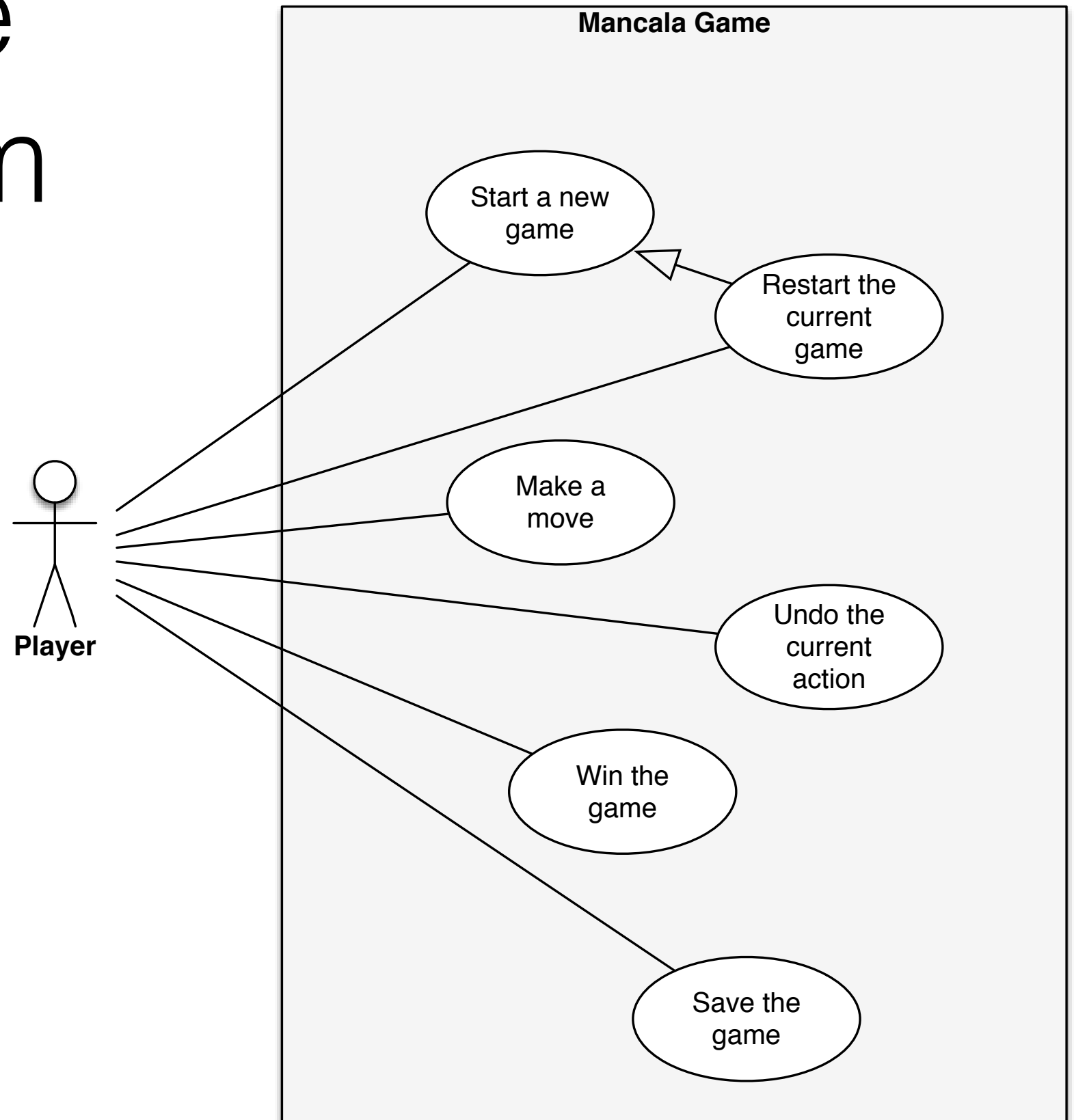


Aufgabe 4: XQuery

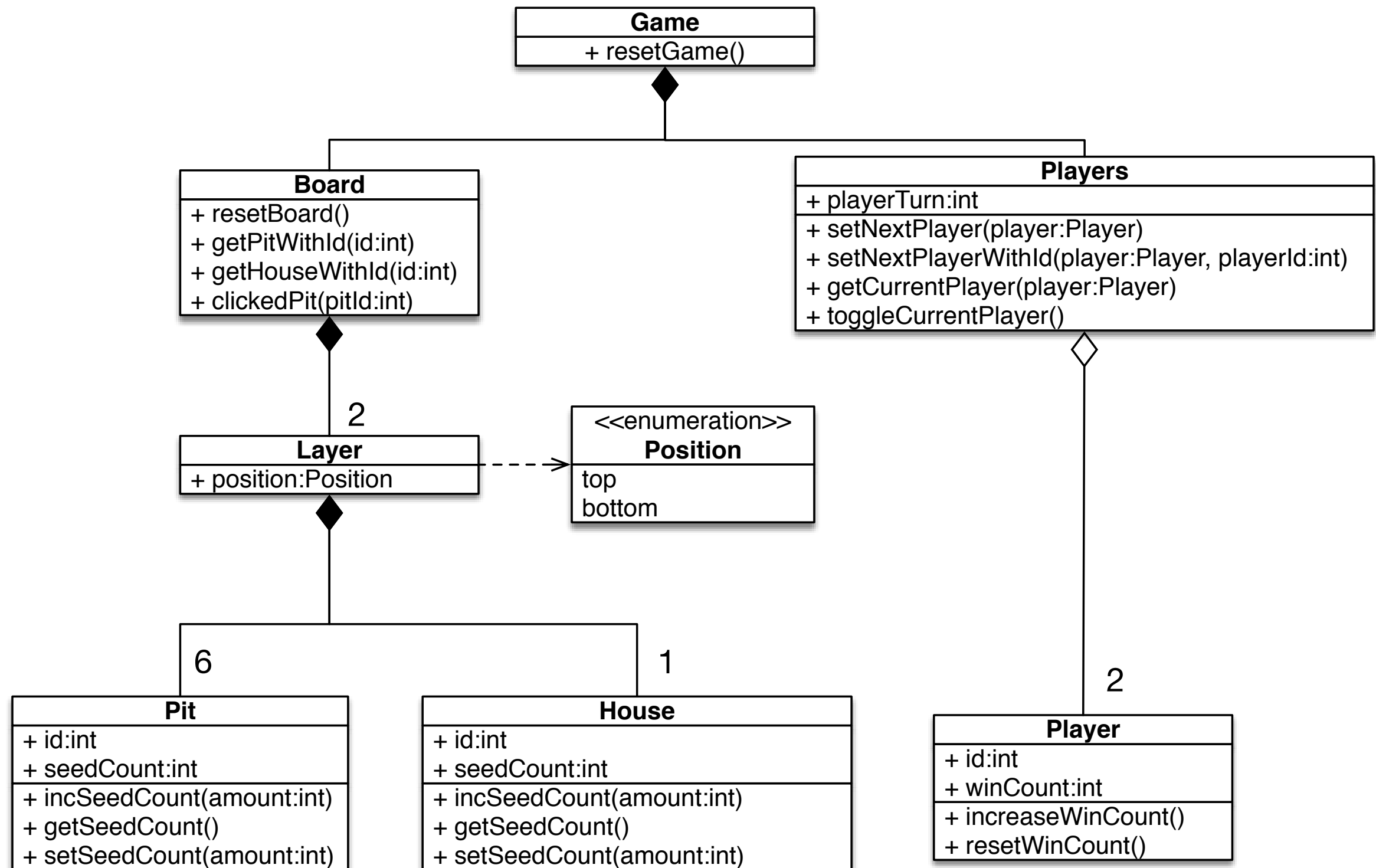
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9.6.2016

Use Case Diagramm



Class Diagram



Implementierung

- Query functions für einzelne Methoden
- Namespace kennzeichnet Klasse, Übergabe des Objects als `$this`

```
declare updating function pit:setSeedCount($this, $count)
{
    replace value of node $this with $count
};
```

- Recursion looped über das Board

Probleme

- Updating function vs FLWOR
 - In update kein let verfügbar => getter für Variablen
- Nur ein update pro node pro query erlaubt

```
pit:incSeedCount(board:getPitWithId($this, $startingAt),  
                (($seeds - 1) idiv 14) + 1)
```

Quellen

- http://docs.basex.org/wiki/XQuery_Update
- <http://www.xmlmind.com/tutorials/XQueryUpdate/>
- <http://www.w3.org/TR/xpath-functions-30/>

```
(: player class :)  
declare updating function player:increaseWinCount($this)  
{  
    replace value of node $this/winCount with $this/winCount + 1  
};  
  
declare updating function player:resetWinCount($this)  
{  
    replace value of node $this/winCount with 0  
};
```

```
declare updating function board:distributeSeeds($this, $clickedPit, $times)
{
    if ($clickedPit = 7 or $clickedPit = 14 ) then
        board:_increaseHouseBy1($this, $clickedPit + 1, $times, $clickedPit, true())
    else
        board:_increasePitsBy1($this, $clickedPit + 1, $times, $clickedPit, true())
};
```

```
declare updating function board:clickedPit($this, $pitId)
{
    pit:setSeedCount(
        board:getPitWithId($this, $pitNumber),
        pit:getSeedCount(board:getPitWithId($this, $pitId)) idiv 14),

    board:distributeSeeds($this, $pitNumber,
        pit:getSeedCount(board:getPitWithId($this, $pitId)))
};
```

```
board:clickedPit(fn:doc("gamestate.xml")/game/board, 1)
```



```

declare updating function board:_increaseHouseBy1($this, $startingAt, $times, $old, $active)
{
    if($times > 0 and ($old != $startingAt or $active)) then
        (
            house:incSeedCount( board:getHouseWithId($this, $startingAt),
                                (($times - 1) idiv 14) + 1),

            if( $startingAt = 14) then
                board:_increasePitsBy1($this, 1, $times - 1,$old, false())
            else
                board:_increasePitsBy1($this, $startingAt + 1, $times - 1,$old, false())
        )
    else ()
};

```

```

declare updating function board:_increasePitsBy1($this, $startingAt, $times, $old, $active)
{
    if($times > 0 and ($old != $startingAt or $active ) ) then
        (
            pit:incSeedCount(
                                board:getPitWithId($this, $startingAt),
                                (($times - 1) idiv 14) + 1
                                ),

            if ($startingAt = 6 or $startingAt = 13 ) then
                board:_increaseHouseBy1($this, $startingAt + 1, $times - 1,$old, false())
            else
                board:_increasePitsBy1($this, $startingAt + 1, $times - 1,$old, false())
        )
    else ()
};

```