInput("R")	IA Exception	Invalid Input
	testPressKeyPickItem()	Mockview.setInput("Chain Saw")	"Input:Chain saw"	
	testInvalidPressKeyPickItem()	Mockview.setInput("")	IA Exception	Invalid Input
	testClickBtnAddHuman()	Mockview.setInput("Player 1")	"Input:Player 1"	
	testInvalidClickBtnAddHuman()	Mockview.setInput(" ")	IA Exception	Invalid Input
	testClickBtnAddComputer()	Mockview.setInput("Computer")	"Input:Computer"	
	testInvalidClickBtnAddComputer()	Mockview.setInput(" ")	IA Exception	Invalid Input
	testHandleClickShowTarget(int row,int	10,12	"Input:10 12"	
	testInvalidClickShowTarget(int row,int	(-10),12	IA Exception	Invalid Input
World	testMaxHumanPlayerAdd	addPlayer("P1",1)	IA Exception	"Maximum player limit reached."
	testWithinLimitHumanPlayerAdd	addPlayer("P3",3)	"Player added successfully"	
	testMaxCompPlayerAdd	addComputerPlayer("P1",1)	IA Exception	"Maximum player limit reached."
	testDetailsAtEveryTurn()	movePlayer("Player 1",2)	Player name:- Player 1	
	testisGameOver()	attackTarget("Player 1","Knife:50")	TRUE	
	testWithinLimitCompPlayerAdd	addComputerPlayer("P3",3)	"Player added successfully"	
	testGetPlayerCount	addPlayer("P1",1)	7	
	testShowTarget()	getTarget Pos() = 9	Target name:- Lucky	
		getTargetName() ="Lucky"	Target health:-23	
		getTargetHealth() = 23	Target Pos:- 9	
		showTarget()		
Space	testAddPet()	addPet("Fortune the cat")	petName:- Fortune the cat	
	testAddTarget()	addTarget("Lucky")	targetName:-Lucky	
	testInvalidAddPet()	addPet(" ")	IA Exception	Invalid name
	testinvalidAddTarget()	addTarget("")	IA Exception	Invalid name
	testRemovePet()	removePet("Fortune the cat")	hasPet()----False	
	testInvalidRemovePet()	removePet("Fortune the cat")	IA Exception	The pet does not exist;
	testRemoveTarget()	removeTarget("Lucky")	hasTarget()----False	
	testInavlidRemoveTarget()	removeTarget("Lucky")	IA Exception	The target does not exist;

Interface Name	Testing Methods/constructors	Input	Expected output	Exception Message(if any)
Pet	testPetName()	Pet("Fortune The cat")	"Fortune The cat"	
	testpetPosition()	Pet("Fortune The cat")	0	
	testInvalidName()	Pet(" ")	IA Exception	Name can not be blank.
	testMovePet()	MovePet(19)	CurrentPos = 19	
	testInvalidMovePet()	MovePet("201")	IA Exception	Invalid room num or the room does not exist
Target	TestgetTargetName()	Target("Lucky",50,0,1)	"Lucky"	
	TestgetTargetHealth()	Target("Lucky",50,0,1)	50	
	TestgetCurrentPos()	Target("Lucky",50,0,1)	0	
	TestInvalidTargetName()	Target(" ",50,0,1)	IllegalArgumentException	"Target can not be blank"
	TestInvalidTargetHealth()	Target("Lucky",-9,0,1)	IllegalArgumentException	"Targethealth can not be negative"
	testMoveTarget()	moveTarget(10)	Current pos - 10	
	testsetHealth()	currenthealth -50	Current Health:- 30	
	testInavlidMovetarget()	currentHealth-30	IA Exception	Damage can not be negative
PlayerImpl Class	testvalidAttackTarget()	attackTarget("Crepe Pan")	"The attack is made successfully with damage 3"	
	testUnSuccessfulAttack()	attackTarget("Crepe Pan") where player has a neighbor which has another player	"The attack could not be made as was seen by player2"	
	testInvalidAttackTarget()	attackTarget("")	IA exception	Pls provide a valid item to attack
	testvalidMovePet()	MovePet(10)	current pos -10	
	testInvalidMovePet()	MovePet(-9)	IA exception	Invalid position
	testPokeInEye()	currentHealth of target =50	currenthealth of target = 49;	
Computer Player class	testAttackTarget()	attackTarget()	"Attack successfully with crepe pan:3"	
	testpickItemMaxDamage()	pickMaxitem(item)	Item:- RatPosion:10	
	testAttackTarget()	attackTarget()	"attack successful with poke eye"	
World	testLookAround()	AddPlayer("player 1, Human,09) lookAround("player 1")	room name:- Winter Garden room Num:-09 item:-"Crepe Pan:3" Neighbor:- [Wine Cellar] Players:- Player 1 Neighbor room Num:-05 item:- "Rat Posion"	
	testInavlidLookAround()	AddPlayer("player 1, Human,09) lookAround("player 4")	IA Exception	The player does not exist
	testisGameOver()	attackTarget("Player 1","Knife:50")	TRUE	
	testgetWinner()	attackTarget("Player 1","Knife:50")	"Player 1"	
	testShowTarget()	getTarget Pos() = 9; getTargetName() ="Lucky" gettargetHealth() = 23 showTarget()	Target name:- Lucky Target health:-23 Target Pos:- 9	
	testDetailsAtEveryTurn()	movePlayer("Player 1",2)	Player name:- Player 1 Player prev room :- 3 player current room :-2 curent room name :- "Kitchen" players: Player 1, Player 2 Target:- Lucky, Health:- 50 Item:- no items	
	testIsplayerVisible()	AddPlayer("Player 1",9)	FALSE	
	testCreateEvidence()	createEvidence("Crepe pan", 30)	Evidence:- "Crepe Pan" Damage:-30	
	testIsPlayerVisible()	AddPlayer("Player 1",9) AddPlayer("Player 2",9) isPlayerVisible("Player 1")	TRUE	
Space	testAddPet()	addPet("Fortune the cat")	petName:- Fortune the cat	
	testAddTarget()	addTarget("Lucky")	targetName:-Lucky	
	testInvalidAddPet()	addPet(" ")	IA Exception	Invalid name
	testinvalidAddTarget()	addTarget("")	IA Exception	Invalid name
	testRemovePet()	removePet("Fortune the cat")	hasPet()----False	
	testInvalidRemovePet()	removePet("Fortune the cat")	IA Exception	The pet does not exist;
	testRemoveTarget()	removeTarget("Lucky")	hasTarget()----False	
	testInavlidRemoveTarget()	removeTarget("Lucky")	IA Exception	The target does not exist;

Player Interface	Testing Methods/constructors	Input	Expected output	Exception Message(if any)
	TestValidPlayerName()	player("Player1","HUMAN",1,3)	"Player1"	
	TestInvalidPlayerName()	player(" ","HUMAN",1,3)	IllegalArgumentException	"Player name can not be blank"
	TestValidPlayerType()	player("Player1","HUMAN",1,3)	"HUMAN"	
	TestInvalidPlayerType()	player("Player1","xyz",1,3)	IllegalArgumentException	"Player can be either HUMAN or COMPUTER"
	TestValidPlayerOrder()	player("Player1","HUMAN",1,3)		1
	TestInvalidPlayerOrder()	player("Player1","HUMAN",-1,3)	IllegalArgumentException	"player order can not be negative"
	TestValidPlayerPosition()	player("Player1","HUMAN",1,3)		3
	TestInvalidPlayerPosition()	player("Player1","HUMAN",1,-3)	IllegalArgumentException	"player position can not be negative"
World Interface(Milestone 2 Test Cases)	TestValidAddPlayer()	addPlayer("Player1",3)	Player List containing:-{ "Player1",3}	
	TestInvalidAddPlayer()	addPlayer("Player2",40)	IllegalArgumentException	"Room num is invalid and does not exist"
	TestdisplayValidPlayer()	displayPlayer("Player1") for player("Player1","HUMAN",1,3)	A Player list containing:- playerName:Player1 playerType:"HUMAN" playerOrder:1 playerPosition:3 items:list of items as empty	
	TestdisplayInvalidPlayer()	displayPlayer("Ram")	IllegalArgumentException	"The player does not exist"
	TestValidlookAround()	lookAround(3) for Player("Player1","HUMAN",1,3) Space("Drawing room",3,"Player1",{ "Knife","stick"})	A space list containing:- roomName:- "Drawing room" roomNum:-3 playerName:-Player1 playerType:-"HUMAN" items:- { "knife","stick"}	
	TestInvalidlookAround()	lookAround(40)	IllegalArgumentException	"The room does not exist"
	TestpickItem()	pickItem("Knife") for Player("Player1","HUMAN",1,3) Space("Drawing room",3,"Player1",{ "Knife","stick"})	A Player list containing:- playerName:Player1 playerType:"HUMAN" playerOrder:1 playerPosition:3 items:list of items as { "Knife"}	
	TestInvalidPickItem()	pickItem("Scissors") for for Player("Player1","HUMAN",1,3) Space("Drawing room",3,"Player1",{ "Knife","stick"})	IllegalArgumentException	"Item not found"
	TestValidMovePlayer()	movePlayer(4)	currentPosition = 4	
	TestInvalidMovePlayer()	movePlayer(5)	IllegalArgumentException	"The room is not a neighbor"
		movePlayer(40)	IllegalArgumentException	"The room does not exist"
	TestTurn()	addPlayer("Player2",10)	"Player2"	
Space interface Milestone 2 test cases	TestGetPlayers()	Space("Drawing room",3,"Player1",{ "Knife","stick"})	"Player1"	
	TestInvalidGetPlayers()	Space("Drawing room",3,"",{ "Knife","stick"})	IllegalArgumentException	"Player Name can not be blank"
	TestRemoveItem()	RemoveItem("Knife") for Space("Drawing room",3,"",{ "Knife","stick"})	Item List:-{"stick"}	
	TestInvalidRemoveItem()	RemoveItem("Ball") for Space("Drawing room",3,"",{ "Knife","stick"})	IllegalArgumentException	"item not found"
Traget interface Milestone 2 test cases	TestgetTargetName()	Target("Lucky",50,0,1)	"Lucky"	
	TestgetTargetHealth()	Target("Lucky",50,0,1)		50
	TestgetCurrentPos()	Target("Lucky",50,0,1)		0
	TestInvalidTargetName()	Target(" ",50,0,1)	IllegalArgumentException	"Target can not be blank"
	TestInvalidTargetHealth()	Target("Lucky",-9,0,1)	IllegalArgumentException	"Targethealth can not be negative"

Item Interface(MileStone1)	Testing Methods/constructors	Input	Expected output
	testGetItemRoom()	itemHelper("Crepe Pan", 8, 3, 21)	8
	testGetItemName()	itemHelper("Crepe Pan", 8, 3, 21)	"Crepe Pan"
	testGetItemDamage()	itemHelper("Crepe Pan", 8, 3, 21)	3
	testInvalidRoomNum()	itemHelper("Crepe Pan", -4, 3, 21); itemHelper("Crepe Pan", 22, 3, 21);	IllegalArgumentException
	testInvalidItemDamage()	itemHelper(" ", 4, 3, 21); itemHelper("123456", 4, 3, 21);	IllegalArgumentException
	testToString()	itemHelper("Crepe Pan", 8, 3, 21)	"Item (ItemName = Crepe Pan, ItemDamage = 3, roomNum = 8)";
Space Interface(Milestone1)	testGetRoomName()	spaceHelper(16, 21, 21, 28, "Billiard Room", 1, itemList, 4)	"Billiard Room"
	testGetRoomDimension()	spaceHelper(16, 21, 21, 28, "Billiard Room", 1, itemList, 4)	{16,21,21,18}
	testGetRoomNum()	spaceHelper(16, 21, 21, 28, "Billiard Room", 1, itemList, 4)	1
	testGetnoOfItems()	spaceHelper(16, 21, 21, 28, "Billiard Room", 0, itemList, 4)	1
	testItems()	spaceHelper(22, 19, 23, 26, "Armory", 0, itemList, 4).getItems();	{"Crepe Pan" "Revolver"}
	testInvalidRoomName()	spaceHelper(16, 21, 21, 28, " ", 1, itemList, 4);	IllegalArgumentException
	testInvalidRoomNum()	spaceHelper(16, 21, 21, 28, "Billiard Room ", -4, itemList, 4); spaceHelper(16, 21, 21, 28, " ", 1, itemList, 4);	IllegalArgumentException
	testInvalidRoomDimension()	spaceHelper(-7, 21, 21, 28, "Billiard Room ", 4, itemList, 4); spaceHelper(29, 21, 21, 28, " ", 1, itemList, 4);	IllegalArgumentException
	testToString()	spaceHelper(16, 21, 21, 28, "Billiard Room", 1, itemList, 4)	"Rooms (roomNum = 1, roomName = Billiard Room, " + "roomDimension = 16, 21, 21, 28)"
World Interfcae(Milestone1)	testGetWorldRows()	fileName1	36
	testGetWorldColumns()	fileName1	30
	testGetTotalRooms()	fileName1	"Doctor Lucky's Mansion"
	testTargetHealth()	fileName1	50
	testMoveTargetChar	currentPosition =0	Next Position = 1
	testGetTotalRooms()	fileName1	21
	testGetRoomDetails()	roomIndex =1;	expectedRoomName = "Billiard Room", expecteditemName = "Billiard Cue";
	testGetNeighborDetails()	roomIndex = 1	{0,3,18}
	testInvalidWorldName()	fileName2	IllegalArgumentException
	testInvalidTotalRooms()	fileName2	IllegalArgumentException