# Prince of Persia 1 XML Format

*a unified format for exporting and importing levels*

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## Contents

## Preamble

This document describes the Prince of Persia 1 XML format. It is a unified format used for exporting and importing levels.

## License

(The license is for this document only. The XML format may be used without limitation.)

# 1. Filenames

level1.xml
level2.xml
level3.xml
level4.xml
level5.xml
level6.xml
level7.xml
level8.xml
level9.xml
level10.xml
level11.xml
level12a.xml      `<level number="12">`
level12b.xml      `<level number="13">`
princess.xml      `<level number="14">`
potions.xml      `<level number="15">`
demo.xml      `<level number="0">`

# 2. File Structure

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<!-- PoP1 level, exported <yyyy-mm-dd hh:mm:ss> with <program and version>. -->
<level number="<nr>">
     <rooms>
          <room number="1">
               <tile element="<nr>" modifier="<nr>" />
               (30 tiles total)
               <guard location="<nr>" direction="<nr>" skill="<nr>" colors="<nr>" />
               <links left="<nr>" right="<nr>" up="<nr>" down="<nr>" />
          </room>
          (24 rooms total)
     </rooms>
     <events>
          <event number="1" room="<nr>" location="<nr>" next="<nr>" />
          (256 events total)
     </events>
     <prince room="<nr>" location="<nr>" direction="<nr>" />
     <userdata fields="<nr>">
          <field key="<string>" value="<string>" />
          (<nr> fields total)
     </userdata>
</level>
```

# 3. Room Example

Every room of Prince of Persia 1 contains 30 tiles and has 4 room links. Below is a screenshot of room 3 of level 1.
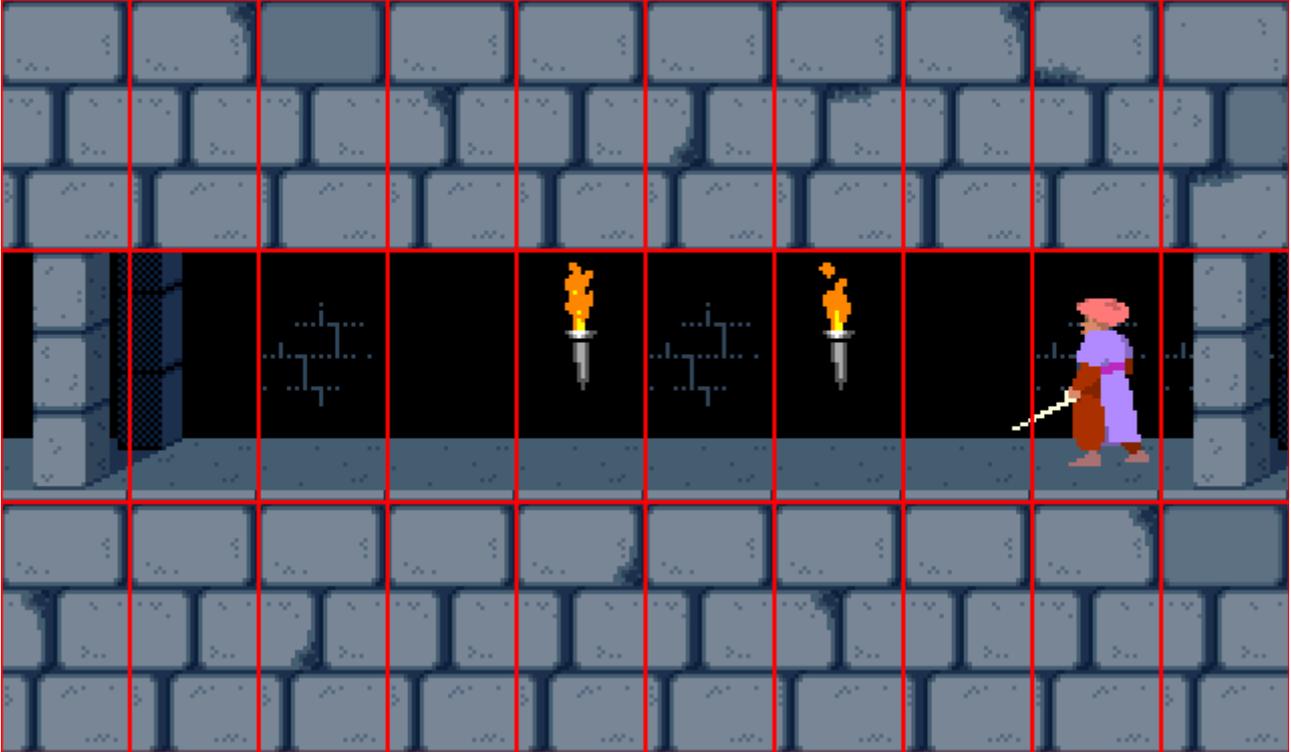


Its XML is as follows. The tile order in the list matches the writing direction used in most of the world: left-to-right and top-to-bottom. In other words, the first tile in the XML is the top left tile in-game.

```
<room number="3">
        <tile element="52" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="52" modifier="0" />
        <tile element="35" modifier="0" />
        <tile element="33" modifier="1" />
        <tile element="33" modifier="0" />
        <tile element="51" modifier="0" />
        <tile element="33" modifier="1" />
        <tile element="51" modifier="0" />
        <tile element="33" modifier="0" />
        <tile element="33" modifier="1" />
        <tile element="33" modifier="1" />
        <tile element="35" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
        <tile element="20" modifier="0" />
```

```
            <tile element="20" modifier="0" />
            <tile element="20" modifier="0" />
            <tile element="20" modifier="0" />
            <tile element="20" modifier="0" />
            <tile element="20" modifier="0" />
            <tile element="20" modifier="0" />
            <tile element="20" modifier="0" />
            <guard location="18" direction="1" skill="0" colors="2" />
            <links left="2" right="9" up="0" down="0" />
</room>
```

Important:

All tiles in the top row of this room are walls; so are the tiles in the bottom row. As you may have noticed, almost none of the walls look the same in-game. Maybe you also noticed that, in the XML, eighteen of the walls are `<tile element="20" modifier="0" />` and two are `<tile element="52" modifier="0" />`. The way the walls look in-game has nothing to do with the XML. The wall randomization is the result of room-drawing code of the original game. The next paragraph explains the differences in element numbers.

## 3.1 Element Numbers

As you could see in the previous section, each tile is made up of an element and a modifier. The modifier changes the look and/or behavior of tiles. Two examples. A regular floor tile is `<tile element="1" modifier="0" />` and it has back-wall brick lines (in the dungeon environment) with `<tile element="1" modifier="1" />`. A regular chomper is `<tile element="18" modifier="0" />` and it is stuck with `<tile element="18" modifier="2" />`. For drop (element 6) and raise (element 15) buttons, the modifier is *one less than* the number of the first event it activates. For example, `<tile element="15" modifier="3" />` activates event number 4.

Important:

Sometimes, element numbers are higher than 31. Usually, when displaying such tiles, one can simply subtract 32 from the element number. In other words, the two deviating walls in the XML mentioned in the previous section are exactly the same as the other walls in that list. After all, 52 minus 32 is 20. There is *one* known exception. A regular loose tile is `<tile element="11" modifier="0" />` but `<tile element="43" modifier="0" />` is a *stuck* loose tile.

## 3.2 Combinations Overview

The seventy-two most frequently used element-modifier combinations are listed below. These are the same seventy-two tiles that are shown on apoplexy's PoP1 tiles screens. Some of the tiles only work in *one* environment (dungeon or palace).

| element | modifier(s) | tile |
|---|---|---|
| 0 (or 32) | 0, 1, 2, 3, 255 | nothing (0/255 = regular, 1/2 = back-wall brick lines/palace patterns, 3 = window) |
| 1 (or 33) | 0, 1, 2, 3, 255 | floor tile (0/255 = regular, 1-3 = back-wall brick lines/(no) palace patterns) |
| 2 (or 34) | 0 through 9 | spikes (0 = regular, 1-8 = various out, 9 = stuck) |
| 3 (or 35) | 0 | small pillars |
| 4 (or 36) | 1, 0/2 | gate (1 = open, 0/2 = closed) |
| 5 (or 37) | 0 | stuck button |
| 6 (or 38) | 0 through 255 | drop button |
| 7 (or 39) | 0, 1, 2, 3 | floor tapestries |
| 8 (or 40) | 0 | big pillars bottom |
| 9 (or 41) | 0 | big pillars top |
| 10 (or 42) | 0 through 6 | potions (0 = empty, 1 = red, 2 = LP, 3 = float, 4 = flip, 5 = blue, 6 = activate room 8 upper left) |
| 11 | 0 | loose tile |
| 12 (or 44) | 0 through 7 | air tapestries |
| 13 (or 45) | 0 | mirror |
| 14 (or 46) | 0 | floor tile with debris |
| 15 (or 47) | 0 through 255 | raise button |
| 16 (or 48) | 0 | left level door |
| 17 (or 49) | 0 | right level door |
| 18 (or 50) | 0 through 5 | chomper (0 = regular, 1/3/4/5 = harmless open, 2 = closed) |
| 19 (or 51) | 0 | torch |
| 20 (or 52) | 0, 1 | wall (0 = with palace pattern, 1 = without) |
| 21 (or 53) | 0 | skeleton |
| 22 (or 54) | 0 | sword |
| 23 (or 55) | 0 | left balcony |
| 24 (or 56) | 0 | right balcony |

| | | |
|---|---|---|
| 25 (or 57) | 0 | lattice pillar |
| 26 (or 58) | 0 | lattice support |
| 27 (or 59) | 0 | small lattice |
| 28 (or 60) | 0 | left lattice |
| 29 (or 61) | 0 | right lattice |
| 30 (or 62) | 0 | torch with debris |
| 43 | 0 | stuck loose tile |

## 4. Guard and Prince Examples

The previous chapter contains a screenshot of room 3 of level 1. The corresponding XML code for the guard there is `<guard location="18" direction="1" skill="0" colors="2" />`. The prince starts in another room and location: `<prince room="1" location="1" direction="2" />`. Guard skills go from 0-11, (regular) guard colors from 1-7.

Important:
- If there is no guard in a room, he is *still* listed, but his location is set to 0.
- The direction is either 1 (right) or 2 (left). However, for levels 1 and 12b, this is reversed for the prince.


## 5. Links Example

Chapter 3 contains a screenshot of room 3 of level 1. The corresponding XML code for the room links is `<links left="2" right="9" up="0" down="0" />`. If a 0 is used, no room is attached on that side.


## 6. Event Example

The event `<event number="1" room="12" location="10" next="0" />` activates tile 10 (the top right) in room 12. This happens when event number 1 is activated. If this event had used `next="1"`, then activating it would also automatically activate the next event, in this case event number 2.


## 7. (Userdata) Fields

All fields are optional. However, there are nine frequently used field keys, because PR and apoplexy (that relies on PR) use them. Those field keys are:

Editor Name
Editor Version
Level Author
Level Title
Level Description
Original Filename
Time Created
Time Last Modified
Original Level Number

# Afterword

If you have any questions about the XML format, please let us know in this forum thread: http://forum.princed.org/viewtopic.php?f=69&t=3517