**Adventure Game**

**Description:**

Write a program that will allow someone to play an adventure game similar to the original Dungeon game. The program should require the player to navigate a 10x10 grid from a starting location to an ending location while avoiding various pitfalls (monsters, dead ends, etc). The player wins if he/she makes it to the end and escapes alive.

**Suggestion for Adding Graphics:**

Save the Adventure.mat file to your current MATLAB folder (the folder in which you will write your game program). Try out the following commands in the command window to understand how they work. Then incorporate them into your game program.

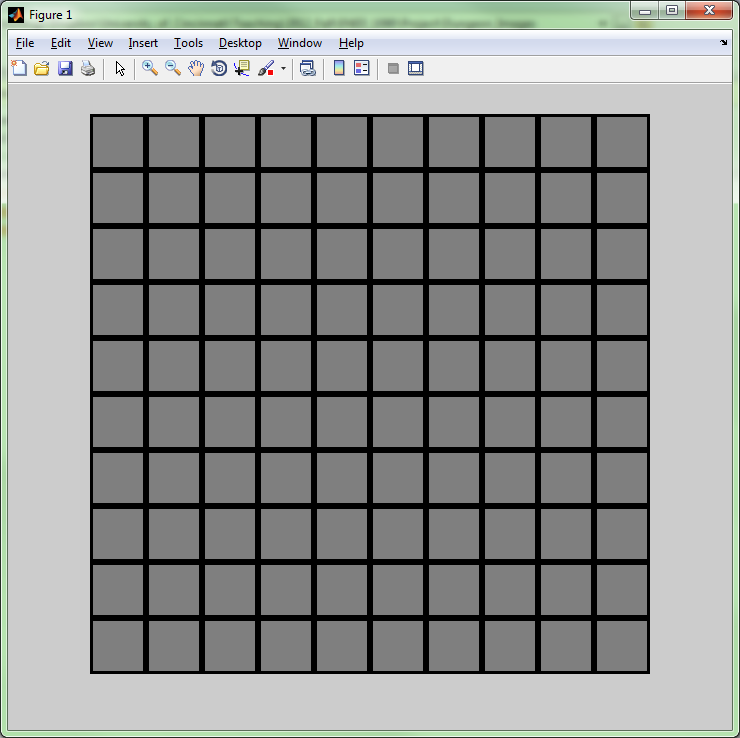
Load Graphics Data:

load Adventure % Loads the board (World - 10x10 cell array) along with a number of different image, shown below.

|  |  |  |  |
| --- | --- | --- | --- |
| C:\Users\bucksgy\Dropbox\University_of_Cincinnati\Teaching\2012_Fall\ENED_1090\Project\Dungeon_Images\Blank.bmp | C:\Users\bucksgy\Dropbox\University_of_Cincinnati\Teaching\2012_Fall\ENED_1090\Project\Dungeon_Images\Boots.bmp | C:\Users\bucksgy\Dropbox\University_of_Cincinnati\Teaching\2012_Fall\ENED_1090\Project\Dungeon_Images\Door.bmp | C:\Users\bucksgy\Dropbox\University_of_Cincinnati\Teaching\2012_Fall\ENED_1090\Project\Dungeon_Images\Health.bmp |
| Blank | Boots | Door | Health |
|  |  |  |  |
| C:\Users\bucksgy\Dropbox\University_of_Cincinnati\Teaching\2012_Fall\ENED_1090\Project\Dungeon_Images\Monster.bmp | C:\Users\bucksgy\Dropbox\University_of_Cincinnati\Teaching\2012_Fall\ENED_1090\Project\Dungeon_Images\Player.bmp | C:\Users\bucksgy\Dropbox\University_of_Cincinnati\Teaching\2012_Fall\ENED_1090\Project\Dungeon_Images\Shield.bmp | C:\Users\bucksgy\Dropbox\University_of_Cincinnati\Teaching\2012_Fall\ENED_1090\Project\Dungeon_Images\Sword.bmp |
| Monster | Player | Shield | Sword |

Display Gameboard:

% display board imshow([World{1,:};World{2,:};World{3,:};World{4,:};World{5,:};World{6,:};  
World{7,:};World{8,:};World{9,:};World{10,:}]);



Note: If you dock the figure by clicking on the arrow, it will stay on the screen the entire time for viewing.

Displaying Game Images on the Game Board:

* Suppose the player starts at position (1,1)
* Suppose the exit door is located at position (10,10)
* Suppose the following items are placed at the following positions:
  + Sword (5,5)
  + Shield (3,4)
  + Health Potion (6,9) and (2,8)
  + Monster (3,7), (8,8), and (7,3)

% Place the player at position (1,1)

World{1,1} = Player;

% Place the door at position (10,10)

World{10,10} = Door;

% Place the items

World{5,5} = Sword;

World{3,4} = Shield;

World{6,9} = Health;

World{2,8} = Health;

World{3,7} = Monster;

World{8,8} = Monster;

World{7,3} = Monster;



Moving the Player on the Board

* Suppose the player moves from location (1,1) to location (2,1)

% Move the player to location (2,1)

World{1,1} = Blank;

World{2,1} = Player;



Other Notes:

* Use the “warning” command to suppress warnings when displaying images (you should place this at the beginning of your program)

warning('off','all'); % turns off all warning messages

* You will likely need to maintain two arrays: the graphic game board (loaded when you load Adventure.mat) and a simple numeric arrays that contains the locations of the various objects in the world
* To add additional items, simply modify the Blank.bmp file in Paint (or other image editing software) and load it into MATLAB using the following command (changing the italicized names to match your file and variable names):  
    
  *New\_Variable\_Name* = imread(*'New\_Image\_Name*.bmp');

*\* make sure to save the workspace once you’ve added any new images to the game by selecting File 🡪 Save Workspace in the main MATLAB window.*

Gameplay Suggestions:

Below are several suggestions for different styles of gameplay that can be incorporated. You may use all or none of these suggestions in developing your game.

* Keep track of the players stats throughout the course of the game. Some stats you will likely need to maintain (but are certainly not limited to) are:
  + Health
  + Attack ability
  + Defense ability
  + Movement speed
* Use the items to enhance the stats of the player. For instance, picking up the sword can increase the damage done, finding the boots can increase the number of spaces a player can move, etc.
* Options for Monsters:
  + Easiest: Position monsters randomly throughout the board and show them to the user.
  + Moderate: Position monsters randomly throughout the board but do not show the player where they are. When the player encounters a monster, allow him/her to choose whether to fight or run away.
  + Difficult: Position monsters randomly throughout the board and show them to the user, but allow them to move freely. Once the player gets within a certain distance, have the monsters attempt to catch the player.
  + Insane: Position monsters randomly throughout the board and allow them to move freely, but do not show them to the user. Once the player gets within a certain distance, have the monsters attempt to catch the player.
  + Have monsters guard the items.
  + Have a super monster which guards the exit, so the user must gain enough strength to defeat the super monster to win the game.
* Options for fighting monsters:
  + Easy: subtract the defense of the defender from the attack of the attacker and subtract the remainder from the health of the defender
  + Moderate: use a random value to increase or decrease the attack ability or defense ability to simulate making a great attack or defense or a poor attack or defense
  + Difficult: In alternating rounds, allow the player to either defend or attack and allow the monster to choose whether to defend or attack
* Options for defeating a monster:
  + Defeating a monster simply allows you to move to that location
  + Defeating a monster increases the stats of the player
  + Defeating a monster provides experience; once the experience of the player reaches a certain level, unlocks a special ability