This is a project to allow DMs a fun side system for high-level PCs, without being cumbersome at the table. Inspiration was drawn from the D&D board game Lords of Waterdeep, and the Assassin Contracts system from the Assassin's Creed games.

The central idea is to take variables readily available at the table and use an online calculator to generate a d100 table showing their chance of success.

The Maths

The calculator can be found here:

**Calculator V15**

It works by using the shape of the tanh function to get the boundaries between outputs to squish together as they shift one way or the other, using a variable m determined by the following input variables:

- Level of the Mission - \( L_M \)
- Average level of the NPC party - \( L_P \)
- Number of people called for by the mission - \( N_M \)
- Number of people in the party - \( N_P \)
- How well the party suits that mission - \( P_P \)
- Reputation of the party in that region - \( R \)

These are meant to be easily calculated at the table, see the Process section for details.

There are also a number of controller variables built in to help a DM easily adjust the odds. These include:

- Strength Factors (a), change the responsiveness of the system to changes in individual effects, or to changes in m overall
- Offsets (m), each outcome boundary is a separate tanh function, varying by offsetting each a given amount. Varying m moves boundaries closer together or further apart
- Steepnesses (k), change how slow or fast the function moves with respect to m. Changing these can let one outcome grow faster or slower than the others.

When I'm manipulating the controller variables I find it helpful to calibrate using the case where:

- \( L_P = L_M = 5 \) - You're generally experienced enough
- \( N_P = N_M = 5 \) - You're sending the right number of people
- \( P_P = 4 \) - Most of the roles asked for are covered
- \( R = 0 \) - The region is neutral towards your party

You can also change anything about the plotting that you like. Any changes you make and save (With a Desmos account) are saved separately.

Reputation

Split your setting into Regions. These should be few enough for you track it all, maybe using a spreadsheet.

Each Region has a reputation number to it. As NPCs complete missions, the guild’s reputation may improve or deteriorate in that region. This affects the odds of success of future missions in the region, as well as how NPCs treat your PCs as they go about their regular adventuring.

Every so often, average out reputation scores between regions where word would spread between them, and where the difference in reputation is over 10 points.

<table>
<thead>
<tr>
<th>Reputation</th>
<th>Attitude</th>
<th>Means</th>
<th>Possible Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 — 50</td>
<td>Helpful</td>
<td>Will take risks to help you</td>
<td>Protect, back up, heal, aid</td>
</tr>
<tr>
<td>10 — 39</td>
<td>Friendly</td>
<td>Wishes you well</td>
<td>Chat, advise, offer limited help, advocate</td>
</tr>
<tr>
<td>-9 — 9</td>
<td>Indifferent</td>
<td>Doesn’t much care</td>
<td>Socially expected interaction</td>
</tr>
<tr>
<td>-39 — -10</td>
<td>Unfriendly</td>
<td>Wishes you ill</td>
<td>Mislead, gossip, avoid, watch suspiciously, insult</td>
</tr>
<tr>
<td>-50 — -40</td>
<td>Hostile</td>
<td>Will take risks to hurt you</td>
<td>Attack, interfere, berate, flee</td>
</tr>
</tbody>
</table>

The Process

For this section we’ll be using the following example mission:

**Find a Kidnapped Construct**

Level 2 Mission:
1 Fighter, 1 Rogue, 1 Wizard

Critical Success: 1000gp + A magic item from Magic Item Table B + A small catlike construct

Success: 500gp + A magic item from Magic Item Table B

Mixed: 100gp + A magic item from Magic Item Table A

Failure: 100gp expenses

Failure Requiring Intervention: The kidnapper has also kidnapped a party member!

All but the results for a Critical Success the players know in advance. More missions can be found [here](https://homebrewery.naturalcrit.com/print/S1sQwCB7E?dialog=true).
Step 1 - The NPCs
First, look at the NPCs in your guild and sort them as well as can be into categories. For now I'm using the classic four D&D classes:

- Fighter
- Rogue
- Wizard
- Cleric

We use levels 1-5 for these purposes. These are separate to PC class levels, but 1 level approximates to about 2 class levels. A class-level 10 NPC gains no experience from working for your guild and may consider leaving.

Step 2 - Party Composition
Next, decide who will go on this quest. You may select as many as the mission asks for, as well as an extra 1.

For example, let's say you send:

Jozan, Level 4 Cleric
The most experienced of your guild, here to provide leadership to your underleveled team

Lidda, Level 1 Rogue
The least experienced, in need of the training

Mialee, Level 2 Wizard
A solid pick and reliable in these sorts of encounters

Nott, Level 2 Rogue
Decent in a fight but certainly no warrior

The average level of this team is (4+1+2+2)/4 = 2.25, Jozan's experience makes up for Lidda.

Step 3 - The Calculation
So we have the following input variables:

- \( L_M = 2 \)
- \( L_P = 2.25 \)
- \( N_M = 3 \)
- \( N_P = 4 \)
- \( P_P = 2 \)
- \( R = 0 \)

Plugging these numbers into the calculator and reading off the results gives:

Find a Kidnapped Construct

<table>
<thead>
<tr>
<th>d100</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>88-100</td>
<td>Critical Success</td>
</tr>
<tr>
<td>36-87</td>
<td>Success</td>
</tr>
<tr>
<td>25-35</td>
<td>Mixed Outcome</td>
</tr>
<tr>
<td>8-24</td>
<td>Failure</td>
</tr>
<tr>
<td>0-7</td>
<td>Failure Requiring Intervention</td>
</tr>
</tbody>
</table>

Step 4 - The Roll
The players roll when the NPC team returns, which may be functionally immediately, or may depend on the distance the team needs to travel. You might require a mission to take a number of days equal to the mission's level, to represent the difficulty of it. You may choose to show the players how their choices have affected the odds.

Step 5 - Experience
Now we need to allocate experience!

An NPC needs 10 XP to level up. Use the following table to decide how much experience each NPC gets. This is a bit of bookkeeping, you may like to appoint a PC the role of Guildmaster.

If an NPC levels up and there are still XP to factor in, the extra XP adds to their newly empty XP bar.

<table>
<thead>
<tr>
<th>Character Level</th>
<th>XP Gained</th>
<th>Outcome Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Level -3 or less</td>
<td>0 XP</td>
<td>Any Outcome</td>
</tr>
<tr>
<td>Mission Level -2</td>
<td>4 XP</td>
<td>Better than Mixed</td>
</tr>
<tr>
<td>Mission Level -1</td>
<td>3 XP</td>
<td>Better than Failure</td>
</tr>
<tr>
<td>Mission Level</td>
<td>2 XP</td>
<td>Better than Fail Req. Int.</td>
</tr>
<tr>
<td>Mission Level +1</td>
<td>1 XP</td>
<td>Any Outcome</td>
</tr>
<tr>
<td>Mission Level + 2 or more</td>
<td>0 XP</td>
<td>Any Outcome</td>
</tr>
</tbody>
</table>

This counters powerlevelling newbies by having them tag along on overly hard missions. The maths scales, but is still simple enough to do at the table.

So for our example party, let's assume they've had a Mixed Outcome:

- Jozan gets 0 XP - Nothing he hadn't seen before
- Lidda gets 3 XP - A quarter of the way to level 2
- Mialee gets 2 XP - Less of a learning experience for her
- Nott gets 2 XP - As above, all in a day's work

It is also at this point that party members are paid, if paid per job.

Payment
There are two ways to pay your NPCs:

<table>
<thead>
<tr>
<th>Payment Method</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Retainer</td>
<td>Always available for missions</td>
<td>Costs money per day</td>
</tr>
<tr>
<td>Per Job</td>
<td>Only pay for missions they go on</td>
<td>May not be available</td>
</tr>
</tbody>
</table>

You may choose to make only one of these ways available. You may also introduce Charisma checks to negotiate pay, introduce pay disputes, neglect payment entirely or to only pay NPCs for successful outcomes. See how much control of this your players demand.
Rates of Pay

<table>
<thead>
<tr>
<th>Level of NPC</th>
<th>Retainer Fee per Day</th>
<th>Pay per Job</th>
<th>Absence Die</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3sp</td>
<td>15gp</td>
<td>d20</td>
</tr>
<tr>
<td>2</td>
<td>5sp</td>
<td>25gp</td>
<td>d10</td>
</tr>
<tr>
<td>3</td>
<td>10sp</td>
<td>50gp</td>
<td>d8</td>
</tr>
<tr>
<td>4</td>
<td>20sp</td>
<td>100gp</td>
<td>d6</td>
</tr>
<tr>
<td>5</td>
<td>30sp</td>
<td>150gp</td>
<td>d4</td>
</tr>
</tbody>
</table>

If someone is very experienced and not on retainer, they may be taking other work. Roll their absence die to see if the NPC is busy. On a 1, they are unavailable. You may re-roll once per day.

Things I’m Thinking About

- Revise calculator, ensuring it’s self-explanatory
- Revise mission rewards considering NPC payment
- Expand mission bank
- Explore giving a bonus based on your guild’s speciality
- Look at implementing some kind of equipment system
- Look at using a custom calculator rather than Desmos
- Explore using a quirk system as in Darkest Dungeon
- Explore making some missions favour a mixed result
- Think about randomly generating missions

Thanks

Thanks to u/AgentFyre for useful discussions, design input, mission concepts, and valuable feedback.

Previous Versions:

- System Document V0.5, V0.4, V0.3
- Reddit post (V0.1 and V0.2)

Changes Since V0.5:

- Added section on NPC payment
- Added page numbers & Misc. formatting & Rebranding

Changes Since V0.4:

- Added artwork
- Changes to calculator including automatic table of results
- Added Critical Success details to example mission
- Added reputation section
- Started mission bank
- Tidied up a bit

Contact & Credit

Message any feedback to u/Capsandnumbers on reddit. If you’d like to be kept updated, message me your email address and I’ll send you updates as they occur.

No need to credit me, just keep my name on this document! If you really like this and want to hand me some cash, here is a Ko-Fi account.

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