Tower of Hanoi Game Engine Requirement

# Scope

This document describes the requirements for what functionalities the Tower of Hanoi game engine needs to support.

# Background

The Tower of Hanoi is a puzzle game involving 3 rods and a number of disks of different diameters, which can slide onto any rod. The puzzle starts with the disk stacked on one rod in order of decreasing size, the smallest at the top, thus approximating a conical shape.

The objective of the puzzle is to move all the disks from one rod to another, obeying the following rules:

1. Only one disk may be moved at a time.
2. Each move consists of taking the upper disk from one of the stacks and placing it on top of another stack or an empty rod.
3. No disk may be placed on top of a disk that is smaller than it.

# Requirements

* The game engine should enforce the rules of the game. If any attempted move violates the rules, the game engine should report an error to the client.
* The game engine shall be able to apply the effects of any valid move to the game state.
* The game engine shall be able to provide the client with the complete state of the rods and disks.
* The game engine shall be able to determine if the victory conditions have been met.
* The game engine shall be able to support a minimum of 4 disks.