



EARTH EXPEDITIONARY

A Co-operative Tactical Shooter

**MVP AND
VERTICAL SLICE**

*for GAD 253:
Portfolio*

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Core Mechanics (Implementation Required)

Gun Combat

As the primary challenge that players will have to overcome, it is non-negotiable that gunplay be included in any level of gameplay. However, significant variation of weaponry is unnecessary; as per the GDD's 'Basic' weaponry requirements in the 'Programming Needs Table', there should be approximately one weapon from each class type (light-machine gun, shotgun, pistol, etc.) to allow for the different 'feels', and weapons should have different magazine sizes/damage to allow for player preference to be as important as overall power when challenging enemies. Guns need not have any attachment or visual customization to give potential players a feel for the game's gunplay. Additionally, Exotic weapons would not be required, due to the unique mechanics surrounding three out of the four weapons' means of dealing damage (environment penetration by the railgun, area damage by the grenade launcher, and cone damage by the flamethrower).

Marking/Ping System

The core experience of *Earth Expeditionary* is based on tactical team play. As such, communication is an incredibly important tool to flesh out for players, so that they may work together and devise strategies in real time, even if lacking voice communication. As such, having a strong in-game marking system is pivotal in allowing players to draw attention to certain objects or threats to allow for even rudimentary teamwork. Although advanced 'ping' options such as 'defend here' or 'moving to this location' need not be included, the players should have the object their crosshair is focused on marked and labeled accordingly when the appropriate key is pressed, and there should be a visual distinguisher between the Leader's ping and others'.

Player Characters

The primary means of giving players different loadout and gameplay opportunities, and are a necessary system that offers a small variety of playable characters that each have different specialties on the battlefield. Each are designed to have different abilities and bonuses that allow them to excel in certain roles, whilst not entirely preventing players from fulfilling their own playstyle. The following sub-categories will break down to what extent each character component should be incorporated into a Minimum Viable Product, in comparison to what is envisioned in the full GDD.

Character Selection

Character selection (and thus lobby size) would be restricted to the Biochemical Scientist, Survivalist, and Martial Artist. The Gunsmith and Systems Engineer have been excluded for various reasons, primarily due to all of their abilities being passive; although these abilities still assist the team, they do not need to be monitored or sparsely used, thus decreasing the tactical capabilities of them compared to the other three characters, whose abilities offer only temporary buffs that may be utilized at crucial points rather than consistently.

Additionally, a smaller lobby size decreases complexity in players selecting roles, and also reduces the extent to which player or weapon capabilities can be stacked (via the combination of multiple abilities). The characters available also cover the primary 'medic', 'tank', and 'fragger' playstyles that I have seen in previous shooter gameplay, allowing players to easily find a role that suits them.

An additional consideration that is absolved by eliminating the Systems Engineer and Gunsmith playable characters is the complexity of minigames; Lockpicking and Rewire would both require unique interfaces and mechanics, whereas the Agility minigame would be a modification of the movement system from the 3D world to 2D, the Track minigame merely requires players to notice modifications already made to the environment, and Concoct would only need to be as complex as interacting with consumable objects in the environment and then placing them in a 'mixer' of sorts. Furthermore, the 'bump gun' minigame benefit in lockpicking would also require completely unique interaction, whereas something like faster climbing in Agility would be a simple matter of modifying the player's movement speed.

Abilities

Abilities are an important factor when players would be selecting characters, as they give the team different temporary bonuses that can solve make-or-break situations in the players' favour. Their powerful nature and variety of strategies that can be built around and supplemented by considerate ability use makes them essential for even basic gameplay. That being said, just as there is the potential to always add more potential character abilities, the pool can also be weaned down for developmental testing. I would limit the ability options to two per available character, for a total of six; this would be done by eliminating the Biochemical Scientist's 'Norepinephrine' (damage resistance and run speed for 30s), the Martial Artist's 'Frontline' (riot shield), and the Survivalist's 'Snaremaster' (deploy a slow-and-damage trap).

These limitations allow for each ability restriction (cooldown, triggered limited use, and targeted limited use) other than 'passive' to be represented, allowing testing of the effectiveness and balancing of each method. The players will also in total have access to three conditional aggro-management abilities, one healing ability, one intelligence-based ability, and one mobility ability, giving players a variety of possible actions that can be done in each mission. By limiting ability choice to two per character, it also simplifies the balancing of each character's options to a simple 'is A as good as B under the same circumstances?' The exclusion of the shield and trap also limits overall gadget complexity.

Passives, Minigame Benefits

While abilities are important for allowing players additional capabilities in certain circumstances, the character passives and benefits are what will primarily be giving each their 'flavour'. It is important for the full inclusion of these elements so as to give each character a cohesive playstyle, and players different playstyle opportunities. Furthermore, the passives and minigame benefits of the three selected characters for testing purposes would be simple to incorporate, as all would just require modification of already-existing systems needed anyway for the base gameplay.

Minigames

The primary non-combat challenge in the game, minigames serve to gate mission progression and allow for dynamic interactions outside of simply shooting AI enemies. As outlined in the GDD, any character could complete any minigame, but each would have a specialization that gives them a bonus (and likely faster progression) in one minigame type. This would allow for players to each have a respective specialty, limiting the potential for having one player dominate all non-combat scenarios.

This would additionally strengthen teamplay, as characters would need to be protected by their teammates while completing the minigames. As the player characters are restricted to three, so would the minigames. It does not seem logical to include minigames that no character would have a bonus for, and these minigames would additionally be more complex than their other contemporaries, as outlined in the above 'Character Selection' section.

Supplementary Mechanics (Implementation Optional)

These mechanics and systems are not considered necessary in even the barebones creation of the game, and are ordered by my highest desire to include, to least. The largest system stripped away would be the currency/resource system, as it is currently an 'all-or-nothing' series of requirements, that would not be needed to still shape a team-based, tactical experience. The most complex system stripped is the dynamic levels, as it would require significant investment of time as outlined in the 'dynamic maps' section.

Environmental Hazards

Although these pose as potentially significant impactors while in combat and strategizing, I do not think the incorporation of environmental hazards is necessary for an MVP. That being said, these would be among the first components added to the game, adding more decisions for players to consider, and increasing the necessity of players to communicate with each-other.

Team Mantling

Due to the various ranges that weapons will have in addition to player capabilities, positioning and strategic control of an area will be important in *Earth Expeditionary*. A way to further make these decisions meaningful and team-oriented is to offer players the ability to work in tandem in order to climb certain obstacles and to access certain areas. Allowing players to reach alternative paths of navigation and lines of sight by requiring them to work together not only helps support team-oriented play, but also allows players to further work together to ensure that these new areas can be effectively used. For instance, there is not much sense in having a player climb a building to get on the roof if all of the teammates are inside the building, defending against enemies that are located deeper inside the building. This would be supplemented in utility by implementing it after environmental hazards are added, by allowing for additional pathing opportunities to either avoid hazards, or brace them in order to get to potentially get the advantage in an upcoming area.

Non-Aesthetic Customization

Although weapon customization is large part of most shooters and is some thing that I personally enjoy very much, it does little in a bare-bones game to help establish balance and function. As such, it remains as something that can be implemented should the time and resources exist to do so, as it allows for players to have a significantly wider range of experiences with each weapon, and appeals to Explorers under Bartle's Taxonomy. The reason why I place this below the environmental changes despite my personal preference of it is the complexity of the system; attachments would need to be fleshed out for each item, including the stats and changes from each one (on top of the limitations of which weapons could equip what), and potentially would include unique animations and visuals for each item. Customization would ideally be added after weapon choices are at least doubled to 12, in order to further extend player choice.

Dynamic Maps

Although certainly nice to have, dynamic map tiles would require significant planning, balancing, skinning, and then combining to be done. Simply having relatively static maps created for the purpose of testing character abilities, team coordination, gunplay, enemy AI, and minigames would serve as a far more efficient use of time. Even most AAA companies will have 'Zombie' or 'Alien' game modes have one to three maps, allowing them to focus on creating unique and memorable experiences with what is available rather than investing in dynamic or various levels which will likely not be thoroughly played.

Exotic Weaponry

Another additional layer to gunplay, this would be entirely needed in an MVP. A potential replacement for this that could still function to incentivize players that explore in-level would be versions of otherwise incorporated weaponry with increased stats (such as damage, fire rate, magazine size, etc.). This would be fairly simple to implement compared to the animations, stats, and functionality of entirely unique weapons.

Consumables and Ordnance

Although I'm sure that players would embrace the ability to carry additional firepower, I once again do not believe that consumables or ordnance will be necessary. Although this will limit the available options each player has while in combat, I also think this will help to focus gameplay to depending on one's teammates and capabilities with the weaponry available, in addition to making players feel like they are more resource-starved, which fits well with the post-apocalypse theme. If it was determined that the players are at significant disadvantage for having neither item, I would only go so far as to add the healing item to give players additional durability in and after combat engagements.

Aesthetic Customization

Simply put, no aesthetic customization would be required in the game; although it would serve to give players the ability to pursue the Expression Aesthetic in accordance with the MDA Theory, it would not help to develop gameplay, or help create a team-centric tactical shooter experience.

Weapon Degradation

Although it would add a layer of strategy in gunplay and offer a gold sink, it is a useless mechanic without the implementation of resources/currency. As such, it would be absent from the MVP of the game, and then introduced as a possible expenditure if the game is developed further.

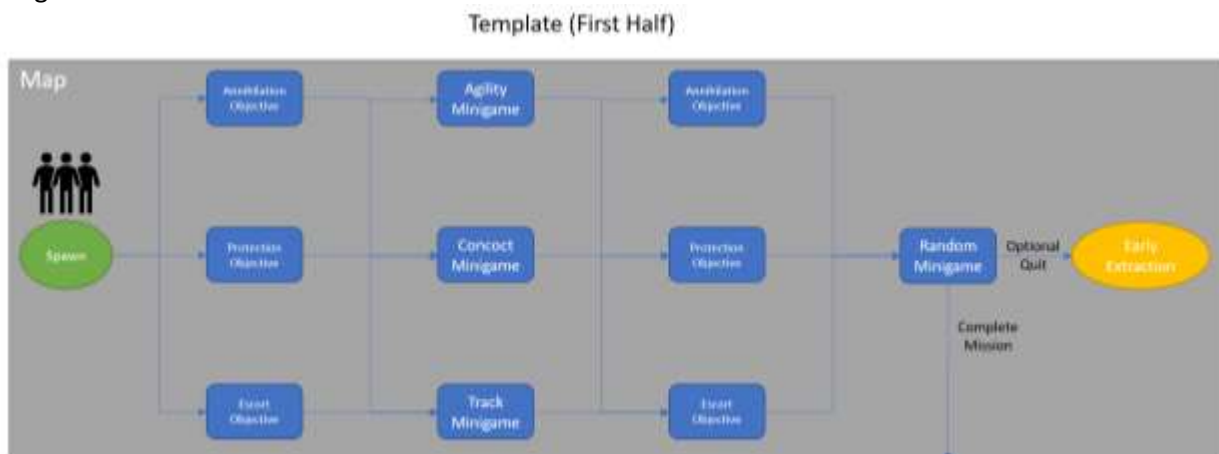
Features

As mentioned in the above section, I would be comfortable with removing customization and resources (which are used for weapon customization) until the entire system could be added, removing exotic weapons/ordnance/consumables unless players seem to be underpowered, and removing environmental factors with the possibility of adding them in should development allow. I would additionally like to remove progression via the armour/gear system, but feel like this may prevent incentivization of players to enjoy the game with an end goal other than satisfaction from completing missions.

Likewise, I could remove the ability for gear to drop from enemies, but this would also limit players that prefer killing/challenge over simple mission completion, and would incentivize players to only speed run missions for the chance at rewards. As such, I would leave the gear progression system in as outlined in the GDD, with the ability to expand on it further to include a variety of other stats (such as games as Diablo III do).

Level

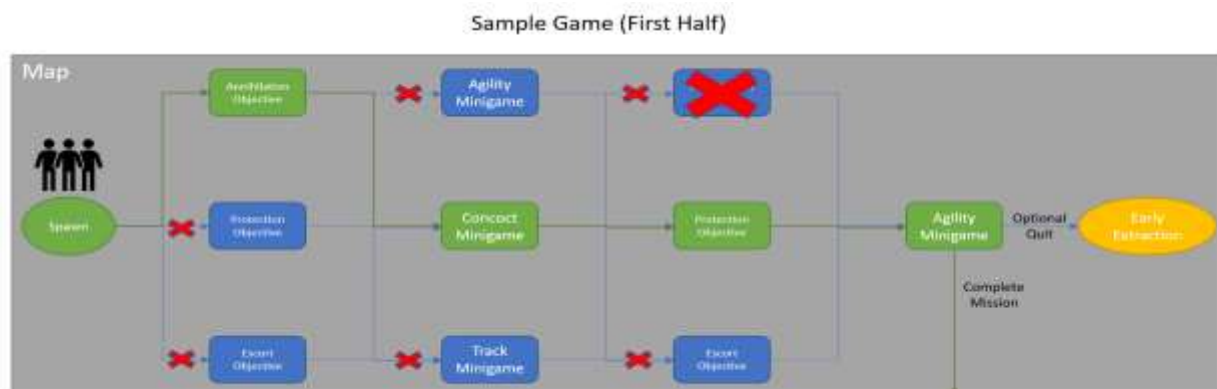
It is obvious that the game cannot be played without an environment, so I would require at least one level. To expose players to all types of minigames and objectives, I would create a standard level envisioned in the GDD (~10 tiles), but then have the players optionally loop back to the beginning of the level. To do this, the level would have three paths each with three segments, all leading to a single location on the other end of the map. Each segment would have a challenge, following an objective-minigame-objective-minigame-order.



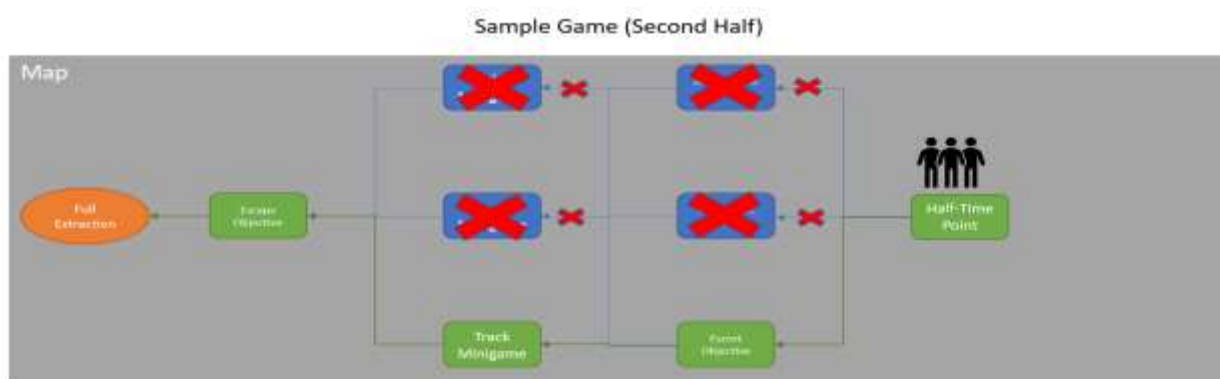
At this 'half-time' point (after approximately 20-30 minutes), players could extract or 'complete the loop' to get back to their original destination, going through the segments again with obstacles in an objective-minigame-objective manner. This could be incentivized by adding a 50% increase in the quality of any loot obtained during the mission.



In order to maximize replayability by players, the mission path except for the last objective would be randomly decided at the beginning of the mission, with each different possible path representing a different option in the respective segments. Once the first objective is selected, it would not appear in the later stages, and likewise with the minigames.



Since the 'mid-map' objective is only one point, I would have it possess the environmental/interactable objects necessary to support any of the three minigames. This allows players to somewhat expect what will occur next, increasing their knowledge as they continue through the map. This method allows only one map to offer at least 40 minutes of gameplay, and allows for a wider variety of experiences than would be possible with a simple linear map, in addition to exposing all players to all game modes and minigames with equal likelihood.



UI

In accordance with the above documentation, the Mission Select and Modification screens could be removed, in addition to the removal of all player characters as vendors. I believe that the HUD information is already bare-bones as is, and would not benefit from being further minimized past removing the corresponding ordnance/consumables indicators. That being said, the Overlord character could be completely removed visually, only allowing the player to interact with them via radio (and the corresponding subtitles for the hearing-impaired).

I also believe that the hardcore in-game HUD should stay as-is, as it allows for a wider variety of player types, and does not require any further unique elements than the regular HUD. The loadout selection screen would be limited as there would only be limited abilities and characters equip-able, and no consumables/ordnance.

Assets

To sum up the above sections in accordance with the GDD's layout for 'Assets'; Armour, Weapons, and Player Characters would be restricted, and Ordnance/Consumables would be likely eliminated. Additionally, the enemies could also be limited; the Skitter, Cloner, and Porcupine would be removed from play to decrease the number of enemies that will need to be modeled and added to the game, whilst still keeping diversity of AI. This all-in-all decreases the 'Assets Required' chart as such:

Asset	Used in	Original Quantity	MVP Quantity	Difference
Character	As player characters, and as upgrade and customization vendors.	5	3	-40%.
Ability Gadgets	Player special abilities	4	2	Halved.
Overlord	Mission communication, game information.	1	1, no visuals.	Visuals removed.
Melee Weapon	Melee attacking.	2	1	Halved.
Gun	Ranged attacking.	22	6	-73%.
Consumable Items	Miscellaneous actions in-game.	4	0	Removed.
Ordnance	Gadget attacking.	5	0	Removed.
Objectives	Interactable objects to progress/complete mission.	10	7	-30%.
Enemies	Combat.	7	4	-43%.
'Chunks'	Map creation.	10+	0	Removed.
Map	Map with limited dynamic elements.	0	1	Added.