

A Lawmaker's Guide to the Galaxy

SUMMARY

by Luovicii

TL:DR

- The law system needs to assess all 6 elements of criminal responsibility. Paper tells why and how.
- Players must be able to state who is allowed to do what with their property. This requires a comprehensive and dedicated system of consent-registration. Part/org mechanics and contracts will not suffice for this. Paper tells what is needed and how to implement it.
- Legal self-defence must be implemented, the current solution is inferior. Paper tells why.
- CIG made some mistakes with the currently implemented crimes. Paper tells how to fix this.
- CIG should implement Tort Law for compensation for damages caused by other players. Paper tells why and how.
- The game needs rules to prevent double prosecution for the same crime. Paper provides solution.
- The game currently has conflicts in jurisdictions. These must be solved. Paper tells why and how and gives example.
- This game is complex. Players can kill by spacing passengers. An org that owns a Kraken privateer should be able to legally rent space to a vendor, who on its turn should be able to legally sell goods on behalf of another. A person should be able to hire a hauler to transfer his/her ballista to another planet, without the hauler being able to go legally 'play' with the ballista and fire all the missiles. To allow complex player interactions and prosecute criminals, the law system needs to be able to differ wrong from good. For doing so, it needs a comprehensive and holistic law system.

Introduction

In the Star Citizen persistent universe system, there are no extensive trials, no witnesses, no court hearings and no rules of evidence. There is no human judge, no jury. There are only lines of code that must determine whether a crime has been committed and if so, who caused that crime and what penalty will be imposed.

In the **Lawmaker's Guide to the Galaxy** I provide an analysis of the fundamentals of real life criminal law systems and discuss whether these fundamentals (along with their peculiarities) are also applicable to the in-game law system of Star Citizen. I will address the possibilities and challenges concerning the implementation of a criminal law system in a computer game.

Who am I to do so? I am a criminal defence attorney in Amsterdam and in the past decade I've explored the very fundamentals of different criminal law systems along with the principles of international criminal and humanitarian law. I have been following the development of Star Citizen closely for several years and I hope I can provide some knowledge and experience that contribute to discussions on the subject matter.

This document is a **summary** of the Lawmaker's Guide to the Galaxy. The entire paper can be found [here](#).

Chapter 1: the purpose of criminal law

The prime goal of criminal law is to influence behaviour within a society. The threat of punishment is a proven means to prevent people to do certain things. This is not different in a computer game. With criminal law, the CIG lawmakers can balance gameplay and battle grieving.

Chapter 2: Elements of criminal liability

A crime comprises of several elements. There are 6 universal elements of a crime that are part of virtually any law system in human history. These can be considered as requirements for a criminal liability.

Harm

The first element is the requirement of harm. There is no crime if there is no harm. The CIG lawmakers can decide which harm will be criminally prosecuted. Not all harm has to be criminalized, peer-pressure mechanics like a contract rating system are also effective in influencing player behaviour.

Victim

The second element is the requirement of a victim. Legally, there is no such thing as a victimless crime. Victims can be anything, a player, an animal, the society as a whole or a governmental entity like 'the emperor'. It is important to know who the victim of a crime is, because only the legal victim can [waive prosecution](#) or can [consent](#) with the behaviour.

(Human) behaviour

Harm caused by wild animals, bacteria or earthquakes will not result in prosecution of the animal, bacterium or tectonic plates. In real life, criminal law is only directed at human behaviour. In Star Citizen, the criminal law system could also be aimed at one or more alien species (some current laws are directed at 'beings').

Pets and NPCs can also be used to commit crimes. The law system needs to be able to detect that players can act through their pets or NPCs under their control.

Causation

The fourth element is causation. A person can only be prosecuted for harm that he/she caused. Determining causation for simple actions (like shooting another player) is not difficult and is done reliably by many modern FPS games. Determining who caused the harm however isn't always that easy. Especially for chain collisions and murders with use of the environment (like spacing¹ passengers, pushing people off a cliff or 'murder by mining'), some advanced causation-detection is required. The paper discusses several options for tackling the automated determination of causation.

Mens Rea

The fifth requirement of criminal liability is *mens rea* (guilty mind). *Mens rea* is a state of mind. It is about the thoughts of a suspect that precede a crime. The thoughts of a suspect are elemental to criminal liability because causing harm is commonly only considered to be a criminal offence when it is committed with *intent* or *recklessly*. Crimes without intent or recklessness are generally considered to be accidents and are not prosecuted by criminal law (however tort law may apply for compensating damages). *Mens rea* distinguishes between an honest mistake while repairing a vehicle and intentional sabotage. *Mens rea* differentiates the crime of operating a stolen vehicle from a person who naively tries out his friend's 'new ship'. *Mens rea* distinguishes an honest mining accident from deliberately killing someone by blowing up a rock.

A system that cannot properly make that differentiation risks being exploited by its players.

Determining intent is one of the hardest challenges for any law system. This is not different for a computer game. Like real life, a law system cannot (or should not) detect what someone actually thinks. It must make its determination of the suspect's intent on basis of external factors. Luckily, in most cases intent can be assumed on basis of the *behaviour* of a suspect. Shooting a lethal projectile in the direction of someone's head is likely to be meant to kill. Intention on killing can then be assumed. With assumed player-intent, the law system doesn't need to prove the unprovable and only needs to address some common exceptions in which it is not fair to assume intent.

Determining recklessness is less challenging than determining intent since recklessness can be *objectively* determined on basis of player behaviour. A law system could for example dictate that flying 1000 m/s near a space port is considered to be reckless, and subsequently any subsequent damage done can be qualified as 'recklessly operating a vehicle resulting in damage'.

If repairing and healthcare mechanics will be as risk-reward based as mining, there is a chance that repairing a vehicle (or human) can cause damage, which can be exploited by players. A law that

prohibits reckless mining, reckless repairing or reckless healthcare could add to interesting gameplay mechanics and can prevent grieving. Of course, the reputation system is of good use for this matter.

Unlawfulness

Intentionally or recklessly causing harm to a victim is not always a criminal offence. A person acting in self-defence can for example intentionally harm a person without committing a crime. The requirement of unlawfulness acts as a last filter to distinguish crimes for legal behaviour. Justifications like self-defence can ensure that a crime is not unlawful and will thus lead to an acquittal of the suspect.

Chapter 3 – Exceptions to criminal responsibility

Justifications

Justifications take away the unlawfulness of a crime. The most well-known justifications of a crime are:

- self-defence
- consent
- provided authority

Self-defence

Currently the game does not have rule of self-defence. The game simply distinguishes between outlaws from the rest of the players. An outlaw is marked with a red nametag and can be killed on sight. Since attacking somebody immediately marks the attacker as an outlaw, any person can legally harm the attacker. In that way, the system of outlawing works as a primitive justification of self-defence. This system is however very binary and does not leave much room for the nuances that the doctrine of self-defence requires. Star Citizen will – in my opinion – need a much more refined system. A player should be able to defend him/herself against an attack, without the need for that attacker to be entirely outlawed. Also, the right to self-defence is legally not aimed at the attacker but justifies the use of violence *by a defender*. This is an important difference with plenty consequences for gameplay.

Consent

Consent is one of the most important doctrines of law and the everyday life of large parts of society depend on it. Consent changes a crime into something ordinary. Taking another player's spaceship for example is a crime (theft of vehicle) but consent of the owner justifies the act. Tinkering with someone else's property is prohibited by criminal law, but it would be pretty handy if a ship owner can allow a repair mechanic to remove a broken ship component and replace it with another. Consent provides the legal justification for several gameplay mechanics like: cargo hauling, repair and salvage, medical gameplay, sports events like boxing and derbies and a virtually unlimited amount of player to player services starting from simple valet services to the transport of an entire fleet of vehicles on behalf of another player or org. A system of consent is also needed for everyday player-interactions like entering private buildings, ship access and item sharing.

I want to emphasize that consent – in my opinion – is an *independent* legal mechanic. Sure, party and org mechanics can register *some* forms of player consent (like the current party mechanic which assumes that all party members provided consent to each other for accessing an operating each other's ships), but these mechanics will not be able to cover the entire need of consent. Contracts between players can also register some forms of consent (a contract for the reparation of a vehicle can register consent for repairing that vehicle) but that will also not do the trick.

If one would draw a map of all consent that has been granted and received in real life, a complex map will show the complexity of the legal interactions. Fortunately for real life, just a fraction of the consent is registered in writing or in a database. Most consent is given orally or even implicitly. When a person rings a doorbell, the homeowner can implicitly provide consent to enter the building by opening the door and standing in such a way that the visitor knows he is allowed to enter the property. This is different for an automated law system. It will logically prosecute anyone who enters a building without consent, and it is not aware of any communications between property owner and trespasser. Therefore, the law system must be made aware of the provided consent: it must be registered in some way. And again: party/org mechanics and contracts will not be sufficient.

If the developers want to enable complex and interesting player interactions, they thus need to implement a system in which players can register consent outside of party/org mechanics and contracts. Such a system can of course be *coupled* with the org system and the contract manager for ease of use, but these mechanics do not negate the need for an independent system for registering consent.

A holistic implementation of player consent will open the doors for an unlimited amount of player interactions. This would for example allow an org to rent out a shop in its Kraken Privateer to a retailer, which retailer on his/her turn sells goods on behalf of yet another player. Players will undoubtedly think of very interesting and immersive services which they can only legally offer when they're enabled to precisely register consent.

Consent has some inherent conditions and requirements which could be taken into account in developing a system of consent. Consent for example can only be given by a capable entity (I cannot provide consent to a stranger for entering my neighbour's house). Consent must be given to an entity, which can be anything: a player, a group of players, an org, all UEE citizens or everyone. Consent must be able to be given temporary (a player must be able to state that player B can use his/her Constellation Andromeda for X days, or until revoked, or any other temporal restriction). Consent could also be limited locally like a boxing ring, or 'only in UEE space' (which is kind off needed if you do not want to allow a person to fly your ship to Vanduul space). The paper extensively addresses the need and options for a mechanic of player consent. This would require some serious thought of (future) gameplay mechanics and will have serious UI challenges.

Provided authority

The justification of provided authority takes away unlawfulness of a crime by a grant from the authorized representatives. This could be a grant to use force for police officers or a grant from the authorities to arrest, detain or kill a person who has a bounty on his/her head. It basically allows players to act on behalf of the law.

Excuses

Where justifications negate or disprove unlawfulness, excuses negate *mens rea*. Common excuses for crimes that (to some extent) take away the *mens rea* of a crime are: insanity, infancy and duress. Neither of these are of particular interest for Star Citizen law.

Ne bis in idem

The last exception of criminal liability is the prohibition of *ne bis in idem*. This basically is a legal prohibition to prosecute a person twice for the same crime. This seems easy at first sight but if one takes a closer look at what 'similar crimes' actually are, some common legal problems appear. Could a person who traffics drugs be prosecuted for the crime of possession of drugs and the crime of trafficking of drugs? The legal answer is "no". According to the rule of law a person will be convicted for either drug trafficking or possession, not both. This can lead to some challenges for an automated law system. Take the killing of a player by gunfire as example. This criminal act can be prosecuted by murder in 1st degree, murder in 2nd degree, aggravated assault, battery 1st degree (a killed victim is also rendered unconscious), battery, destruction of property (if the suspect also damages the victim's armour), brandishing a lethal weapon, disturbing public order, etc. The prohibition of *ne bis in idem* only prohibits double prosecution for the same crime. So, you could legally prosecute a murderer for both murder and brandishing a deadly weapon, but you could not prosecute the murderer for both murder 1st degree and battery. To decide what crimes are to be considered as 'similar', courts often assess what the aimed protection of a crime is. In practice, many legal systems have matrices which show what crimes are deemed similar. The Star Citizen law system could be thought to know which crimes are similar and to prosecute for the greaves of the similar crimes (and for example raise the penalty by 1/3rd for each additional crime that cannot be prosecuted for).

Chapter 4 – Extensions to criminal responsibility

The previous chapter discussed the exceptions to criminal liability. In contrary, there are also extensions to criminal liability which cause a person to be guilty even though not all elements of criminal responsibility are met. These are the extensions to criminal liability:

If there is no harm, behaviour can still be criminal due to the doctrine of **attempted crime**.

If there is no human behaviour, the mind of a suspect can still be guilty due to **conspiracy to a crime**

If there is no direct causation, behaviour can still be criminal due to **complicity and co-perpetration**

If there is no mens rea, behaviour can still be criminal due to **limited liability crimes**

There is no extension for crimes that are not unlawful.

There's no extension for crimes that have no victim.

Attempted crime

With attempted crime a person can be convicted for a crime whilst the harm of the crime did not occur. Missing a target whilst the suspect *wanted* to hit the target can be considered as an attempted assault or murder.

Proving attempted crime is hard, especially for an automated law system. How does an automated system determine when somebody *nearly* gets killed? If attempted crime will be globally

implemented, the law system would need to be able to distinguish between a) missing the victim whilst the intention was to hit the victim, and b) missing deliberately (for example shooting alongside a person). Frankly, in a battle where bullets fly everywhere, I do not see a clear and concise way to automatically determine who tried to harm whom. There are however some types of attempted crime that are easily provable by an automated law system. If someone aims at a target, pulls the trigger but the guns misfires, the law system could easily determine that an attempted crime has been committed. The question is however if implementing these crimes is worthwhile. I can see some implementations of attempted crimes to add value to gameplay, but for most crimes I believe that CIG can stick to only prosecuting the completed crimes.

Even though proving attempt of a player can be very hard (and in some cases impossible), the Star Citizen persistent universe has already implemented some attempted crimes (evading arrest and resisting arrest). These crimes are – maybe for Lore reasons – written as an attempted crime whilst they in fact address a completed crime. An *attempt* to resist arrest is – for example – *trying* to brandish a weapon to harm the arresting officer. Actually, harming that officer is not an attempt but a completed crime. The suspect resisted the arrest regardless of the question if the resisting resulted in an escape. My advice is to reformulate these crimes to full crimes in stead of attempted crimes.

Conspiracy to a crime

I do not see reasons to implement this in the Star Citizen law system.

Complicity and co-perpetration

The domain of complicity and cooperation is one that practically requires its own paper to be discussed properly. It brings forth several legal questions and some difficult challenges for an automated law system. It is also a topic that simply cannot be ignored in a game with multi-crewed ships like Star Citizen. Imagine a hammerhead being operated by a pilot, an engineer and 4 turret operators. It would be easily exploitable if only the turret operator is legally responsible for a crime the entire crew worked together for. On the other hand, it would also be unfair if the entire crew is criminally responsible if one turret operator suddenly and independently decides to illegally shoot someone.

If the implementation of co-perpetration will be left out entirely, the amount of possible exploits could be game-breaking.

On the other hand, a system that is too blunt and will probably be considered to be unfair.

The paper identifies and provides solutions for several problems regarding co-perpetration.

Limited liability crimes

Limited liability crimes ignore the burden of prove for *mens rea* of a crime for practical reasons. In some countries, the lawmakers decided for example not to burden courts with the need to determine the intent of the suspect for speeding or driving a red light. A person will simply receive a fine, regardless of the *mens rea* of the suspect. This is something deemed acceptable for minor crimes.

Chapter 5 – compensating flaws

All legal systems are inherently flawed. To combat these flaws, law systems use an array of compensational mechanics. Some of these compensational mechanics can also be implemented in Star Citizen. In my paper I have proposed a system in which victims could opt-in or opt-out for prosecution of the player that harmed them. I'm happy to see that such mechanics were implemented in the last version of the persistent universe.

Another mechanic of compensation could be a (very limited) option for convicts to appeal to a decision of law system. This could add valuable information for debugging and balancing/improving the law system.

Chapter 6 – Private law

Private law is a branch of law that has several sub-branches like property law, contract law and tort law. Criminal law and private law are interdependent. Property law dictates what belongs to whom, and the crime of theft cannot be proven without an assessment of property law.

In a complex game like Star Citizen, property law will be the backbone of the entire law system, including criminal law. Tort law, (another sub-branch of private law) can also provide value added gameplay and means of balancing lawful versus unlawful gameplay.

Property law

The centre of property law are objects that are capable of being owned by *entities*. Entities can be anything like players, parties or orgs. Entities can have several rights concerning objects.

Ownership is factually a set of several individual rights regarding an object, including the right to sell or gift the object, the right to alter or destroy the object, the right to possess the object, the right to grant or revoke rights of possession to others, the right to repossess the object, etc.

Possession is another set of rights that an entity can have regarding an object. which rights are included in this set differs between legal systems but commonly comprise of the following rights: the right to use the property, the right to control the property and the right to maintain and repair the property. Ownership and possession together combine practically all rights one could exercise regarding an object. Owners are commonly also possessors, but an owner can (temporary) transfer possession rights to another entity (whilst rights of ownership remain). If I lend out a book to a friend, I temporary grant *possession* rights to this friend, whilst keeping my *ownership* rights. This will legally enable my friend to read the book, take it with him and – for example - clean it whilst I maintain ownership and thus my rights to retake possession. But it's not just about borrowing stuff. A wholistic set of property rights enables players to travel property for another. It enables the legal backbone of specialized roles. This mechanic is needed to legally allow a miner to hire a stranger to travels *his/her* mined ore to a refining station. It allows me to hire an org to transfer *my* ballista to a set location. It allows a Privateer owner to rent out a shop to a shop-owner, who on his/her turn sells property on behalf of another. A proper backbone of property law will allow for interesting, immersive and complex inter-player relations.

For practical reasons, there are several additional sets of rights than can be transferred between entities. Some European countries for example have a ruleset that is best translated as "holding" or

"holdership" which set is primarily aimed at professional relationships and services. A garage shop for example receives rights of holdership for the duration of the repair of the car. The garage shop representatives can then open and enter the car, use it to drive from and to a parking lot, tinker with the car, remove and add components, but they cannot use the car to go on a holiday. The set of holdership transfers just those rights that a professional needs for a proper execution of the job. It allows a mechanic to operate the owner's ship but does not allow the mechanic to fire the ship's expensive torpedoes. It allows for *some* usage of gas (or hydrogen fuel) but does not allow the mechanic to use the owner's vehicle for a couple of cargo runs.

I would recommend the Star Citizen developers to investigate the usage of sets of individual rights that are aimed at the most common inter-player transfer of property-rights. These sets ensure that players, with the press of a button (or implicitly in contracts) can transfer a full list of rights, and just those rights that are necessary. This prevents misuse or exploits of temporary access to property. Of course, reputational mechanics will also prevent misuse and grieving, but I believe that a good system needs both. Clear and pre-determined sets of rights ensure a global understanding of who is allowed to do what and an easy transfer of those rights. It prevents discussions and prevents players to have in depth knowledge of several property rights.

Tort law

Another aspect of private law that is worth investigating is Tort law. This sub-branch of law enables the compensation for damages and is closely tied to criminal law. If I severely damage another player's 890jump I could be fined or imprisoned by the UEE, but that doesn't compensate the victim for the damage he/she received. Implementing some rules of tort law will probably not be the most challenging (in fact, it could be as easy as adding a few lines of code next to criminal law) and could add value to gameplay.

Chapter 7 – Crime detection by an all-knowing server

The Star Citizen servers know everything a player does. So theoretically the law system would instantly convict a player for committing a crime. To allow for sneaking and smuggling mechanics, the law system should be 'dumbed down'. This will also prevent a lot of instances of violation of the legal prohibition of *ne bis in idem*. The developers seem to be aware of this and they already have disclosed detailed information on future crime detection. The set directions seems very interesting and I don't have any comments or remarks to that matter.

Chapter 8 – Jurisdiction

Territorial jurisdiction

Territorial jurisdiction in a 3d interplanetary environment is *spherical*. There is a legal sphere around an object like a planet that dictates which law is applicable. The paper addresses some other options, but spherical jurisdictions (as they currently are) seems the way to go.

Similar to current IRL international nautical borders, I advise to end territorial jurisdictions in *phases*. If jurisdictions would not have phased endings, players could easily kite in and out of jurisdictions to exploit the law system (timers could also work but offer fewer interesting opportunities). Also, phased spherical jurisdictions could add interesting gameplay mechanics. Far out regions like

Lagrange points could have different rulesets than low planetary orbits. It allows the Star Citizen lawmakers to tweak and balance lawful and unlawful gameplay and phased territorial jurisdictions would add to realism and immersion.

As soon as planets (and thus jurisdictions) start to orbit their sun, some legal challenges may rise. A player that logs out in uncontrolled space could later wake up in Microtech jurisdictions. The orbital mechanics of territorial jurisdictions require some thought, but I do not expect major problems to occur.

Personal jurisdiction

Territorial jurisdiction dictates which laws are applicable in what part of space. Next to this principle, there is personal jurisdiction that dictates that some laws are applicable to subjects of the law regardless of their whereabouts. Implementing personal jurisdiction allows the UEE to prosecute a player for a crime that he/she committed outside of UEE territory. Please note that IRL personal jurisdiction only dictates the *applicability* of specific laws but it still does not allow the enforcement of those rules outside of the authorities' territory (extraterritorial enforcement). To translate that principle to Star Citizen: a citizen who murdered another citizen in the Pyro system commits a crime according to UEE law, but that player cannot be arrested by the UEE as long as he/she doesn't return to UEE space. Personal jurisdiction is commonly only applied to some of the most grievous of crimes.

There are two ways of applying personal jurisdiction. *Active* personal jurisdiction applies laws to *subjects* that commit crimes outside of the authorities' territory. *Passive* personal jurisdiction applies laws to crimes committed by *anyone* (potentially including alien species) committed *against* its subjects. There are plentiful of intersystem crimes that require the lawmakers to make jurisdictional choices. To name a few: Does the UEE apply its laws to a Sand nomad, who is a subject of Leir II who committed a crime in Microtech? Is that Sand nomad also bound to UEE law when he kills another Sand Nomad in intersystem space? Will a player be prosecuted for killing a Tevarin in Area 18? Will a player be prosecuted for killing a Banu in Vanduul space? These are of course questions that are more tied to lore than actual foreseeable gameplay, but they are interesting nonetheless.

Conflicts and hierarchy in jurisdiction

Different jurisdictions can (and will) overlap. This will cause legal conflicts. A player could easily be bound by at least 3 different law systems simultaneously. A player on Daymar could for example be bound by UEE law, Stanton law, Crusader law and possibly local Daymar law. Conflicts between hierarchical jurisdiction are quite common in the real world and these conflicts will occur in the persistent universe as well. In fact, the crime of battery is currently both criminalized in UEE *and* Microtech law. As soon as a player beats up another player on Microtech, a legal conflict rises between UEE and Microtech law. This is a conflict that legally *must* be solved due to the prohibition of *ne bis in idem* (a person cannot be prosecuted by both systems for the same crime). In my paper I provide extensive thoughts on how to prevent and solve conflicts in hierarchy. I also discuss how authorities on different hierarchical levels commonly distribute power amongst each other, and what rules are set for solving conflicts. As a closing to the paper, I have written an example of a UEE charter, based on the current real life United Nations charter (and some other treaties) to show how powers could be distributed amongst the different jurisdictions in the persistent universe.