

# Wrenches and Kings

Game Design Document by Jonathan Rosentreter

Note: This document is a general overview of the game design. For other game content see the following documents:

[Story/Worldbuilding/Narrative/Characters](#)  
[Enemy Planning and Balancing](#)

Note, also: This document covers information that has not been prototyped, so balancing of mechanics will be very sketchy.

## High Concept

### Concept

For trying to travel the Champion's Path, you are ridiculed as the Champion of Nothing. Now you must seek redemption from the Greater Ones. Fight strong foes, gain strength and overcome the world that mocks you.

Wrenches and Kings is a 2D RPG where the player fights individuals and groups of enemies in turn based combat. The player collects weapons, spells and equipment in order to fight, while also gathering resources to strengthen themselves. The player must manage their Energy, which functions as their health, mana and stamina, through a combination of aggressive and strategic tactics.

### Gameplay Loop

While playing the game, the player will spend the majority of their time exploring the world as they fight enemies and collect items and resources.

Gameplay takes place in two forms, overworld exploration and turn-base battle. In the overworld, players will explore areas, moving up and down through layered environments. The environments will contain various enemies and obstacles for the player to overcome, and contain weapons, equipment and items for the player to find.

Battles are turn based, with each unit having a cooldown which determines turn order. Each turn is a single unit's action, and can be attacking, running away, using an item or changing equipment. Actions give the unit a cooldown (also referred to as action points) which countdown

between turns. When a unit's cooldown reaches zero, they take a turn. This cycle repeats until the player dies, until all enemies are defeated or the player runs away.

## Goals/Progress

Goals and progression through the game come in narrative and gameplay forms. Narrative goals are set out through player and NPC interactions, and progress is made through the fulfilment of key moments.

Gameplay goals in Wrenches and Kings will mostly be determined by the player. It will take the form of exploring and clearing areas, and fighting and defeating enemies and bosses.

Gameplay progression is obtained through character levelling and and through collecting and upgrading weapons, equipment and spells.

## Rewards/Penalties

The player is rewarded in various ways for different actions in the game. The player is able to find new weapons, equipment, spells, and items if they explore the world. These offer the player more story, and exploration can lead the player to find new challenges and areas of the game. For defeating enemies and bosses, the player is rewarded with currencies and items, which vary based on the strength of the boss. Defeating specific bosses will also further the story, and further side quests for NPCs.

Penalties for the player exist in both gameplay and narrative forms. Gameplay penalties include the loss of items and currency. When the player dies and respawns, enemies will return, however, certain types of items will not return and all currency the player held will be lost. Narrative penalties only occur due to intentional action or inaction from the player, such as attacking NPCs, completing quests which lock other quests, or specifically not completing quests.

# Mechanics

## Player Mechanics

### Energy (Health/Mana/Stamina)

The player, enemies, npcs and bosses (Entities) all operate on an 'Energy' system. This Energy is their health to take damage, stamina to attack, block and run, and mana to cast spells and use abilities. When an Entity is hit by an attack, ability, or takes damage from any other source, their Energy will decrease. When an entity attacks, or blocks an attack, and when the player sprints, this will also consume their Energy. Similarly, using magic or special abilities will drain Energy.

## Energy Regain

Energy Regain is the primary means for Entities to recover Energy. When an attack lands, when a spell hits an enemy, or when an activate ability lands, Entities will regain a portion of Energy that was used for the attack/etc. Each attack has a different return rate, which increases with ongoing combos. Energy Regain is per enemy hit, so hitting two enemies with one attack will regain twice the amount as hitting one enemy with the same attack.

## Stats/Statuses

### Active Stats

Active Stats are the different stats that the player can level throughout the game. These are split into two categories, 'Physical' and 'Mental':

#### **Physical**

Strength - Affects the damage dealt by weapons scaling in Strength, and allows more weapons/attacks to be used

Skill - Affects the damage dealt by weapons scaling in Skill, and allows more weapons/attacks to be used

Power - Greatly increases the total Energy of the player

#### **Mental**

Intelligence - Affects damage dealt by weapons scaling with Intelligence, and allows more weapons/attacks to be used - Boosts Elec/Dark Dam/Res

Faith - Affects damage dealt by weapons scaling with Faith, and allows more weapons/attacks to be used - Boosts Fire/Dark Dam/Res

Resistance - Boosts defence to decrease all incoming damage

Speed - Increases the speed of the player in battles, making cooldowns shorter and starting earlier in turn order

Luck - Increases Item Find, making it easier to acquire items from defeated enemies, and increases chance to recover extra energy from an attack

### Passive Stats

Passive stats are used to determine energy, attack damage, spell damage and ailment resistances, as well as speed in battle, chances to find equipment and chance to recover extra Energy. These stats have fixed base amounts, and increase based on what stats the player levels, their equipment and item effects. Passive stats are:

Energy - The specific Energy the player has

Damages - Base values for each damage type: Physical, Electric, Fire, Poison and Dark

Resistances - Base values used to calculate reduction of incoming damages (One value for each damage type)

Speed - Number for determining turn order at beginning of battle

Luck - Base number for determining item drops from enemies (Player only stat)

Recovery - Base number for determining if the player will recover extra energy from an attack

## Elemental Statues

The player has various resistances to different elements in the game, and some of these elements can inflict additional status on the player.

Burning - Damage over time, deals 1% of unit health for every action point since their last turn, occurs five times

Surge - Temporarily stuns player, increasing their cooldown

Poisoned - Deals set damage a set number of times, at set intervals

## Leveling

Using the in-game currencies, Gears and Spirits, the player is able to level their stats. Higher stats allow the player to use more equipment and spells. Leveling can be done from two locations in the game (see Characters, and Game World).

For each level that the player increases, the cost to level further increases. The player is able to level as many stats as once, as long as they still have the necessary currency. Each level requires individual confirmation as the cost of leveling is not separated based on the Physical and Mental stats mentioned previously.

The following is a table of potential stat gains on leveling:

	Up to 10	L10	Up to 20	L20	Up to 30	L30	Over 30	L40	L50
Strength	Total Energy +3	30	Total Energy +2	50	Total Energy +1	60	Total Energy +0.5	65	70
	Phys Dam +3	30	Phys Dam +2	50	Phys Dam +1	60	Phys Dam +0.5	65	70
	Phys Res +2	20	Phys Res +1	30	Phys Res +1	40	Phys Res +0.5	45	50
	Unhanded		Unhanded		Unhanded		Unhanded		
	Damage +3	30	Damage +3	60	Damage +2	80	Damage +1	90	100
Skill	Total Energy +3	30	Total Energy +2	50	Total Energy +1	60	Total Energy +0.5	65	70
	Phys Dam +2	20	Phys Dam +1	30	Phys Dam +1	40	Phys Dam +0.5	45	50
	Poison Res +2	20	Poison Res +1	30	Poison Res +1	40	Poison Res +0.5	45	50
	Unhanded		Unhanded		Unhanded		Unhanded		
	Damage +2	20	Damage +1	30	Damage +1	40	Damage +0.5	45	50
Int	Total Energy +2	20	Total Energy +1	30	Total Energy +1	40	Total Energy +0.5	45	50
	Elec Dam +2	20	Elec Dam +1	30	Elec Dam +1	40	Elec Dam +0.5	45	50
	Elec Res +1.5	15	Elec Res +1.5	30	Elec Res +1	40	Elec Res +0.5	45	50
	Fire Dam +1.5	15	Fire Dam +1	25	Fire Dam +1	35	Fire Dam +0.5	40	45
	Fire Res +1	10	Fire Res +1	20	Fire Res +1	30	Fire Res +0.5	35	40
Faith	Total Energy +2	20	Total Energy +1	30	Total Energy +1	40	Total Energy +0.5	45	50
	Fire Dam +1.5	15	Fire Dam +1	25	Fire Dam +1	35	Fire Dam +0.5	40	45
	Fire Res +1	10	Fire Res +1	20	Fire Res +1	30	Fire Res +0.5	35	40
	Dark Dam +2	20	Dark Dam +1	30	Dark Dam +1	40	Dark Dam +0.5	45	50
	Dark Res +1.5	15	Dark Res +1.5	30	Dark Res +1	40	Dark Res +0.5	45	50
Res	Phys Res +3	30	Phys Res +2	50	Phys Res +1	60	Phys Res +1	70	80
	Elec Res +2	20	Elec Res +1.5	35	Elec Res +1	45	Elec Res +0.5	50	55
	Fire Res +2	20	Fire Res +1.5	35	Fire Res +1	45	Fire Res +0.5	50	55
	Poison Res +2	20	Poison Res +1.5	35	Poison Res +1	45	Poison Res +0.5	50	55
	Dark Res +2	20	Dark Res +1.5	35	Dark Res +1	45	Dark Res +0.5	50	55
Power	Total Energy +7	70	Total Energy +5	120	Total Energy +3	150	Total Energy +2	170	190
	Phys Res +2	20	Phys Res +1	30	Phys Res +1	40	Phys Res +0.5	45	50
Luck	Total Energy +2	20	Total Energy +1.5	35	Total Energy +1	45	Total Energy +0.5	50	55
	Item Find +5	50	Item Find +4	90	Item Find +3	120	Item Find +2	140	160
	Recovery +2	20	Recovery +1	30	Recovery +1	40	Recovery +0.5	45	50
Speed	Speed +3	30	Speed +2	50	Speed +1	65	Speed +0.5	65	70

(Have Lvl 50 as the maximum for each stat?)

## Equipment

The player is able to equip one weapon at a time, this weapon determines what attacks will be available to them in combat. More details on weapons in the Combat section.

The player is able to wear three pieces of armour, a helmet (or headgear), body armour and leg armour. Every piece of armour has its own resistance stat for each damage type, as well as a speed stat, which can increase or decrease the player's speed.

## Pendants and Rings

The player is able to equip one pendant and one ring at a time. Each grants the player effects or benefits. These benefits range from additional attacks, to stat boosts. They can increase the player's speed, guarantee first action in combat, boost damage values, boost resistance values, and add attacks (for specific weapons).

The player is able to freely change their equipment at any time outside of battle, however in battle, changing equipment counts as a part of the player's turn.

## Inventory and Items

To store all of their weapons, equipment and other items, the player has an inventory which is split into four tabs. Useable Items, Key Items, Weapons and Armour. Other than this, the inventory is just a way to keep track of items. The inventory has no limit.

Useable Items are items that can be used to give special effects to the player/enemies. Item effects can range from dealing damage, to boosting/reducing stats. Some items can only be used in battle, such as items that deal damage or reduce enemy stats, however items that boost player stats can be used outside battle to give the player a boost during the next combat.

## Waypoints

Waypoints are checkpoints throughout the world and a means of quick travel between different sections of the world.

Waypoints are not active by default, and must be activated by the player, by interacting with them. Once activated, the player can rest and travel.

## Resting

Resting at waypoints will recover all of the player's Energy and respawn enemies they have killed (bosses excluded).

## Travelling

From a waypoint, the player can travel to any other waypoint they have already rested at.

## In-game currencies

The game will contain two major currencies, Gears and Spirits. Currency can be used in many different ways, levelling up stats, purchasing equipment, purchasing information, progressing quests and upgrading weapons, and equipment. These currencies are separate, and the player will always be able to see how much of each they have. When the player dies, they will drop all of the currency they are carrying.

Gears are a currency obtained when defeating enemies of a technological nature. And are used to upgrade 'Physical' stats and purchase weapon and ability upgrades. Gears can also be obtained by selling items to certain shops. Lastly, Gears can also be obtained through specific usable items in the world.

Spirits are a currency obtained when defeating enemies of natural or spiritual nature. And are used to upgrade Mental stats and purchase weapon and ability upgrades. Spirits can also be obtained by selling items to certain shops. Lastly, Spirits can also be obtained through specific usable items in the world.

More details about selling items, currency consumables and upgrades purchasable can be found under their respective sections.

## Combat Mechanics

### Weapons and Attacks

Weapons have their own damage stats, a set of levels required to be used and a set of attacks. The damage stats are used in conjunction with the player's stats to determine an adjusted damage for each damage type. Required levels are used to determine whether the player can use the weapon or not. The term Weapons also refers to staves and charms which the player uses to cast spells.

Attacks are a set of actions which each weapon has. Attacks include spells. Attacks are the action the player can take in battle, which range from regular actions, such as 'Slash' or 'Smash' to spells, such as 'Lightning Bolt' or 'Inferno'. Like weapons, each attack has a required level to be able to use it, so although the player may be able to use a weapon, they may not be able to use all the attacks. And each attack has an associated cooldown which is used in battle to determine when to give the player their next turn.

### Turn Actions

During their turn, they play has many actions available to them. These include: attacking, using any of the available attack on their weapon; using an item; changing equipment; and running away. (Running away cannot be done in a boss battle)

During battle, enemies will only attack the player.

(Maybe add a defend option? - Reduce damage from next attack? Or until their next turn?)

## Enemies

Enemies are units similar to the player, however are controlled by an AI. Each enemy has a predefined set of stats (or a predefined range for their stats), as well as a set of attacks to choose from. Each attack has a weighting, which is used to randomly choose an attack each turn and redistributed so the same attack won't happen repeatedly. In combat, up to three enemies can be fought at once.

Enemies have only a few of the stats the player does. Damages, resistances and speed. Enemies don't need item find, recovery or levels. Enemies also have a list of items that they can drop as well as a respective chance to drop each item, and a gears/spirits count to give the player when they die.

## Determining Damage/Weapons Damage/Damage Scaling

Damage is determined using each of the damage stats on a weapon/enemy and comparing them against the resistances of the entity being hit.

The following calculations are performed for each type of damage the attack deals. These attack types are Physical, Electric, Fire, Poison and Dark.

The maximum damage a weapon can deal in each damage type is the value of that damage. Eg: The broadsword has a physical damage value of 50, so the most physical damage it can do is 50. This number is compared against the respective defense of the entity being hit. The original damage value of an attack is compared against the defense of all opponent entities in battle (all enemies for player, the player for enemies), and is converted into a percentage reduction of incoming damage for each damage type. For each damage type, damage can be reduced between 0% and 100%, if an entity has 0 defence, the damage reduction will be 0%, and if they have twice the resistance of the attacking unit damage will be reduced by 100%. However, each damage type deals a minimum of 1 damage.

Most weapons scale, gaining extra damage, with the player's stats (For enemies the damage is always set). Each weapon has a set of levels required to use it, Strength, Skill, Int and Faith, and each of these scale the weapon's damage. Each weapon has a set of scaling variables for each of these. Strength improves physical damage, Skill improves physical and poison damage, Int improves electric and dark damage, and Faith improves fire and dark damage.

## Cooldown/Action Points

Combat is based on 'speed' of attacks and actions.

Every unit in battle, including status effects, act on a cooldown/action point system, and are used to determine who takes turns and in what order. Every action, attacks, item uses,



equipment changes, and running, all have associated action points. When used, those action points are added to that unit's cooldown. At the start of battle, and after every turn, every cooldown is reduced until one (or more) units reach zero and it becomes that unit's turn.

## Combat Example/Step Through

### Enemies

- Bosses
  - Name
  - Location
  - Lore
  - Image/Design Notes
  - Phases
  - Attacks
  - Abilities
- Enemies
  - Name
  - Lore(?)
  - Image/Design Notes
  - Attacks/Weapons
- Other
  - Items
  - UI

### Levels/Game Areas

- Area
  - Level Purpose
  - Level Maps
    - Flow

Ancient Graves

Crystal Bog

- World Map

### Game Progression

- Game Endings
- Character Plotlines
- Game Start
- Difficulty