Project Osarica (Unnamed First-Person CRPG)

Overview and Core Concepts

An open world, first-person RPG videogame, favoring exploration as its own reward.

The setting is a fairly classic fantasy setting, with moderate levels of magic and fantasy. The technology should be high medieval, but closer to early medieval than late medieval; chain mail is a common armor, and some plate armor exists for those who can afford it but not fully articulated suits or armor. For top tier armors think of the "plate-mail" found in some TTRPGs, meaning various plates over top of chain mail.

The player is talented individual, but not a chosen one. Most problems dealt with are local. The main quest will likely involve a kingdom wide or international problem, but does not involve saving the world or similar grandiose goals, and should start with a local problem and evolve from there.

NOTE: *This is for an older idea (2023), originally planned to use RPG Creation Kit. Many core ideas survived, but when the project was restarted (2025) the scale and scope were shrunk from a large continent to a small island (in addition to development shifting to creating its own framework instead of a third party kit).*

Design Pillars

- A heroic, player-created protagonist, who is not a "chosen one" or super-being, but who starts as an ordinary person with undeveloped / untapped exceptional talent and becomes a great hero
- A focus on local problems, with most side quests (and legs of the main quest) being local to an area
- A world that is interesting to explore, where the reward for increasing power of the player character is getting to explore more and further
- Combat mechanics which involve both a regenerating "shock" health bar and a non-regenerating "wound" health bar (which must be healed with potions, spells, or downtime), as well other features to make it more interesting than just "click and do damage" while conceptually simple with simple controls
- Non-linear, choose your own ending/adventure narrative format for longer quests

World and Level Design

The world will be a seamless, world built from streamed chunks consisting of a scene (and possibly some data attached to it). Despite this, it will be divided conceptually into general regions of variable size and also into 512m by 512m areas to help with planning content.

Each area should have two or three major points of interest, examples being towns/cities, dungeons, fortress/castles, large encampments, notable towers, and large noticeable landmarks. There should be a variety of smaller minor points of interest and minor encounters as well (e.g., small hut or overturned cart).

The number of dungeons should be about the same as the number of areas, simply going for an equal number being the plan. Not all areas need to have dungeons, some probably should not, and some should have two, but the average number should be one.

Areas should have typically look different from their neighbors, especially when they are of different difficulty levels. For example, a lightly wooded area with a village could be bordered by a deep forest in one direction, mountains in another, and farmland for a larger town in another. This should not be done in a way that looks like obvious squares, but the apparent edges should be bent, warped, and uneven rather than following the line of the real areas. Also, their should be landmarks to make them recognizable. Some landmarks can be partial barriers as well, making it more clear when going around them (or possibly over them) that somethings might be different; for example a hill or ridge may run along part of a boundary so that the player can learn and recognize them as what they past before meeting a harder enemy.

Areas should have different difficulties based on distance from the player start, and to a lesser extent distance from other civilized areas that acts as safe havens. Difficulty could be slightly scaled, but in a way that easy areas fall behind the player character level, allowing the player to feel like a “bad ass,” while the player can be under-leveled for some areas. The reward for leveling up and improving gears is thus the ability to explore further.

Most quests should be local, meaning typically within one area in neighboring areas (including any dungeons or other indoor spaces contained with in). This applies particularly to side quests. The main quest may meander through nearby areas. Late game quests, or branches of the main quest (or large faction quests) may involve more travel, but should not send the player character and long journeys just to make them walk. Travel and exploration should remain a reward and not be turned into a chore; also, the game should respect the players time, allowing for shorter play sessions if desired, and not pad out play time with walking to and from distant locations. Quests to acquire rare objects can, rarely, be to areas that are a little further (but not too far), though only those for generic items which the player can watch out for a source for and them complete and turn in later. The main quest should not be the real focus, but something to jump start exploration.

Every area should be good enough to be its own small game.

In brief:

- 2-3 Major points of interest per area
- An average of one dungeon per area, though some may have no dungeons while others have more than one.
- Minor points of interest (e.g., a random corpse, small landmark, trashed wagon, etc.) should be sprinkled in without counting as major landmarks.
- Minor encounters should be scattered around, enough to make thing interesting but not crowded; there should also be routes avoiding all encounters.
- Side / minor quests should be numerous and local. Each area should have a few. The largest number should be contained (including the source of the quest) within one area. The next most common should be contained in two areas, with the goal of the quest being in an area neighboring the one where the quest is acquired.

Dungeons

Dungeons should be non-linear places to explore, rather than linear series of challenges. Those familiar with early D&D or OSR style dungeons should have a good idea what is intended; other games with somewhat similar of dungeons / levels include Exiled Kingdoms, classic Doom (and "Doom clones"), the original Thief trilogy, and to a lesser extend Daggerfall (though those are bigger, more confusing, and more tunnel oriented than desired here).

Dungeons should vary in size but should be big enough for a good quest, and some big enough to be the focus of play for a little while. There should be several core styles, with distinct look, feel, and lore.

Structures on top of dungeons should be a part of the open world, though it is acceptable to have a loading screen when entering a large dungeon.

Dungeons should restock, eventually. Its is still undecided if this should be frequent (allowing, and often requiring, grinding in an area); or slower and delayed, allowing progressive clearing or a dungeon or other dangerous area through multiple trips.

Narrative Structure

For longer quests, and especially the main quest, narrative structure should be non-linear. Rather than quest lines, there should be quest graphs or meshes. Each stage can take several forms. There are several concepts from logic and programming the actually map quite well on to this.

- **Simple:** Just something that happens or most be done (to progress)
- **And:** Several things must be done to progress the quest, but they can be done any order. Example in existing games include the hortator/naravarine section of Morrowind and most stage of Daggerfall's

main quest.

- **Or:** More than one option to choose from – perhaps the a local, aloof scholar and an old wise woman living in the woods have both been suggested as valid sources of information on some obscure lore; either may provide the information, but only one needs to be consulted (it would not be unreasonable for each to have some other tid bit of lore for the curious, or not, but nothing impactful as this would make it an and-stage). This is not used enough in videogames and should be leaned into, in order to create the feel of choosing your own course through the adventure.

- **Xor (eXclusive Or):** Typical of book series like *Choose Your Own Adventure* and *Endless Quest*; rarely seen in video games except for scenarios involving choosing a faction. You make your choice and other then become unavailable; whether or not a certain choice can be undone to allow another choice is another matter, but likely not an option (though it could make sense).

- **Not:** Any condition that leads to quest failure.

Some short fetch / kill / rescue quests may also exist.

Sub-quests and quest stages, as well as the overall goal of the quest can take many forms, for example:

- **Find an Item:** Includes fetch quests (bring item to NPC) and resource quests (find item to use)

- **Kill an Enemy:** This includes the basic "kill quest" but also is often the focus of a main quest (kill the final boss)

- **Find Information:** This is like a quest for an item to use but without the item; example, find the old wise-woman of the forest who knows where a special item is or who the villain may be (she gives info, but no item). I count quest to learn a skill here too.

- **Find or Explore a Location:** For example, you have already found some special spell, but it needs to be cast in a certain place -- so find it.

- **Escort Quest:** Take an NPC somewhere for whatever reason

- **Rescue Quest:** Like escort, except you rescue them first

- **Battle / Defend Quest:** Defend a fort, city, or some other location or some VIP NPC from attackers.

- **Conquest Quest:** Capture / take control of a fort, city, dungeon, etc. Clearing a dungeon could be another example, though it should not be thought of as simply clearing an area of all enemies.

- **Delivery Quest:** Bring a provided item or message to an NPC (without having to fetch it)

- **Survival:** The player character must survive a location or situation, such as if temporarily trapped in a dangerous location or survive dangerous event.

- *Other things that might be fun and interesting, I'm not pretending to have thought of everything that might be worth doing.*

Note that there can, and generally should, be multiple ways to accomplish any of the above goals.

The main quest should lead from area to area, as the player character gains access to more difficult areas. It should not jump around the map, making travel potentially a chore instead of the fun exploration it is intended to be.

There should also be multiple ways of achieving most goals and sub-goals: Combat, magic, stealth, social charm, connection, perhaps even ways to by-pass some if clever enough. If a stage is more limited in how it can be accomplished, it should be part of an ***Or*** stage, with other options to allow other styles.

Magic

Note: Some parts of this are a bit "pie in the sky." There are reasons many interesting ideas, including many that work well in table top games, are not common in video games or are morphed into simple attack spells. For example, a Wall of Stone spell would need to code to help place it, keep it from spilling over into the wrong areas, to update nav-meshes, etc., while a Wall of Fire spell would require all that plus every AI in the game would need code to decide whether or not to go around, try to run through, or give up, and nav meshes for both conditions. The lower hanging fruit, things like invisibility, distraction, fall control, summoning, and charm spells are already not uncommon (though usually small in number compared to attack spells) – all dealing in straight forward ways with existing mechanics, such as preventing sight from producing aggro, negating fall damage, spawning creature with faction to the caster, etc.; notably charm enhances impression or relationship status in games that have it, while games that lack it either don't have it, replace it into a pacify spell, or make it a short term forced fside change that gets lumped in with "crowd control." Simplify a much of this, including rolling back most of it toward typical existing offering would likely have been needed.

Magic should be uncommon, but not rare. It should be powerful, but not earth-shaking or overpowered.

Magic should go beyond being simply or primarily an alternate weapons. An example can be found in the D&D box sets from the 80s (or the 1991 D&D Rules Cyclopedea): Only a handful of spells are direct-damage combat spells. The majority are utility spells. There are your basic combat spells that do damage (not really that many). Then there are a few are intended as attack spells but not by direct damage (sleep, hold person, death spell, etc). Then there are non-combat spells that can be used against enemies (e.g., blinding enemies by casting light at their eyes, a wall of stone can be conjured over and enemy to fall on them, while charm can be used both in and out of combat). Many others have no obvious combat use. Similarly, magic here should have a wide range of uses and effects, that could be used creatively both in and out of combat. Certainly, direct damage attack spells should exist, but they should not be the bulk of them and the trap of thinking of magic as just an alternate weapons / combat "build" should be avoided.

A note on healing magic: Since the intended health system involves both a regenerating and non-regenerating health bar ("shock" and "wounds") and healing magic should be able to heal wounds (not just shock), it must not be possible to cast too many wound healing spells per day. More to the point, it must not be based on a quickly regenerating mana bar that would effectively make wounds irrelevant to anyone who learned a healing spell. There are two ways to handle this. One would be some kind of Vancian system similar to early D&D or Dark Souls, where spells are memorized / attuned / impressed, allowing a finite number of casts per rest and forcing spells to be picked in advance. More likely, though, is the use a very slowly refilling mana bar (similar to early Elder Scrolls games), effectively limiting the amount that can be used in one day while retaining the freedom to pick spells on the fly as needed from all know the player character. In the mana based system, mana pools, at least for higher level casters, could be relatively large but more powerful spells would be quite expensive. Spells healing wounds would be consider at least somewhat powerful, even for the weaker ones. If developed using the RPG Creation Kit, the mana options will definitely be chosen, otherwise this is undecided.

Currently, the plan is to have mana regen very slowly while awake (like a day, or more, in game to fully regenerate) – but having it fully restored by a full night of sleep is planned. Basic attack spell would then be cheap, while some more interesting spells and those that do a lot of damage and/or damage a large area of effect would cost more. Spells that heal wounds will be fairly expensive in terms of mana. This would make simple firebolt or shock type spells act in many ways like a quiver of arrows, while things that make spell casters more special would be more limited in uses.

Combat

The combat system involves a dual health bar, divided between shock (which regenerates fairly quickly) and wounds (which do not normally regenerate, requiring healing or downtime). Base damage is in terms of shock damage, with wound damage being equal to (shock damage – 10) / 2.

Armor has both a subtractive and division based component. First, half the armor value is subtracted, then the remaining damage is multiplied by (1.0 – (armor / 100)) for armors up to 50; armor values over 50 asymptote toward 80% damage reduction, so that no armor makes a character completely invulnerable. Some weapons will have limited armor penetration, working as a percentage of the damage being exempt from the effects of armor, calculated as a linear interpretation between the damage effected by armor and the damage ignoring armor. Armor is applied to the shock damage before calculating wounds.

When an NPCs (including enemies of all types) runs out of wounds it dies, when it runs out of shock it is KO'ed and will remain unconscious for a good time (at least half an in game day and no less than 10 real minutes). Enemies in the KO'ed state may be either looted like corpses or given a killing blow resulting in immediate death. The player dies any time either wound or shock health drops below 1, it being assumed that enemies kill them once helpless; to do otherwise would complicate things greatly. (I'm sure some players will get a kick of looting a fallen foe and them meeting them later with missing clothing and gear.)

Holding block is holding a guard, and reduces damage by a percentage (this can be thought of as pro-rated blocking or some attacks, or as damage getting through, depending on the situation), in exchange for stamina. Blocking just before an attack lands parries the attack, negating all damage for no stamina cost and briefly staggers the enemy allowing for a window for a counter attack (no explicit riposte mechanic, just a chance to get in a good attack). Enemies with weapons capable of parrying can parry the player, but does not cause stagger because the unpredictability implicit in those mechanics leave no chance for the player to counter. Shields are more effective for blocking, while weapons are noticeably more effective for parrying, allowing for a one-handed, swashbuckling style. While some of this may confuse or seem backward to fans of souls-like games, this is not a souls-like and this mechanic makes more sense for the perspective, control scheme, and general game play intended here.

Stealth attacks should do double damage +10, and should be applied to enemies who are not aggro, this being a reasonable representation of the the enemies awareness of the attacker (or the attackers intent to attack).

Power attacks also do more damage, and are a good choice for attacking a stunned or staggered enemy, or using to follow up a parry.

Attacks cost a small amount of stamina, while power attacks require more. If there is not enough stamina to cover the attack it will do less damage if a normal attack, and it cannot be a power attack if there is not enough stamina to cover a full power attack (instead, a weakened normal attack would be performed).

Damage weapons (or other damage sources) is stated as a base damage, representing the averages damage. Actual damage done is calculate using RNG, total damage is 50% + (0% to 50%) + (0% to 50%) of the base damage, for a total of 50% to 150% of base damage. The use of two random

numbers, both 0.0 to 0.5 is important as it makes the average damage 100% while also weighting the damage toward the center. This creates a triangular probability curve with some central tendency but not too much.

Attacks also have one or more of several damage types: physical, fire, electric, acid, poison, magic, cold, spiritual. Magic will not be a pure damage type, but is used to tag an attack with some other damage as magical – e.g., a fireball spell would be tagged as both fire and magic, while normal fire would be fire only. Some enemies may be effected differently based on the damage types applied. The magic tag is primarily for creatures immune to normal attacks (e.g., ghosts), though some creatures could exist specifically resistant to magical attacks. Status effects will also exist that change how much damage certain attack types do.

The order is as follows:
Apply stealth and power attack modifiers to base damage → roll damage → apply armor → apply natural modifiers → apply status effect modifiers → calculate wounds → apply damage to health

Armor effects are represented by the following pseudo-code:

```
damage = ((rolledDamage - (armor / 2))) * (1 - Asymptote(armor / 100, 0.5, 0.4));
```

Thus both subtracting half the armor and then reducing the result by one percent per point of armor up to 50. The `asymptote` function provides a soft cap of 50% and a hypothetical hard cap of 90% (for an armor value of infinity) for the percentage based reduction. This allows armor to be especially effective against attacks which it outclasses, but become increasingly less effective as the power of the attack increase while still always being useful (as long as the attack doesn't have a very high armor penetration). The asymptote function is defined as follow in C#, Java, or C++:

```
public static float Asymptote(float n, float start, float rate) {
    if(n > start) {
        float output = (n - start) / rate;
        output = 1 - (1 / (output + 1));
        output = (output * rate) + start;
        return output;
    }
    return n;
}
```

While armor penetration interpolates linearly between damage with and without armor. This is applied especially to blunt weapons and some types of spells, but also things like rondel daggers that are designed to stab between gaps. For

Wounds are calculated from shock with the following C# function (valid as Java or C++):

```
public static int CalcWounds(int shock) {
    if (shock > 12)
    {
        return (shock - 10) / 2;
    }
    else if (shock > 5)
    {
        return 1;
    }
    return 0;
}
```

Damage modifiers represent status effects, such as those from potions. These simply remove (or add) a percentage of total damage, and subtract the strongest relevant vulnerability from the strongest relevant resistance to find the total effect when more than one modifier is in play.

Damage adjusters represent natural resistances, weakness, and peculiarities of certain creature types, and should be created as needed for creatures. These allow for all sorts of adjustments, from simple resistances, to requirements, to more special transformations of damage. For example, and animated creature such as a golem or zombie, experience not shock and having no vital organs, might take only wound damage (having shock set to 0), while an incorporeal creatures might only be harmed be attacks that have a magical and/or spiritual aspect.

Visual Aesthetics

Weapons should look believable and usable, with features and proportions similar to real weapons; basically, like something a real person could use.

Characters and creatures should looks like realistic cartoons. The general appearance should be cartoon, and things like furniture can be more stylized, but should avoid being generally zany.

Architecture should be slightly stylized by not generally whimsical, zany, or exaggerated. I say generally, because this does not precluded a thematically whimsical or strange location, with models and textures to fit that area. Using aesthetically pleasing color contrasts in many locations is desirable. Also, everything is not a ruin, so everything doesn't need to look run down, broken, or dirty, and some places should be clean, neat, and well maintained.

Next Section

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Details and Specifics

List of Items

Data For Usage Items Types

Weapons

- Base Damage
- Armor Penetration (0.0 to 1.0; usually 0.0, rarely more than 0.2)
- Attack Time (speed) (in seconds)
- Reach (in world units, meaning meters)
- Parry Window (0.0 to 0.25, typically 0.15 to 0.2 for weapons, and 0.1 for shields)
- Damage Type
- Can Be Parried (false for missiles, natural weapons such as claws, and giant enemies)
- Weight
- Monetary Value

Armor

- Armor Value
- Weight
- Monetary Value

Planned Weapon & Armor Types

Weapons

	Base	**Dagger (d4s)**	**Short Sword (d6s)**	**Sword (d8s)**	**Long Sword**	**Great Sword (d10s)**
Base		3	4	5	5.5	6
Primitive	3	14	18	23	25	27
Bronze	4	15	20	25	28	30
Silver	4	15	20	25	28	30
Iron	5	17	22	28	31	33
Steel	6	18	24	30	33	36
Blue Steel	7	20	26	33	36	39
Elven (Mythrite)	8	21	28	35	39	42
Adamantine	9	23	30	38	42	45

- Hammers and maces do short sword damage but have 20% armor penetration.
- Daggers have 10% armor penetration (good at exploiting gaps in the armor).
- Battle axes do the same damage as swords, hand-axes the same as short swords.
- Polearms do the same damages as great swords, except for poleaxes which do (normal/arming) sword damage but with 25% armor penetration.

- Spears would do short sword damage (but at longer range), and are not considered polearms.
- Generally, weapons do the same damage as the type with the same die in classic D&D.
- Clubs do 18 damage; stone axes do 20 damage with 20% armor penetration (functioning more as maces than axes due to weight and relative dullness).
- Long swords, great swords, battle axes, and polearms are all two handed.
- “Swords” refers to what are now called “arming swords” and similar sized swords of other eras/cultures.

Enchanted weapons gain a bonus of +5 to +25 (for very rare, epic, typically unique items). Some may also have a spell effect which they cast on anyone hit. Weapons with an “elemental” effect would have a combined damage type of physical + magic + “element’s” type for base damage and also cast a spell like “shock” or “burning touch” on the target for extra damage.

Armors

Body

	Base	Other	Maille	Lamellar	Plate	~~Suite~~
Leather	2	2				
Fabric	3	4				
Bronze	4		6	6	8	~~10~~
Iron	5		7	7	10	~~12~~
Steel	6		8	8	12	~~14~~
Blue Steel	7		10	10	14	~~17~~
Elven (Mythrite)	8		11	11	16	~~19~~
Adamantine	10		14	14	20	~~24~~

Head/Legs

	Base	Other	Maille	Lamellar	Plate	~~Suite~~
Leather	2	1				
Fabric	3	2				
Bronze	4		3	3	4	~~5~~
Iron	5		4	4	5	~~6~~
Steel	6		4	4	6	~~7~~
Blue Steel	7		5	5	7	~~8~~
Elven (Mythrite)	8		6	6	8	~~10~~
Adamantine	10		7	7	10	~~12~~

Boots/Gloves

	Base	Other	Maille	Lamellar	Plate	~~Suite~~
Leather	2	1				
Fabric	3	1				
Bronze	4		1	1	2	~~2~~
Iron	5		2	2	3	~~3~~
Steel	6		2	2	3	~~4~~
Blue Steel	7		2	2	4	~~4~~
Elven (Mythrite)	8		3	3	4	~~5~~
Adamantine	10		4	4	5	~~6~~

Full Set (Real)

	Base	Other	Maille	Lamellar	Plate	~~Suite~~
Leather	2	6				
Fabric	3	10				
Bronze	4		14	14	20	~~24~~
Iron	5		19	19	26	~~30~~
Steel	6		20	20	30	~~36~~
Blue Steel	7		24	24	36	~~41~~
Elven (Mythrite)	8		29	29	40	~~49~~
Adamantine	10		36	36	50	~~60~~

Armors can gain a bonus of +1 to +5 (very rare, epic probably unique items) per piece, allowing up to +25 with +5 on all five slots.

More stuff….