

Project Proposal and System Problem Statement

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Organization or Context

I am identifying a problem in the item management system within a community-based project maintained by a small group of volunteers called KolMafia, which is a tool that provides a large range of quality of life improvements for a browser-based game called the Kingdom of Loathing. KolMafia, also referred to as just Mafia, is very regularly-maintained and updates generally fall into three categories: bugfixes, enhancements, and updates. Bugfixes address identified problems, enhancements improve usability, and updates incorporate new content released to the game.

Current Problem or Opportunity

Within its existing features, Mafia already has several methods for analyzing inventory, including a tool called Modifier Maximizer that helps players plan how to use their equipment, consumables, potions, and buffs effectively. The problem is, there is currently nothing that gives you this same level of insight for combat items. Creating a system to catalog these items would help players better understand their inventory.

Players have to consider many factors before using an item, including their current inventory, its power, and how valuable or rare it is. In the current system, to discover any of this information you have to either manually look up items based on best-guesses, or rely on manually maintained lists from the wiki that are very likely out of date. Often, it just feels easier to ignore combat items completely.

This lack of insight on a per-item level increases the risk of a player depleting a reserve of expensive items they can't easily replace or are of limited content. This is something I've done myself with an item called *Bottle of Fire*, which is limited-time content from a site event. Stronger inventory awareness can also help players understand what items they can use on the extreme ends of cost. For example, players may avoid using items that are very expensive but can be used over and over. Nasty-smelling moss is an example of extremely expensive, limited-time content, but it is also reusable. On the other end of this spectrum, players may have a larger quantity of something that is much cheaper than something they would normally use that they overlook.

Initial Stakeholders

The primary stakeholders are players who use KolMafia. Because Mafia allows users to create their own scripts, I could release it as a standalone tool, making the maintainers of that script another stakeholder group. However, I could submit it as a feature update

to Mafia itself, and were it to be implemented, the users who maintain the KolMafia codebase would become another stakeholder group because they would be responsible for updating the database as new combat items are added. Users who maintain the KoL Wiki can also be identified as a third stakeholder group because having a tool to categorize combat items may make it easier to keep that content up to date.

Proposed System Idea

My proposed system would be to use the way KolMafia utilizes its Modifier Maximizer system as a jumping off point to create a similar structure for items. We would need to start with a list of all combat items and break it down into a few categories of impact, starting with Restore, Damage, Weaken, Stun, Banish, and Misc. The expectation is that additional categories may arise as items are reviewed and that items may fall into multiple categories. For both damagers and restorers, we would then have to identify the type as well as the quantity. Misc will be a catchall for interesting, hard to catalog behaviors that can be printed out on the screen, while additionally trying to categorize the effect in a way that can be queried.

Expected Value or Benefit

Creating this system would improve the way combat items are understood and utilized. Players would have a better understanding of how to utilize combat items when doing pre-combat research. This information would also be useful mid-combat when utilizing something called a Consult Script within the Custom Combat Script (or CCS). A Consult Script would allow a player to check the quantity of each item they currently have on hand that does Spooky damage, how much damage each of those items would do, and cross-reference their current price in the mall before determining which item to use.

Properly cataloging combat items would help players in so many ways. Having the ability to sort and filter through the hundreds of existing items would make their inventory a little less overwhelming, and make it easier to make smart decisions when it comes to using these items. This saves time and reduces the likelihood of using something that you end up regretting later (like banishing a monster you wanted to fight again). All of this adds up to an improved user experience.

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