Character Proposal

This document is meant to suggest a configuration for a character class. Changes can be made and if accepted can be appended to current project documentation.

# Character Class

The Character Class would be the base class for both the Players and the Monsters, since both classes would behave and process data very similarly. It would be an abstract class, since there is no reason to create an instance of this class itself – rather only the two classes which extend it.

## Fields

### Battle Stats

Each character has six statistics to calculate battle components:

HP/Stamina, Attack/Strength, Defense/Constitution, Magic Attack/Intelligence, Magic Defense/Wisdom, Speed

The intent to disclosing them in pairs is partly as a suggestion for alternate naming convention, and partly because of a secondary nature to these stats. So long as each stat remains less than 20, they can be used as saving throws for events. The secondary classification helps to suggest to which throws the stat could apply.

### Saving Throws

Saving Throws are a way of allowing randomized outcomes of events that are weighted to character strengths and weaknesses. A character with a high defense/constitution who stumbles into a poison trap is less likely to become poisoned.

Saving Throws do not have to be implemented in the project submission. But they would significantly improve gameplay and are trivial to design and implement. Therefore I suggest we implement the functionality at least at the character level in case we do get to use them.

### Extra

To further improve gameplay variety, there can also be stats related to accuracy and evade, charisma and dexterity. Accuracy and Evade would have only as slight impact on combat. The others would be to add variety to saving throws and out of battle gameplay – unless there is consensus about other uses (such as different weapon types using different stats to calculate damage.)

### Equipment

Like Saving Throws, I don’t feel it is a requirement for the project submission, but I do believe it should be an aim for the final project. Experience in designing and testing similar setups has taught me that when players and enemies have similar stats, battles take way too long. Weapons at the very least would help mitigate this issue. There would be a separate class for Equipment. And whether or not equipment is actually used in the submission, I strongly suggest at least implementing the stub for later. Again, I insist at least weapons are implemented.

### Abilities

Although I’m excited about the challenge of implementing this sort of feature which by now is expected in most RPGs, I also believe this is an unnecessary complexity.

### Status Conditons/Buffs/Debuffs

Like Abilities it seems like it would be expected. But for now it is too complex. Though I do suggest implementing a stub version of Buffs and Debuffs in case we do get far enough quickly enough to consider adding them.

## Functionality

Here’s how I propose characters would interact with each other – including in battle.

### Turn Order

Chis suggested that speed stats be randomized, because when you have several monsters with the same speed stat, it not only causes confusion in the resolution of turn order, but also causes similar monsters to all attack at the same time.

However, this randomizing of the speed stat – least of all any stat – can become problematic when trying to keep stats within a range of less than 20 to allow saving throws. If the stat doesn’t vary enough, it doesn’t solve the first problem. If they vary too much, it can interfere with a monster’s design or potentially save throws if they were used in combat as part of a spell or attack.

I’m going to propose a “hidden stat” which serves as a way to help resolve turn order. It would apply a random number to the character’s speed stat and would not be a permanent modifier and as such would not be saved to the character, but rather preserved in the battle state.

This does not resolve monsters attacking as a large group. But a solution to this might be to differentiate the Monster Class from the Player Class by adjusting monster stats by small random amounts as they are created.

### Battle Damage

This would be straightforward.

For physical attacks, apply the Attack/Strength of the attacker to the Defense/Constitution of the target, and deal damage equal to the difference (or zero/one if the target’s Defense/Constitution is greater.)

For Spells, apply the Magic Attack/Intelligence of the attacker to the Magic Defense/Wisdom of the target, and deal damage equal to the difference (or zero/one if the target’s Magic Defense/Wisdom is greater.)

Any variation to this formula would be dependent on the spells themselves – and while this should be kept in mind while designing spells, I don’t recommend pursuing that venture yet.

This basic formula is easy to calculate, but leaves the problem that the differences are often small, and results in prolonged battles. That’s why using weapons and spells to modify that damage is important.

The characters themselves should provide the battle service with which stat to use in these situations, rather than the service retrieving their stats directly. This is so that the character can apply changes to those stats as they are passed to the service, such as weapon/equipment and buff bonuses. The battle service could also call for a character’s “Base” stats, which would be their stats without any applied bonuses – but this would not be used in most cases, let alone any cases we are likely to utilize.

Once the Character’s modified stat is retrieved, the battle service would apply any spell modifiers to that damage.