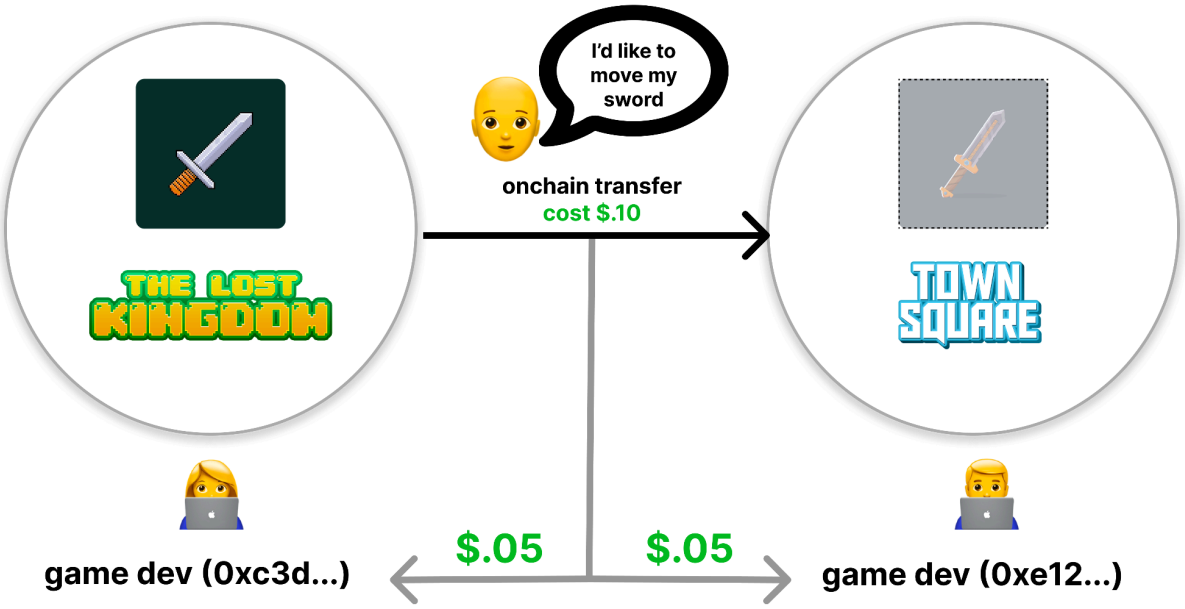
Nomad Multiverse: Cooperative Game Development

Dan Nolan
www.nomadmultiverse.com

TLDR;
What if all game developers cooperated in a way that made every game feel connected? Blockchains can help game developers coordinate around a shared state by providing the necessary technology and introducing incentives to do so. With the right incentives, an experience can feel connected across games and even platforms. One thing we need to be careful about is the over-financialization of games, which can ruin the game experience. This will have to be properly governed and incentivized. This paper lays out how that might work.

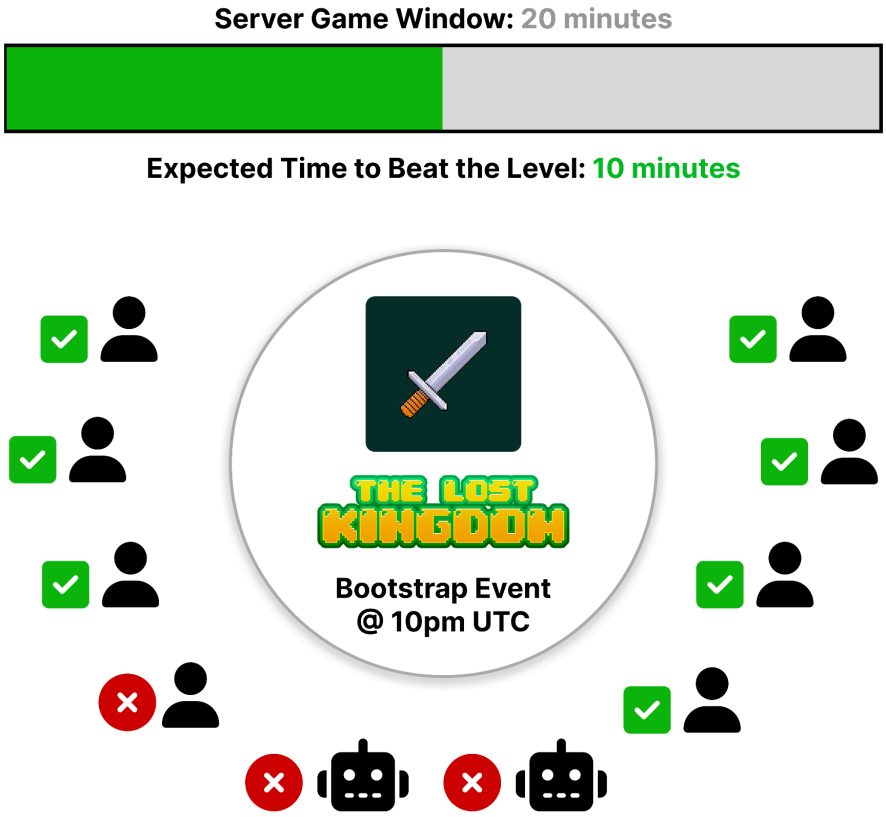
Incentive Alignment
Many people in the web3 space have lauded the use cases of NFTs, one of the more commonly cited use cases is that they can be “used across games”. But we haven’t really seen this much yet. Why? I believe it's just because the proper incentives haven’t been introduced, and blockchains excel at incentivization.



Let’s imagine a system of smart contracts that track an item’s location across many different games. Whenever a user wants to transfer the item, they pay a fee to the game developers of both games. This provides the incentive for game developers to cooperate over some shared state. If an item from one game is implemented in another game, it gives players the opportunity to have continuity across game experiences. This shared data could be anything: weapons, skins, stats, unlockable characters, etc… It’s not easy for game developers to cooperate in this way and still develop a smooth game experience. That's what the incentive is for.

Proof of Personhood

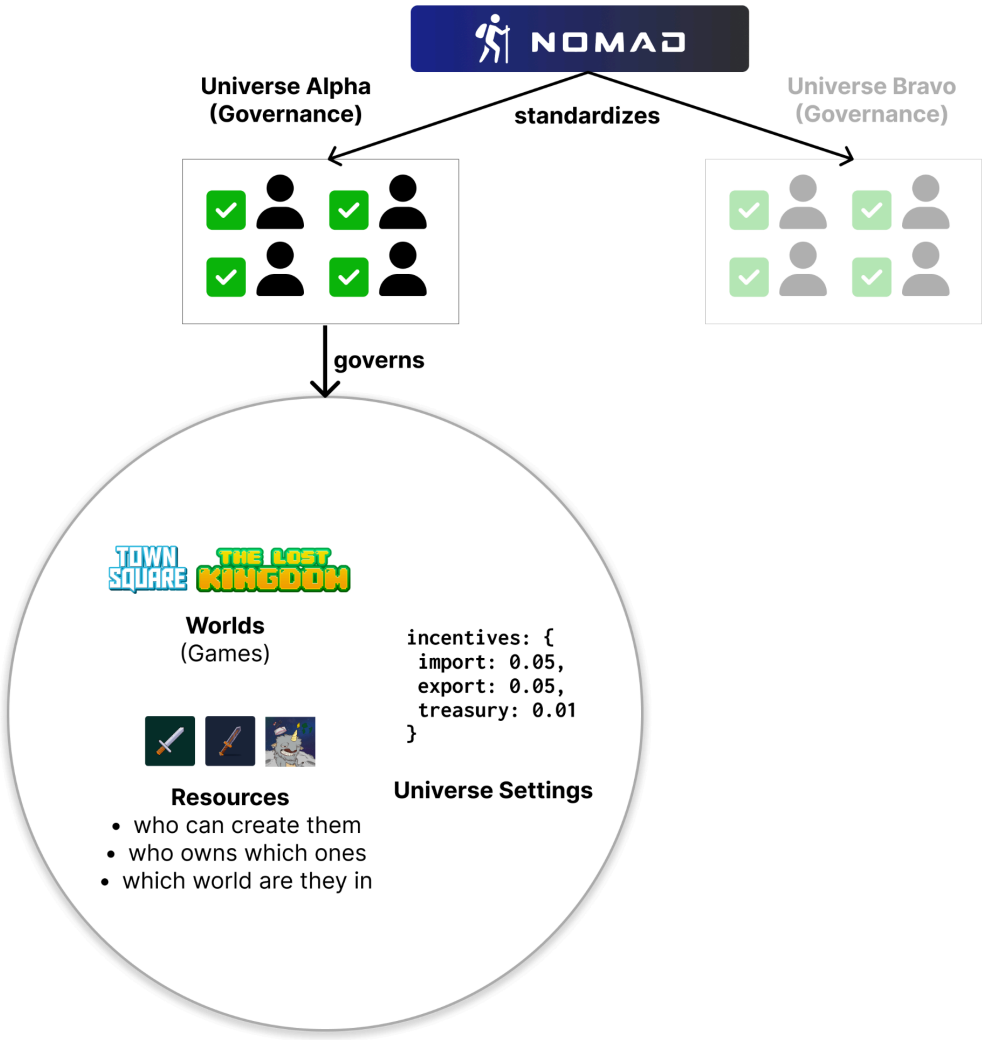
Another thing that blockchains have proven themselves to be quite good at is governing onchain resources. The Governor standard is widely used across EVM ecosystems to vote in token-weighted governance systems. One thing I don't want to see for shared game universes is token-weighted voting. The power ends up concentrated in the hands of the wealthy. Ideally, we could do something more democratic, like a Proof of Personhood. Fortunately, games provide an interesting opportunity to determine a real person. So, let's talk about a novel Proof of Personhood system, a sort of game CAPTCHA, dare I say a Proof of Player?



A synchronous game window is determined, let's say 10 pm UTC, when all players must log on to play a game that will take 10 minutes to beat. There's a 20 minute window so players can be a little late, but no player should be able to beat it twice. The game is new, no player has seen it before, and the client-server architecture is set up in a way that the game must be played to win (no cheating!). Since the game is new, it would not be feasible to create a bot. If the game is any bit difficult, a player would not be able to play on multiple windows open at the same time. Any player that beats the level gets a governance token to manage resource creation. This would be a way to bootstrap a governance system for the games ensuring one player, one vote.

Multiverse Governance

If items are to have any real world value, then we can't just allow anyone to create the items. Otherwise, very quickly there will be no scarcity and the value of all items will go to zero. So, we need a governance system to manage a set of games. For Nomad, I'd like to call each governance a "Universe" managing a set of games "Worlds", the settings of that universe, and the resources that can be created by the worlds.



Ideally, there will be a lot of universe experiments. It will take some time to get the incentives correct, and for some universes different settings will make more sense than for others. I expect that, if this were successful, there may be a personality to each active universe. When a resource is to be introduced and distributed, a proposal must be created through the governance system of the universe. If these items are expected to have real world value, they will need to be distributed in some fair way. The bootstrapping event for governance may also be a good mechanism for item distribution. Beyond that it will be interesting to see if games can create ongoing cheat proof distributions that don't destroy the value of a resource.

Real World Trading

A common belief among players of popular, old-school MMORPGs like Runescape and WoW is that real-world trading ruins games. Just google “Runescape Real World Trading” or the same for WoW. Diablo, in particular, had a particularly rough time with its Auction House that allowed purchasing with real currency. There are some long discussions, especially on Reddit, about the issues that have arisen. If you’ve played these games you may already understand what the issues are and why financialization of game assets causes them. However, Real World Trading isn’t the issue, it is a feature that creates new behaviors that need to be addressed and managed. Those behaviors are scamming, botting, and pay-to-win.

For scamming, that’s something that you’re going to see any time something is financialized. This is especially apparent when that financialization is connected to the internet. Both MMOs and crypto have seen this a ton. Fortunately, many crypto teams are diligently working on this issue, making it a constant battle across the industry. No single game developer needs to be focused on it with their limited resources since the industry as a whole figures out security best practices.

For botting, the main issue is when it comes down to resource creation. When a player gains an unfair advantage of a bot doing all of their tasks, they can earn rewards easily that other players have worked hard for. In this way botting will always be an issue, however, a novel Proof of Personhood mechanism can help mitigate this significantly. As a game, if you know that every logged in player represents a unique person, then banning becomes a much more powerful action. If you can, beyond a doubt, see that a person is botting and ruining the game experience for others, you can temporarily or permanently ban someone from your game, knowing they won’t just pop up with another account. This also creates the reverse incentive for players to not cheat.

For pay to win, this undermines the competitive fairness and intrinsic enjoyment of a game by allowing players to gain advantages by paying money rather than skill or effort. This is a tightrope to walk, but largely a game experience issue. Part of what makes being a game developer in a system like Nomad challenging is that you need to think about how allowing players to transfer items will affect the game experience. Luckily there are loads of examples of how this is managed, especially in MMOs where trading is allowed. In WoW, for example, you cannot equip items until you’ve reached a certain level. This balance will be largely dependent upon the game developer and communities to maintain. The more resources a game integrates with in a Nomad universe, the harder it will be for them to maintain this balance. Of course, they will also be paid for their efforts through the transfer incentives.

Multiplayer vs Single Player Ownership

It’s important to note that Nomad’s resources don’t need real-world value to make the system enjoyable and engaging. In a particular universe, if the items were things that you acquire purely for your account, and not something to be traded, then you can think of this as more of a “single player” universe. Runescape has this with a mode called “Ironman Mode” where players cannot

trade their items. You can still see other players, but it feels more isolated because of the lack of trading.

It could be interesting to focus on single player mode especially for universes that want to create shared RPGs. This way you can transfer stats and items across the games and focus purely on the single player mode. In this way, you don't have to worry about being cheat proof across the board. It makes it easier to do distributions of shared data, and game developers can focus solely on the game experience itself. A universe like this still needs governance if players are paying to move items, otherwise the incentive is to always create more items.

Onchain vs Offchain

One thing you might notice about the games described is that I did not mention where the game logic should be stored: onchain vs offchain. This is a pretty deep discussion with many tradeoffs, and ideally all of these tradeoffs can be fully explored by game developers and communities as these experiments proliferate.

Having a game be fully onchain is advantageous in the sense that the game can easily be verifiable and there is no need to trust a developer to host a server and distribute items fairly. It is also advantageous in that the game can be made to be infinitely forkable and moddable. Since it's onchain, the rules can be written in a way that we can all build on top of them.

On the other hand, it will be easier to keep most game logic offchain and have resources stored onchain where their location and distribution is governed transparently. This is the route I would expect most games to go. In this way, it should be recognized that the game is something that we're trusting the developer to host and any resource creation is something we're trusting the developer to implement fairly. This is a big responsibility, which is why the democratic governance is so important. If a community feels as though a game cannot be trusted to fairly distribute items they can make their voice heard through the governance system.