1 Short Description of Original Game

In the original board game, the players use classic fantasy-novel characters such as knights, wizards, elfs etc., that compete against each other in search for the castle’s treasure. The treasure is hidden somewhere in the center of the castle and guarded by a dragon.

Upon entering the Dragon Castle, the players know nothing about the architecture and structure of the Castle and to reflect that, the board is empty. To enter the castle, the player draws a card from a deck. The card shows an image of the room the player’s character just entered and the number of doors leading away from the room.

In the room there may be monsters to fight and/or treasures and useful things to loot.

In the next turn, the player chooses which exit to use and draws a new card to determine the layout of the new room. Thus, the labyrinth unfolds turn by turn. The goal is to reach the center of the board, find the treasure without running into the dragon and then leave the castle alive, carrying the treasure with you.

If unlucky, you may fall down into the dark catacombs, where you will wander around in the dark searching for a way up.

2 Your Version of the Dragon Castle

2.1 Game and Simulation

Your game should be made for running in either game or simulation mode, where the game mode will let the player interact with the game and make
decisions on how to behave in it, and the simulation mode will run the same game but without the need for user input. In both cases you need to in some way let the user know what happens in the game.

2.2 The Castle – Architecture and Structure

2.2.1 Outside

The game begins outside the castle. To enter the castle, you choose one of the four entrances. It’s possible to exit the castle during the game and then enter again through anyone of the four entrances.

2.2.2 Entrances

Inside the entrance in every corner is a square “tower room”, an empty room with three doors; one leading back to the outside and two leading to the adjacent castle rooms.

2.2.3 Castle

The castle is square shaped with a tower in each corner. All towers have an open entrance leading into the castle.

The castle consists of a number of rooms connected to each other by doors of different kinds, or stairs. The castle doesn’t have catacombs in the original board-game sense, instead it has a non-limited number of floors, both above and below the entrance level.

The labyrinth inside the castle is randomly created for every game.

2.2.4 Floors

There’s no need for each floor to “fill” the castle with connected rooms. This means that a floor as a minimum can consist of a single room, or consist of two rooms without connections between them in opposite corners of the castle.

The entrance floor has an entrance room in every corner. The entrance floor and the floors above are limited by the square shaped walls of the castle, while the floors below the entrance floor are unlimited, both in numbers and area.
2.2.5 Rooms

Upon creation, a new room has to "fit" into the already existing labyrinth – the rooms around it (if there are any). A room at the entrance level or above situated by the castle wall may not have a door leading through that wall (to the outside). A room can have at most 6 exits, that is one on each wall and two stairs (one leading up and one leading down). When a room is created there is at most one item and one creature in it. To see if there are any items in a room, or to pass through the room, you have to deal with all present creatures.

2.2.6 Exits

The exits can consist of stairs leading up or down, open or locked doors, or trap bars closing the exit behind you making it impossible to return to the room you came from.

2.2.7 Items

Items are scattered all over the castle that might be taken and used by the player's character. In addition to the items, if you are unlucky, there are also different creatures guarding them.

There are several different types of items; treasures, weapons, armour, amulets, potions, keys etc.  
Treasures represent a value in gold.  
Weapons can be physical or psychic and have (and demand) different strength. Depending on your own attributes you can be more or less fit to use a certain weapon.  
Different items can protect against different kinds of weapons. For example, the dragon scale armour protects against attacks with physical weapons (and the dragon's fire-y breath) and the Amulet of Don Knuth protects against attacks with psychic weapons.  
Potions can be of different strength. There are also different kinds of potions, for example:

- Potions injuring the one who drink them  
- Potions healing any injuries of the one who drink them  
- Potions increasing the upper limit for health and also heal injuries  
- Potions teleporting the one who drink them somewhere else (probably within some limits)
It shouldn’t be possible to see if a potion is harmful or not before you drink it unless its owner has very high value for psychic strength.

Keys can be used to open locked doors in the rooms you pass through. There are keys that only can be used once and one master key that can be used for all doors in the castle.

All items have a value in gold. Some items can be combined with other items and the value is bigger than the sum of values of the two original items. Moreover, all items have an attack value indicating how much damage you could do to your opponent in a fight using that item (very low for the ball of strings, higher for the chainsaw, etc.). It should be possible to hit someone with a bottle of healing potion.

2.2.8 Creatures

There are two big categories of creatures. The adventurer or adventurers exploring the castle and the creatures living in the castle. The adventurer may very well be of some castle living creature race, but there should be a possibility to interact with the adventurer and tell him or her where to go and what to do using the “game mode” mentioned in section 2.1, whereas the creatures in the castle are always left to make their own decisions.

Creatures can be hostile or friendly. There are also several different races of creatures, elves, orcs, dwarves, halflings and humans. Creatures are not bound to rooms but roam the castle in the same turn-based fashion just as the player’s character.

A creature coming into a room must face the same difficulties as the player, that is, to pass through the room or to have a look at any items the entering creature has to deal with any other creatures in the room. Creatures will pick up any items they find and, if friendly themselves, they will also pick up other friendly creatures of the same race. The creatures then roam the castle together in possibly bigger and bigger groups.

Friendly creatures might sell items in their possession to a player for gold.

All creatures and players have physical and psychic strength. This strength can grow with experience or be shrunk by injuries. In addition to the strength, everyone has a current health. When the game begins a certain health status is given to the creature or player and during the game it can both increase (for example by drinking healing potions) and decrease (for example by injuries from fighting). If the health indicator reaches 0, the creature or player has died.

Physical strength controls the number of items a creature can carry and what damage the creature does in combat using a physical strength weapon. Some weapons, like the ”double sword,” are only possible to carry and use
if the player has strength above the item’s strength limit. Psychic strength in similar ways controls what damage the creature does in combat using a psychic strength weapon. Some weapons, such as the lightning gloves, are only possible to carry and use if the player has psychic strength above the item’s strength limit.

All creatures are created in a room in the castle. All players are created in the outside. All creatures and players are given a weapon at creation. When a being dies, in a battle or for some other reason, its belongings are added to the room where it died.

2.2.9 Fighting

Before someone entering a room can see if there are any items or exits in a room he or she has to fight any present creatures. There is no obligation to fight, though. When you see the creature in the room you may be given the possibility to escape.

All fights go on until one of the fighters is dead (you might want to add fleeing).

A team of creatures may fight as an aggregate creature or as one single creature at a time.

2.2.10 Possible Extensions

- Items do not have cancelling effects, but dampening or increasing effects. For example, if you carry the Amulet of Frozen Gasoline, it makes you more vulnerable to the Dragon’s flaming breath.

- Rooms that turn after you enter them.

- Rooms that move on a level, or between levels.

- It is possible to use creatures as items, that is, you can hit someone with a vampire.

- Graphical interface.

- A treasure chamber is located somewhere in the castle. It consists of several different rooms containing lots of treasures. The treasure chamber is guarded by the dragon.

- Half-breeds of the creature races implemented using object-oriented concepts.
As is clear from the above list, we do not require that you implement a graphical interface. It does however do wonders for the fun of the implementation. Also, it really helps you understand the power of natural modelling once things will also happen on the screen. If you are interested in model-view-controller separation, this is your big chance to practise it. Smalltalk has excellent support for MVC.