Requirements

To provide the users of our online Tabletop Game Simulator platform with the exiting experience of randomization driven decision making by the use of dice, we need a new functional module in the systems core that simulates the throwing of those dice.

The module offers an easy-to-use interface for the particular game implementations to be able to define the number of sides and dice cardinality for a throw as well as an optional modifier. Only discrete values are permitted and while the number of sides does not necessarily need to be representable by a realistic polyhedron, it must still be posivite. There cannot be a negative cardinality of dice.

The result of a throw is the sum of one value within the range of 1 to the number of sides inclusively, separately and randomly chosen per cardinality, and the modifier. The randomization follows an appropriately approximated normal distribution.

Such a dice definition provides the means to easily generate a sequence of randomized throw results and basic statistics like the effective value range and probability of all possible distinct result values.

Perspectively, we are planning to integrate the possibility to define a descriptive subset of results, i.e. “a value larger than 10”, and have its effective probability calculated for a given dice definition. This should also work for a set of different dice definitions that are all summed up.