**Data Dictionary**

**Nouns derived from given problem description**

|  |  |  |
| --- | --- | --- |
| Noun | Entity? | Attribute? |
| Game | Yes | No |
| Dice\_rolls | No | Yes |
| Player | Yes | No |
| Property | Yes | No |
| Rent | No | Yes |
| Owner | No (Same as Player) | No |
| Colour | No | Yes |
| Bankrupt | No | Yes |
| Money | No | Yes |
| Winner | No | No |
| Chance cards | Out of scope | Out of scope |
| Jail | Out of scope | Out of scope |
| Station | Out of scope | Out of scope |
| Board | No | Yes |
| Space | Yes | No |

**Initial Entities and Attributes**

**Game**

* **Attributes**:
  + Board
  + Dice Roll Sequence

**Player**

* **Attributes**:
  + Name
  + Money
  + Position
  + Bankrupt Status
  + Properties Owned (Relationship to Property)

**Board**

* **Attributes**:
  + Spaces

**Space**

* **Attributes**:
  + Name
  + Type
  + Price
  + Color

**Property**

* **Attributes**:
  + Name
  + Color
  + Price
  + Rent(Not given in the input files)
  + Owner

**Relationships**

1. **Game has a Board**
   * The Board contains all Spaces.
2. **Game has Players**
   * Players take turns in a defined order (Peter, Billy, Charlotte, Sweedal).
3. **Board has Spaces**
4. **Player owns Properties**
   * A Property can only have one Owner.
5. **Player moves around Board**
   * Movement is determined by Dice Rolls

**Conditions**

1. **Passing GO gives $1**
   * Players earn $1 whenever they pass the GO space(not initially)
2. **Bankruptcy ends the game**
   1. The game ends as soon as one player goes bankrupt, and the remaining players are ranked by money