**Feasibility and Analysis:**

**Existing Systems:**

Earth Defense Force, often abbreviated as EDF, is a third-person shooter video game centered on humanity's desperate struggle against overwhelming waves of giant insects, and alien invaders. Developed by Sandlot and published by D3 Publisher, and is known for its over-the-top action, absurd enemy variety, and tongue-in-cheek humor.

**Giant Enemy Monsters:**

* **Insect Armageddon:** Imagine ants the size of buildings, gargantuan spiders spewing acid, and locust swarms blotting out the sun. That's just a taste of the insecticide nightmares you'll face in EDF.
* **Alien Onslaught:** Prepare for laser-blasting bipedal lizards, hulking cybernetic monstrosities, and mother ships deploying endless waves of drone fighters. You'll need every weapon in your arsenal to repel these threats.
* **Mesh Mania:** EDF throws in the ultimate curveball with towering robotic enemies that pack devastating firepower. Dodging skyscraper-sized fists and laser barrages adds a whole new layer of excitement to the combat.

**Weapons:**

* **From Pea Shooter to Planet Cracker**: EDF's weapon selection is delightfully ridiculous. You'll yield everything from humble pistols and shotguns to rocket launchers, rail guns, and orbital lasers.
* **Vehicular Carnage:** Hop into tanks, jets, and helicopters to rain fire upon your enemies from above.

**Over-the-Top Action:**

* **Explosions:** EDF thrives on its over-the-top action. Buildings crumble, entire cityscapes erupt in fire, and your character can be flung through the air by enemy attacks. Don't expect realism, embrace the chaotic spectacle.
* **Co-op Chaos:** Team up with three friends for some truly unforgettable co-op mayhem (violent). The shared laughter and frantic coordination as you try to overcome impossible odds are what make EDF truly special.

**A Series Full of Options:**

* **Multiple Games, Multiple Threats:** With over 6 main entries and numerous spin-offs, the EDF series offers a diverse set of experiences. Each game features new enemy types, weapons, and mechanics, keeping the action fresh.
* **Different Flavors:** From the voxel-based charm of "Earth Defense Force: World Brothers" to the gritty sci-fi atmosphere of "Earth Defense Force 6," there's an EDF game for every taste.

**Advantages:**

* **Unparalleled Monster Mech (Mech** refers to a fictional giant robot or powered exoskeleton**):** EDF's enemy variety is unmatched. From skyscraper-sized ants to laser-blasting alien lizards, each fight feels fresh and exhilarating. Prepare for giant spiders, burrowing worms, flying saucers, and much more!
* **Weaponized Playground:** EDF's weapon arsenal is a mad scientist's dream. From humble shotguns to orbital lasers and mech suits, you'll have a blast experimenting with different tools to obliterate your enemies.
* **Co-op Carnage:** Team up with three friends for chaotic co-op fun. Coordinating strategies, reviving fallen comrades, and witnessing the shared devastation in an experience unlike any other.
* **Pick Your Poison:** With multiple entries and spin-offs, the EDF series offers diverse experiences. "Earth Defense Force: World Brothers" boasts charming voxel graphics, while "Earth Defense Force 6" delivers a unpleasant sci-fi atmosphere.

**Drawbacks:**

* **Repetitive Rampage:** While the enemy variety is impressive, the core gameplay loop can become repetitive after a while. Defeating waves of giant monsters, even with different weapons, might lose its initial appeal for some players.
* **B-Movie Bonanza:** EDF wears its campy, B-movie humor proudly. If you're not a fan of cheesy dialogue and over-the-top scenarios, you might find it grating.
* **Technical Quirks**: The series is known for its junky physics, occasional frame rate drops, and sometimes awkward controls, while not game-breaking, these technical quirks can be frustrating at times.

**Problems:**

* **Accessibility Barrier:** The steep difficulty curve and lack of tutorials can be daunting for newcomers. EDF throws you into the action without much hand-holding, which might discourage some players.
* **Story Takes a Backseat:** The narrative in EDF is mostly an afterthought. The focus is purely on the chaotic action, so don't expect a deep or engaging story.
* **Confusing Content:** Depending on the specific game, the lack of endgame content or replay ability value might leave you wanting more after the initial campaign is over.

**Overall:**

EDF is a unique and undeniably fun experience for those who embrace its over-the-top action, B-movie charm, and monster mayhem. However, its repetitive gameplay, technical quirks, and lack of narrative depth might not appeal to everyone. If you're looking for a serious, polished shooter, EDF might not be your cup of tea. But if you crave chaotic co-op action with a side of cheese and bug splatters, EDF is definitely worth checking out.

**Operation-Bio Purge:**

Urban Exterminator: Step into the shoes of a professional pest control technician navigating the gritty reality of city apartments, bustling restaurants, and even luxurious mansions, each with its own unique pest challenges and eccentric clientele.

Global Pest Control: Travel the world as a specialist exterminator tackling infestations in diverse environments - from the sweltering jungles of the Amazon to the icy tundra of the Arctic, each biome teeming with its own unique insect foes.

Scientific Exterminator: Take on the role of a researcher-turned-exterminator, utilizing cutting-edge technology and innovative traps to study and eradicate invasive species threatening ecosystems and human health.

Twist:

Insect Apocalypse: In a world overrun by giant, mutated insects, humanity's last hope lies with a ragtag group of Exterminators wielding outlandish weapons and battling for survival against bug-lords and their monstrous hordes.

Dream world Exterminator: Enter the surreal realm of dreams where nightmares manifest as monstrous insects. As a oneiric exterminator, you must navigate the ever-shifting landscape of the subconscious, solving puzzles and using dream-warping tools to vanquish these fantastical pests.

Mythical Exterminator: Face off against legendary creatures of folklore and mythology reimagined as colossal insects. From fire-breathing dragonflies to venomous spider-centaurs, each encounter demands unique strategies and legendary weaponry.

Target Audience: Is Exterminator aiming for a different audience than EDF? Perhaps it targets a more casual market with simpler controls and less intense action. Or maybe it focuses on educating players about real-world pest control, making it appealing to science and nature enthusiasts.

**Positive Impact:**

**Educational Value:**

Exterminator could raise awareness about responsible pest control practices and the importance of protecting ecosystems. Educational elements could be subtly woven into the gameplay or story, making it both entertaining and informative.

**Co-op Fun:** Teaming up with friends to tackle infestations could foster teamwork and communication, making Exterminator a fun and social experience.

**Detail Feasibility Report:**

Below is a detail feasibility report for Operation-Bio Purge.

**Technical Feasibility:**

The technical requirements required for this project are a system that can support the game engine which in this case will be Unity, Unity requires a subscription but I will be using the student plan, in which I can use all the features for free. Unity works with C# which is a similar language like C++. As a C++ Programmer I have a very good understanding of the concepts in C++ which I can easily apply to this scenario. The IDE the project will be coded with is Visual Studio Community which have a built in compiler with it.  
The design phase of the project will take a little longer because I will have to consult someone to deal with the design of the interfaces and design architecture of the system.

The system can be easily completed with the above mention tools and techniques. However the system will also be tested and development will be continued in small phases as to have the room for maximum improvements to interface, internal mechanisms and other features to make a very engaging.

The development will also requires advance features like complex AI or detail environment, which will requires additional learning resources.

The problems faced by implementing the system will requires an expertise in testing for which the system must be test be a person from out of the team, as the a solo developer I will have to manage the time and available resources with great efficiency in order to complete all the phases of the project. The testing and designing will require some extra time which can be solve either by hiring a person from out of the team or I will develop them myself but the last one will requires time.

The system will probably take months to be completed because it requires the process of learning along with development of the system. The team will try to adjust everything accordingly in order to achieve the development of the system in the limited time available.

**Economic Feasibility:**

The resources required to learn the basic interaction with Unity environment will requires the team to have some skills in becoming familiar with the environment. The team will purchase some courses from Udemy in order to achieve their objective in faster and efficient way.  
The team will use assets which are probably free or low cost but once the testing is done the team will invest in the purchasing of assets but if there was sufficient time most of the assets will be developed for the system by the team which at some stage of development will include a designers and testers.

As development is completed the team will be testing and finding bugs in the system before publishing it online, once everything is good it will be uploaded at some platforms like steam and mobile app stores with a revenue model like paid download and in-app purchases. The game market is very competitive; it would require some time to adjust itself to stakeholders out there. The team will also keep a backup plan to have budget for the marketing of the system. If the system requires some developers to be hired for some parts of the project, the team will make sure there is enough budget to get the best developers out there.

**Social Feasibility:**

The most important of the social feasibility is the ethical considerations in the game, as discussed before the game aims to highlight a point to the nation which is responsibility; Responsibility is one of the important aspect of the humans. The game shows a story that the pests are born because of the humans irresponsibility’s toward the environment like climate changes and pollution. The all forms of pollutions can effect indirectly humans in the last. This will provide a message to the nation to be aware and be awake to take action now instead of ignoring it.

The system will be designed in such a way that no culture, race, age or gender is targeted. The player will be able to experience a very friendly environment in which they will no idea of the they being discriminated in anyway instead the team will design strategies in order to remove anything that will contribute to discrimination of that particular group. Instead the game target audience globally.

The development of the game will be and educational asset for other students, developers and anyone who wants to start with game development but requires a clear road map for them. All the resources, documentation and any assets that are required for redesigning of the game will be available to the everyone from around the globe.

The last point is basically highlighted to give the project and educational value.

Accessibility features will be given more diverse touch in order to make the game playable for people with different abilities like adjusting the difficulties level and color blind options along with subtitle options to be incorporated in to the game.