Deadwood

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Introduction

This program recreates the board game Deadwood in a digital format. Deadwood is a game for two to eight players biased on the production of Western films. The goal is to become the most successful actor in the "Wild" West. The program maintains the board, tracks player stats and performs dice rolls for the players.

Purpose

This document gives a basic design of all major events in Deadwood. It lays out the framework for the software's general structure, and indicates how individual objects will interact amongst themselves.

Scope

This design covers the logical operations of the software. The processes that control the overall operations are outside of the scope of this document. Additionally, this document does not feature any design for the user interface.

Organization

This document contains two sections: the structure of the software, and the behavioral outline. The structure section shows the high-level relations between the various classes of Deadwood, split between Board relations and Performance relations. The second section illustrates the interactions between various objects during use cases.

Structures

Board Structure

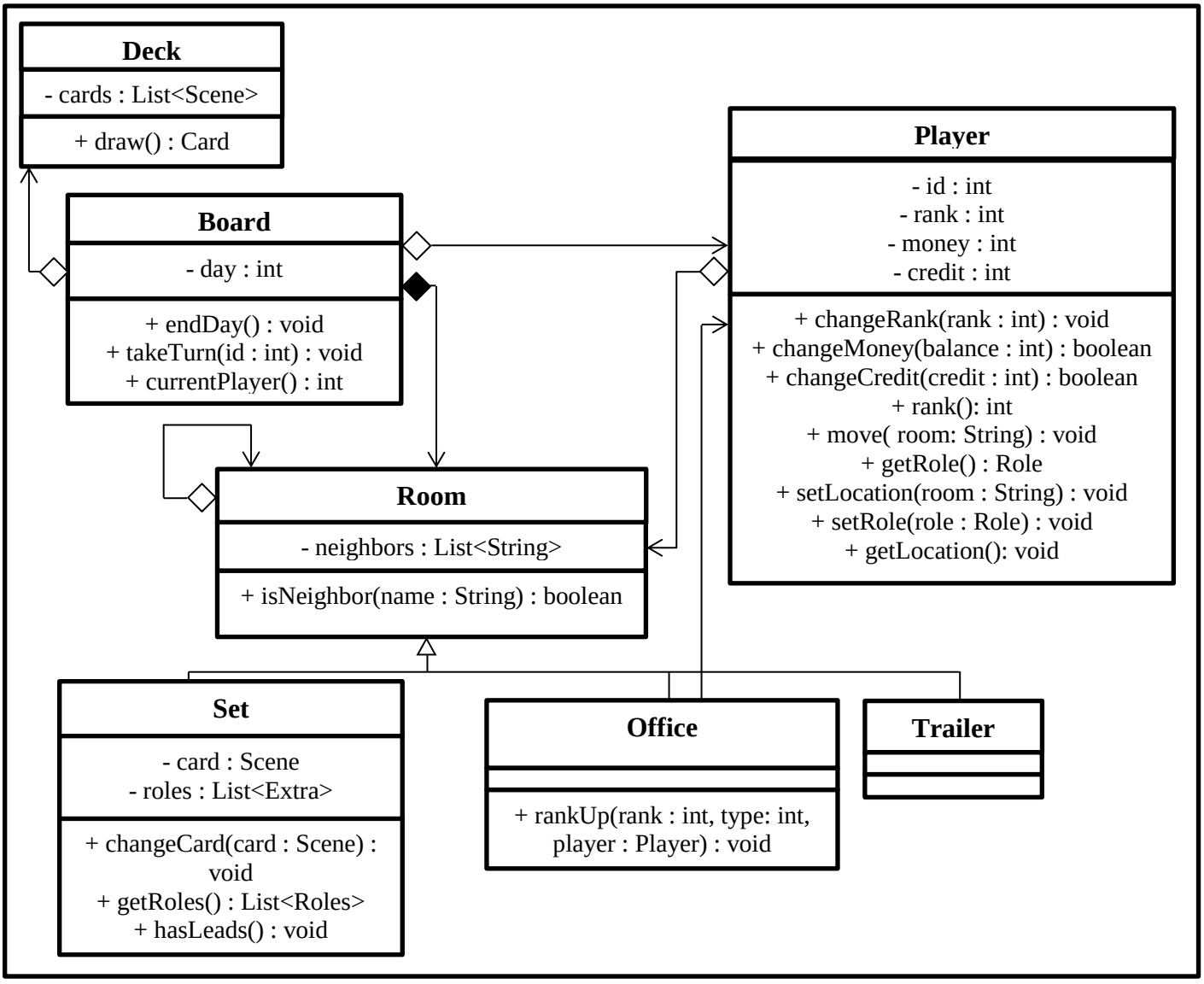

Figure 1: Basic Board Interaction

The Deadwood Board is composed of a set of interconnected Rooms through which Players traverse. It references a Deck containing all available scenes. The Board class also keeps track of all Players, as well as which Player is currently able to act. The Player keeps reference to the Room they are currently located in. Rooms contain a list of all neighboring rooms. The room class is inherited by three smaller classes: Set, Trailer, and Office.

Performance Structure

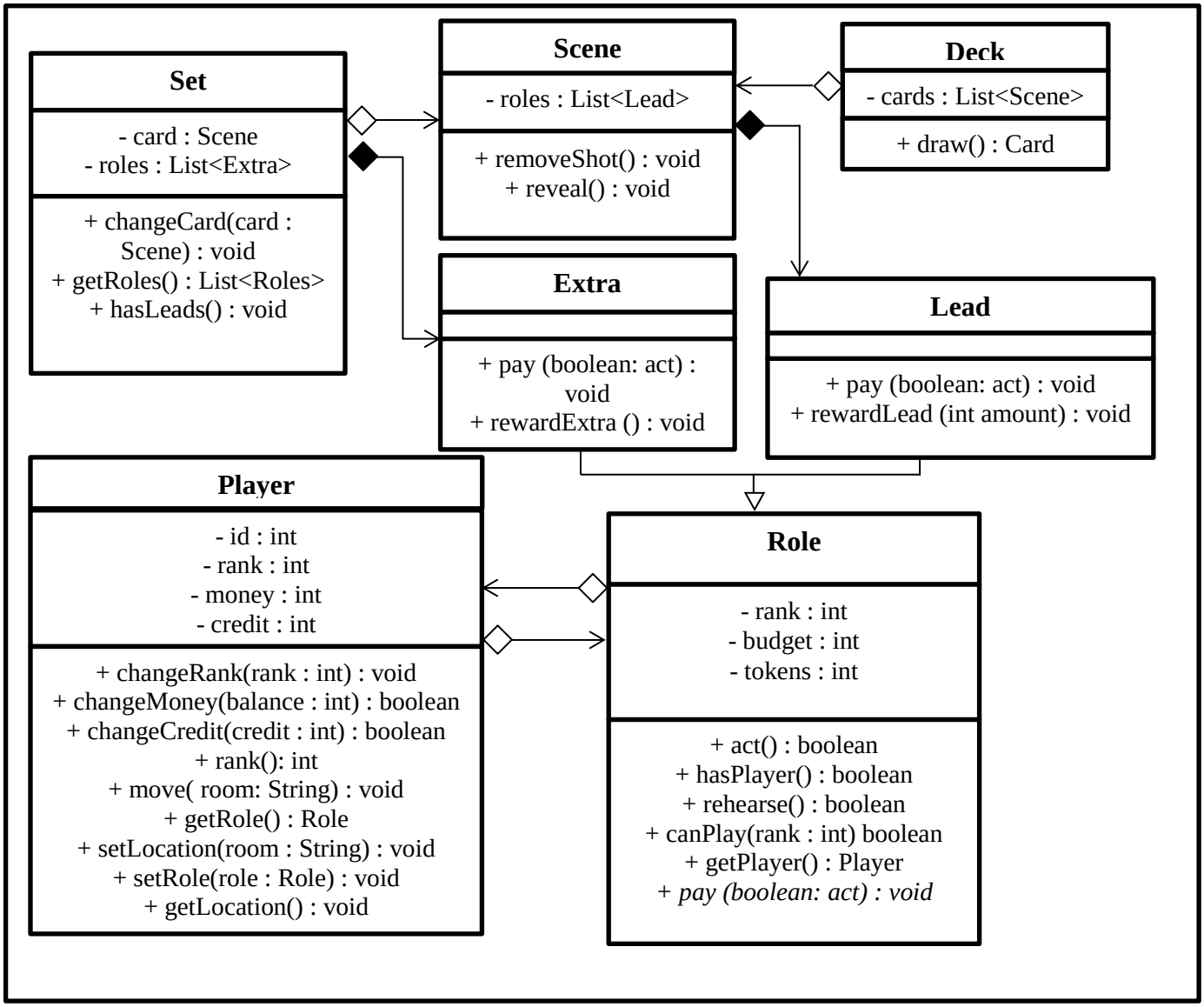

Figure 2 : Performance Diagram

The primary interaction in Deadwood is in the "performance" of Scenes. A list of Scenes is stored by the Deck. Once drawn, a Scene becomes associated with a Set. As players traverse the board, they can choose to perform Roles. Once a Role is selected, the Player will be associated with that Role. There are two varieties or Roles, Lead and Extra Roles. Sets are composed of Extra Roles, and Scenes are composed of Lead Roles.

Behaviors

Move Piece (use case)

The user can choose to move at the start of their turn. They then choose a location, and the sequence follows as shown in Figure 3.

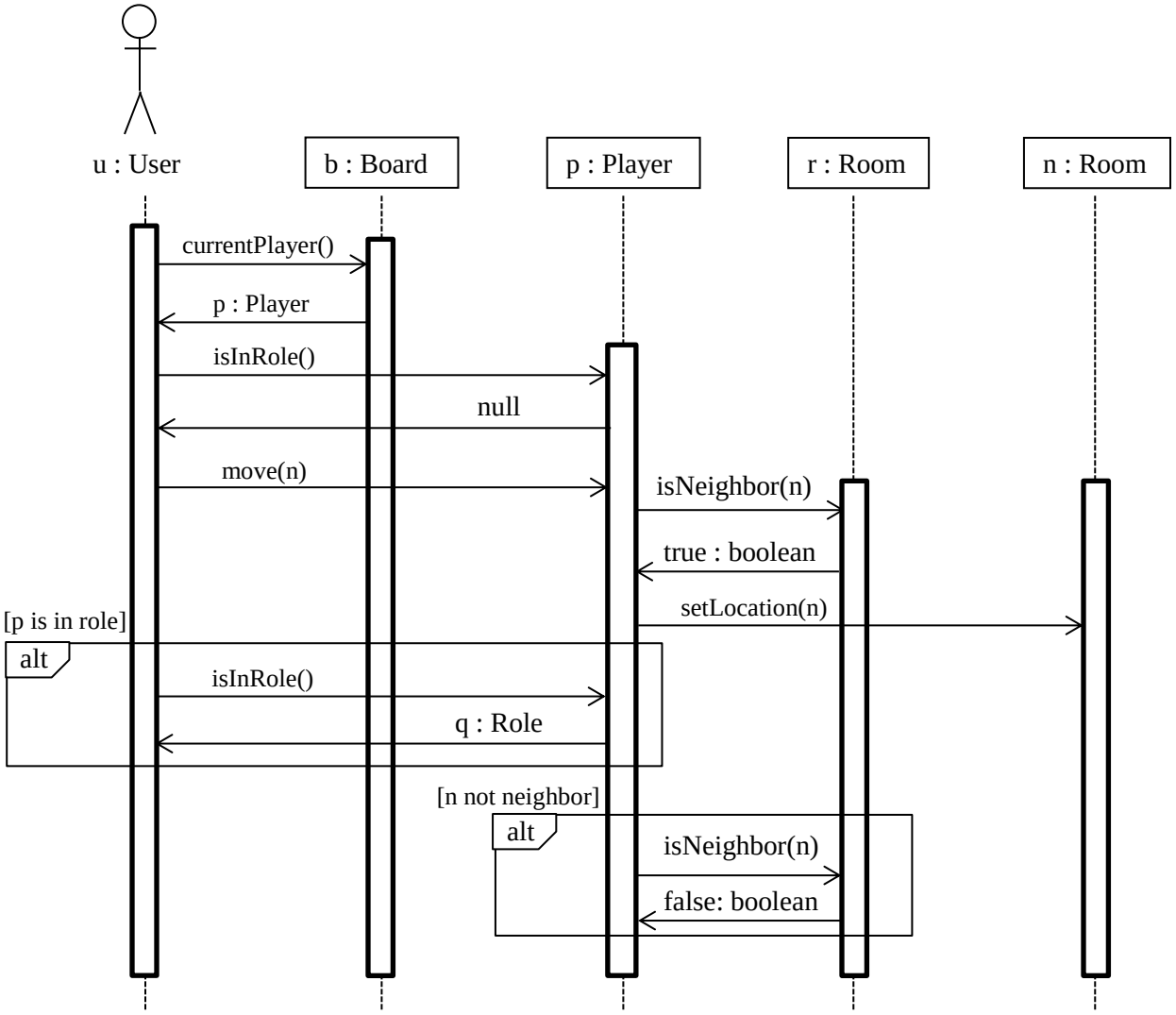

Figure 3 : Move Piece Sequence Diagram

Select Role (use case)

Once they've decided whether or not to move, the Player can select to perform a Role if they are in a Set. They are unable to select this Role if they already have a Role, the Role requires a greater rank then they possess, or the Role is already in use. The processes is shown in Figure 4.

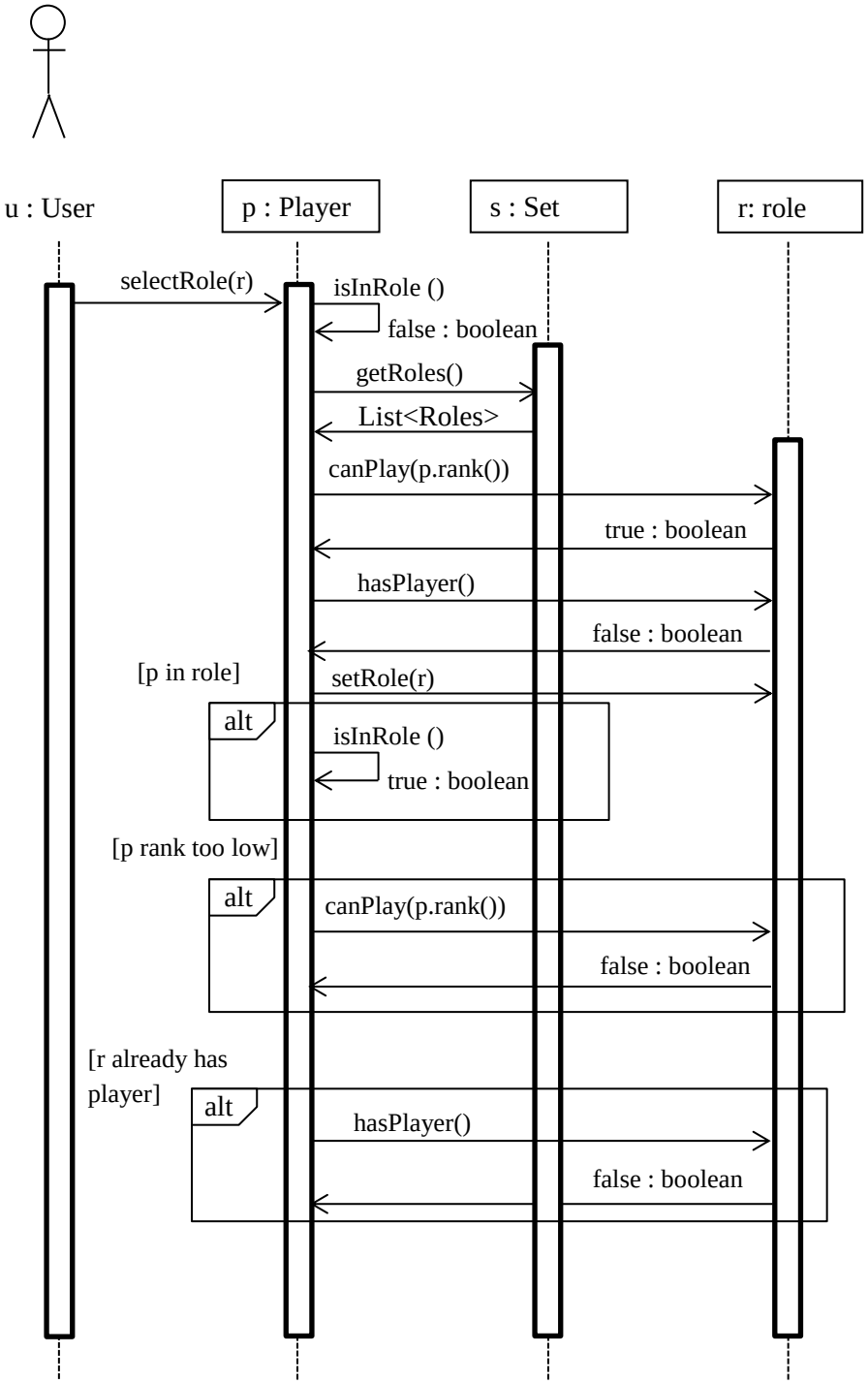

Figure 4 : Select Role Sequence Diagram

Perform Leading Role (use case)

Once the player has chosen a Role, they are able to perform it during their turn. The process of performing a Lead Role is shown in Figure 5.

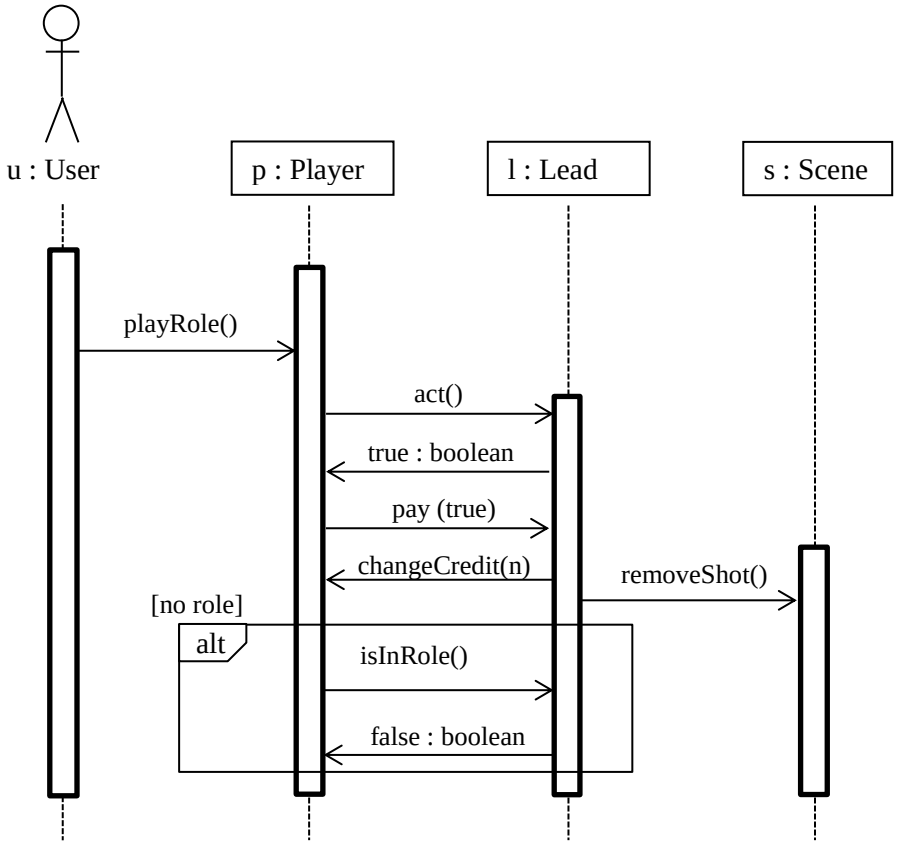

Figure 5 : Perform Leading Role Sequence Diagram

Perform Supporting Role (use case)

The performance of an Extra Role is similar to a Lead Role, though Extra Roles have a different payment behavior. This interaction is illustrated in Figure 6.

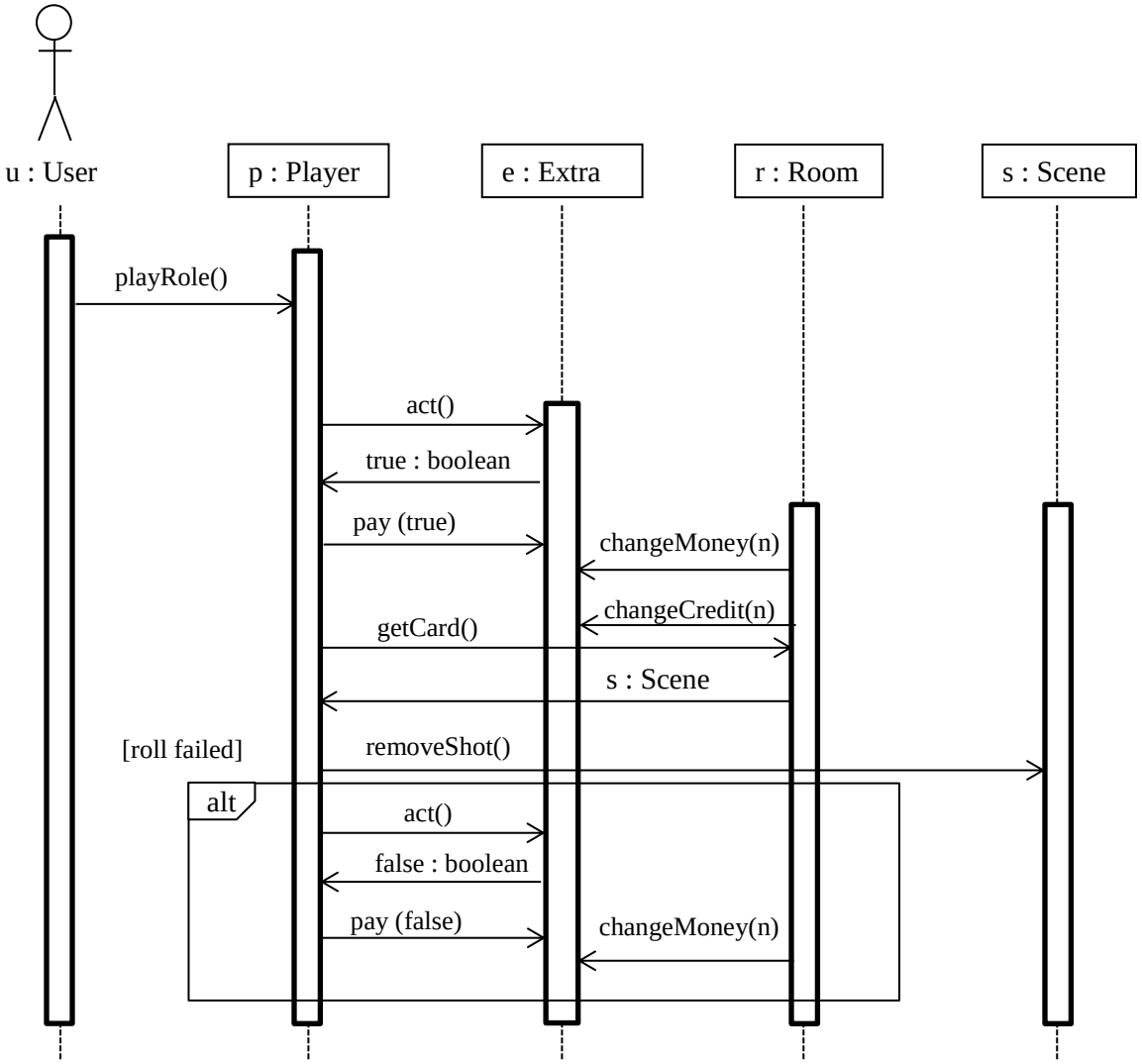

Figure 6 : Perform Extra Role Sequence Diagram

Receive Rewards (use case)

Once all shots are removed from a Scene, the Players in the Scene may receive a reward. The functionality of this case varies depending on whether the Role performed was Lead or an Extra. Figure 7 shows the process for a Lead Role, and Figure 8 shows the process for an Extra Role.

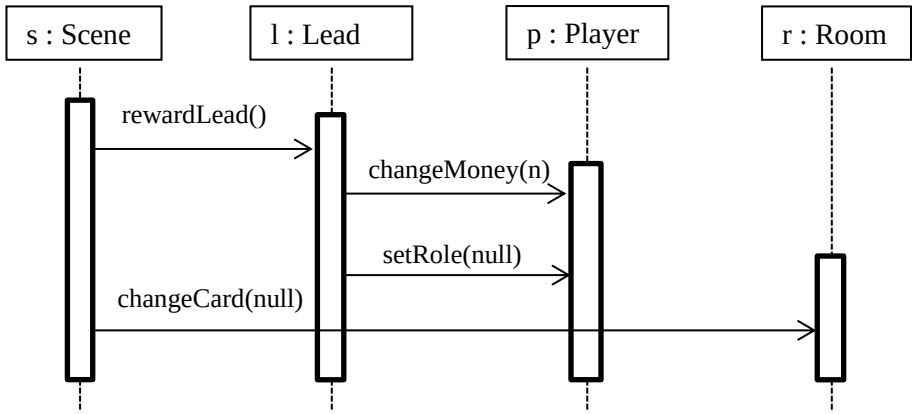

Figure 7 : Receive Rewards (Lead) Sequence Diagram

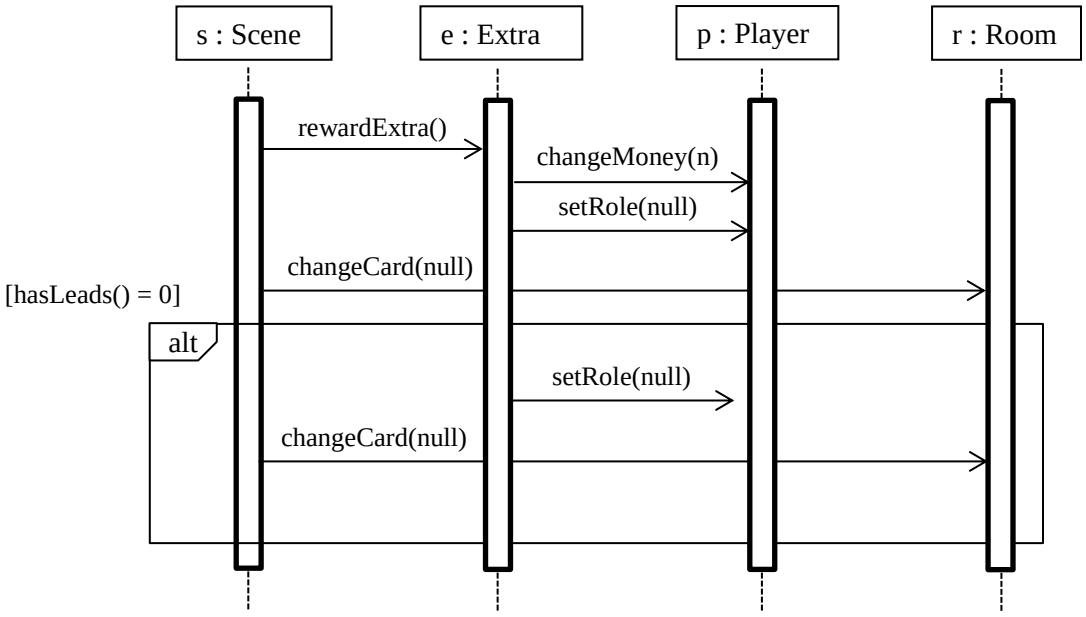

Figure 8 : Receive Rewards (Extra) Sequence Diagram

Rehearse (use case)

Instead of moving, a Player in a role is able to use their turn to rehearse, increasing their later rolls in their current Role. This interaction is illustrated in Figure 9.

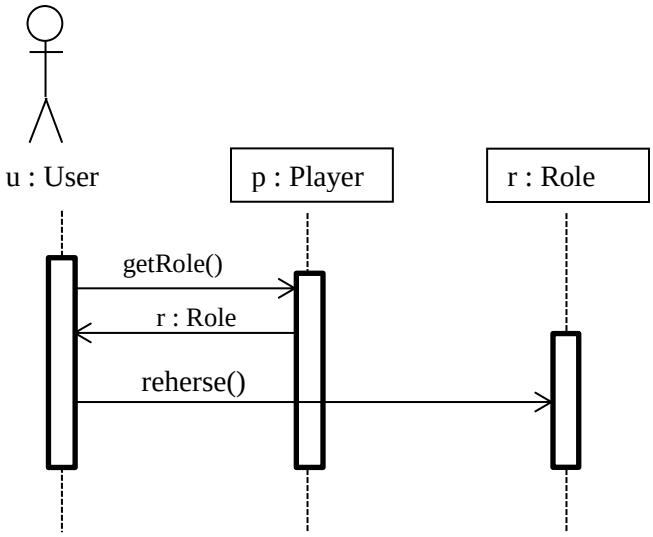

Figure 9 : Rehearse Sequence Diagram

Raise Rank (use case)

If the player moves into the Office, they are able to spend money or credits to level up. Which currency will be used is determined by the type integer passed in the rankUp method. This process is shown in figure 10.

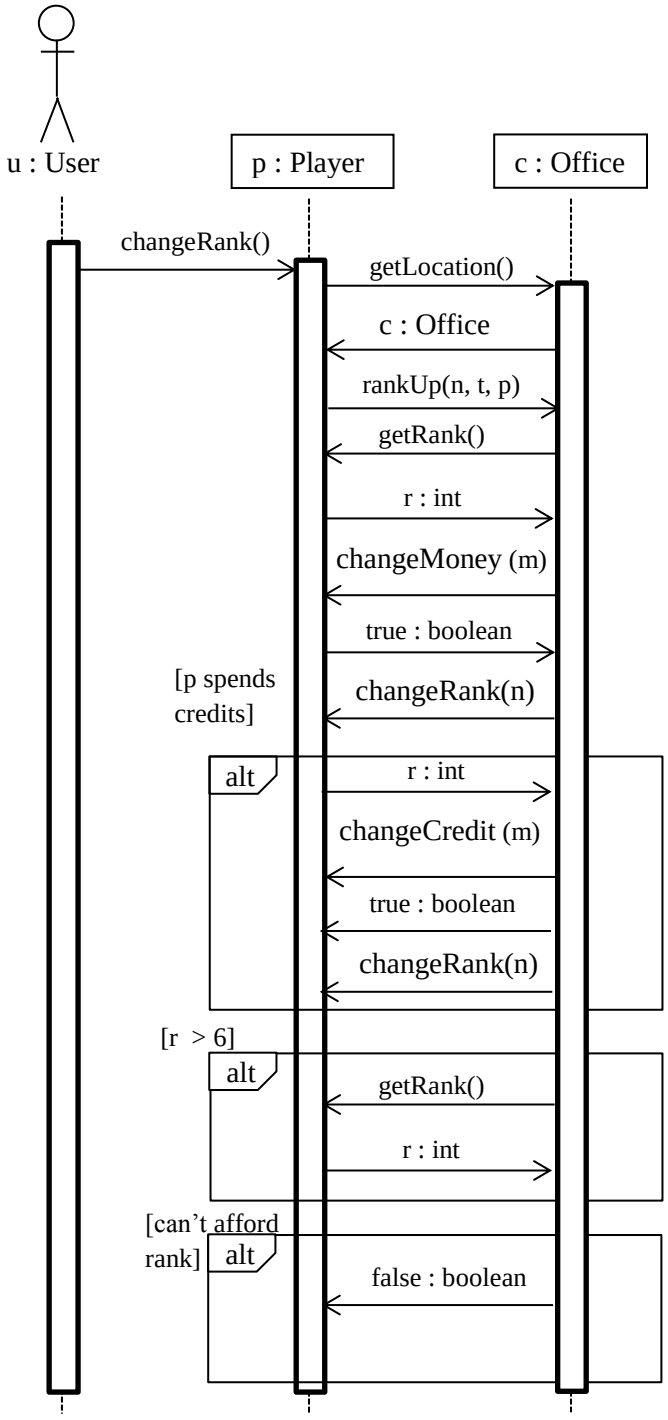

Figure 10 : Perform Leading Role Sequence Diagram

End Day (use case)

When all cards have been removed, the Board resets itself for the next day. It repeats its procedure for all Players and Sets in the game. The process that resets for the next day is illustrated in Figure 11.

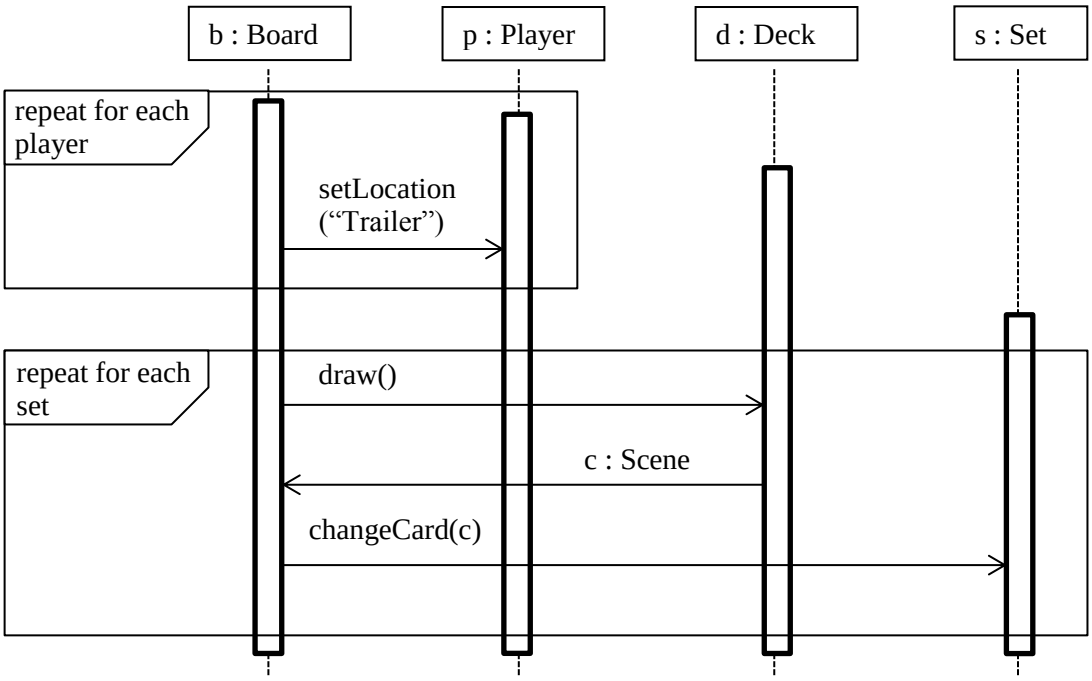

Figure 11 : End Day Sequence Diagram