

What is this?

I wanted to flex by designer muscles with a challenge: how deep combinatory system could be produced from a simple core mechanic of rolling n-number of FUDGE dice? It turned out surprisingly deep.

Disclaimer: this is not a gaming system. This is a concept and a study of game mechanics with barely enough content to validate assumptions for that study. It is purely theoretical with no practical playtesting of any kind.

Blue and red dice

FUDGE dice feature 2 x plus, 2 x negative and 2 x blank, an equal 33.3% probability of generating any of those three results.


Normal resolution is to subtract negatives from positives giving one numeric result ranging from minus number of dice rolled to plus number of dice rolled in bell curve distribution centered on zero.

This is the simplest use of the dice mechanic. However, it is little too simple to fully explore their potential.

To have meaningful choices presented to player with each roll, I would have two color categories of dice with different purpose. **Blue** dice for normal test resolution and **red** dice for 'stressed' resolution.

Positive and negative axis

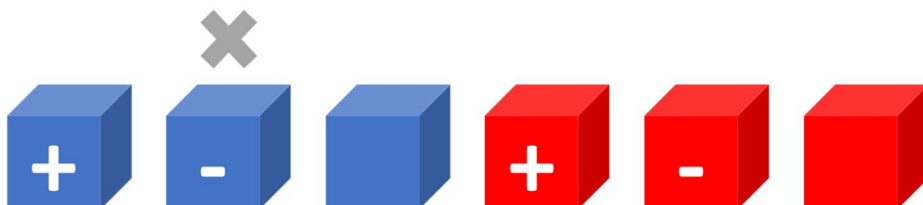
Unlike in normal FUDGE system, positive and negative are calculated separately.

However, **blue** dice  negatives are considered blanks normally, except under special rules (more of that later). For example, the below roll of 3 blue and 3 red dice results 2 successes and 1 negative result (as blue dice negatives are not considered).

As the distribution curve shifts by this change I don't need a base score modifier like 4 + roll in the system at all, making it all about the dice, giving more depth to dice manipulation.

This mechanic evaluates each roll under two independent conditions:

1. How good was the success?
2. How bad was the negative complication whether the test was successful or not?



Attributes and skills

Generally, attribute and skill levels as in terms of how many dice are rolled can be the last design consideration. They set the probability curve eventually. Importantly, the curve should be designed so that it is generally requires so added 'stress' dice when attempting more difficult tasks. If this was a real game system these would be worked out in detail math obviously but the principle is established.

If I could do custom dice, I would have 3 sides of the die as '+' instead making it 50%. This would reduce randomness and make correlation of high skill = high result more probable.

I'm taking liking to combination attributes in which all tests are based in combination of two equal range attributes or skills, for example AGILITY + RANGED. The numeric range from 1 to 6 with average being 3 would likely work.

Ranges of result

	Challenge (+)	Success quality (+)	Complication severity (-)
0	No challenge	Unsuccessful	No complication
1	Easy	Basic	Minor
2	Average	Good	Major
3	Difficult	Excellent	Minor + Major
4	Very difficult	Superb	2 x Major
5+	Epic	Epic	Catastrophic

Standard test

Normally, a test is performed by rolling **blue dice only**.

On level of success, following options are available:

1. Success margin

Depending on the level of difficulty, minimum number of successes required can be 1, 2, 3 – n. Any result lower than the margin is generally considered a failure.

2. Multiple success margins

As above, but instead of a single margin the task may have multiple. A lower success margin can represent a partial success and a higher success margin a full success.

Example: Dan is leaping between rooftops of two houses. He needs 1 success to make it but 2 or more allows him to keep his momentum on the other side.

3. Linear success

The quality of the performance is considered directly from number of successes rolled.

Example: Crafting a sword. The quality of the sword is dependent on the successes rolled. 1 success would indicate a normal sword while a legendary sword would be generated with 5+ successes.

4. Comparative success

Opposing tests are compared against each other and success margin is the difference of the results.

5. Option set based success

Successes generated are essentially 'currency' for the character to purchase results from a set of options.

Example: Eloise generated 3 successes in her beguile roll. She could charm the general with 3 successes or some of his lieutenants with a cost of 1 success per each.

6. Combinations

Any of the above are also combinable. Successes above margin could act as linear improvement over the base result or offer set-based additional perks for purchase.

Stressed test

If character is attempting the test under stress (of any kind) like in a hurry, unfamiliar conditions, volatile situation etc. some of the **blue dice** may be **replaced with red dice** by the game master.

Importantly, the success probability remains unchanged the task difficulty is required to be adjusted with success margin.

Stressed test introduces change of negative result as in complication.

Example: Tom the Thief is attempting to climb in by the third-floor window. It's pouring rain and while he has his gear, all surfaces are slippery. He will need to convert one of his dice to a red die, presenting a chance of complication. If he would fail with a complication, that would mean falling from heights.

Risked test

A character may wish to increase their chances of success by **adding red dice** to the roll. The maximum number of dice to be added is a game master consideration.

Game master may set the maximum limit based on the task challenge or the player skill level. Additionally, he may decide a risk margin, either expressed or hidden, an adding more dice than that would also result in stress converting some the blue dice also to red.

Example: Gary is running a hard interrogation of his prisoner. He is adding 3 red dice to his test. Game master considers this too much pressure applied and makes also one blue dice convert to red. There's now a big chance of complication that could result in a bad situation.

Forced risked test

Certain situations may grant same probability of success to all characters independent of their skill level and variate the negative probability instead. Two characters with different skill level would both still roll the same number of dice, determined by the game master, but missing dice would need to be compensated with red dice.

This does not necessarily require multiple characters. A minimum dice threshold level could be applied to any test.

Example: Two characters are both swimming in a strong current. Game master decides they are forced to risk it as they are fighting for their very lives rolling 8 dice each. One character has total skill of 6 while the other has only 4, requiring rolling 4 blue and 4 red in total. Both have equal chances of success but unequal risk of complication.

Repeated tests

A character wanting to attempt again the test may do so but with added stress i.e. some of the blue dice are converted to red dice.

Example: Thief Elgar failed to find the unlock mechanism of the door. The guards are after him. He takes a deep breath and attempts again, however, now with two dice as red dice. He succeeds the second time but also suffers a minor negative result – he forgets his toolkit in the hurry.

Combined tests

When two or more characters are working towards exact same goal, they may combine their results. Each character may perform their test individually. The order of tests may be determined by the game master if required.

Group effort makes task resolution more effective so it remains a game master judgement which task resolutions are addressable as a group and limit maximum number of participants.

Group effort may also be considered a factor of stress meaning some of the dice for some of the participants are converted to red dice. This may put the whole group or a certain participant at more risk than others.

Example: Jane joins to help Tom push the car uphill as Tom would not likely be able to do it on his own. They combine their efforts and meet the high success margin required. Unfortunately for Jane, she also rolled a minor complication, tearing her new dress in the process.

Chained (or co-dependent) tests

When a task is dependent on another task they are considered chained. The tasks are resolved in the dependency order and once the chain is started to be resolved it cannot be voluntarily stopped.

Example: Agent Thomas is hanging out of a flying helicopter attempting to snipe a target. Agent Jane is flying the helicopter. Depending on how well she performs has an impact on Thomas's chances of hitting his target. Jane's good performance may give Thomas even extra dice while a bad performance would remove a die and / or turn some of his dice to red increasing chances of negative results for Thomas.

Compel blue negatives

Blue negatives are generally considered as blanks but they can have a special purpose under certain conditions:

- A. Counted as complications like red die negatives
- B. Reduced from positives (like a normal FUDGE die calculation)
- C. Exploitable by an opposing character

These are all considered under special circumstances, likely to result from a use of a talent or a feat.

Dispute resolution

Dispute resolution A: chained opposed tests

Chained opposed test allows characters reacting to each other. The one performing the test first sets the baseline for the second to match.

In this mode, there are no fixed challenge ratings but all tests are relative on each other.

Example 1: Ogre takes a big swing with his club rolling 4 successes. To evade this, the halfling would require matching it with 4 successes on his roll. He plans to risk it by adding 3 red dice to his evade test to be sure. Failure with potential negatives would make the impact even worse. Success with negatives would allow him to dodge the hit but with a price.

Example 2: Ogre gets only 1 success with his attack roll. Adam the Fighter sees his opportunity! He announces we will counter-attack, a risky tactic. Any successes he rolls over the ogre's 1 are considered all critical hits. However, he will need to remove two dice from his roll to attempt this, likely needing to compensate it by adding some red dice. Problem is that when countering, complications are typically damage to self.

Dispute resolution B: 2-phased resolution with exploiting blue negatives

Opposing characters roll simultaneously on their respective check. After the result is known, each character may add red dice up to blue negatives rolled by their opponent.

Example: Jared is a top lawyer and has built strong argumentation worth 4 successes. In his gigantic roll however are 3 blue negatives that represent a flaw that the opposition can use. The opposing lawyer spots this using his skill and rolls additional 3 dice and produces up to 5 successes in total winning the case.

Modifiers

Roll-modifiers

The core mechanic of positive and negative axis separation and blue and red dice dynamic allows a solid basis for modifiers.

Talent-based example: The character may ignore one stressed die conversion in his Athletics checks.

Item-based example: Chainmail protects 4 dice against slash attacks but only 2 dice against blunt attacks.

Situation-based example: Elves have +1 blue die to all their actions in a forest.

Roll result-based. Example: Berserker if he rolls all blanks will have to re-roll the result.

Roll-result modifiers

Talent-based example: Fury attacks scores all red die successes as double.

Item-based example: Great sword requires skill. First success is always ignored.

Situation-based example: In darkness all sight based rolls compel blue negatives being reduced from successes.

Triggered conditions

Dice add/remove/conversion triggers

Talent-based example: *Competitive* talent makes you add stress dice always at least the same amount as your opposition has.

Item-based example: driving the *Hell-Wheeler*, if a character adds 2 or more stress dice to any driving test he will also have to check for losing his sanity (for no good reason at all).

Situation-based example: In the *dimension of Purr-r-r* all is peaceful and tranquility rules, if a character voluntarily adds stress dice to their roll the negatives are calculated double.

Roll-result triggers

Talent-based example: when *Gambler* rolls all dice as successes he automatically wins but will have to check for not being called a cheat.

Item-based example: When firing *Skaven wyrdstone cannon* if it results in 2 or more complications you will have to roll 3 more red dice to the test.

Situation-based example: If anyone rolls 3 complications in the Cave of Icicles they are pierced by a sharp icicle.

Combat-specific

Damage and health

Each time a character is successfully hit he will have to roll for CONSTITUTION+ARMOR dice. If he fails to generate at least one success he is knocked unconscious.

This roll is stressed by amount of successes the attacker scored, adding red dice if no further dice are available for conversion. The number of negative red die results will cause conditions, both minor and major. This will accumulate incrementally to death or result in instant death for 4+ negative results.

Conclusion

Complexity and depth are both available from rather simple dice mechanics. Simple mechanics don't mean a lack of depth in a game system. You don't need d3,d4,d6,d8,d10 etc. with lots of reference tables, modifiers etc. to have a deep gaming system with wide applicability to various situations. In fact, having the core mechanic simple and unchanged allows exploring tons of conditions and combinations at ease as they are variations of the core mechanic.

However, just rolling a single die like d20 has little player agency. Rolling many and different kinds, like in my example system, adds lot more element of choice and consequence.

Now, would this be a fun game to run? It's impossible to say without testing. On surface, it appears to have a strong player agency and choice put to each dice roll which suggest enjoyable game play. The interaction and general co-dependency of tests is something that many systems could explore further.

Eventually, the quality of a system comes down to a matter of taste. Some people just love d20 or d100 due to whatever preference and it would be pointless to argue that some other mechanic or system has more depth in less complexity even.

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