

From Single-Player Games to Metaverse: A Futuristic Analysis of Challenging Legal Issues of the Video Game Industry in China

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Booming video game industry

- Some facts:
- the number of gamers of video games in China has reached **666 million** in 2020, and China's gaming market raked in 296.5 billion yuan (about 46.6 billion U.S. dollars) in actual sales revenue in 2021, according to 2021 China Gaming Industry Report released by the Game Publishing Committee of the China Audio-Video and Digital Publishing Association.
- China alone has accounted for more than one-fifth of the number of global gamers (3 billion people) and one-fourth of the global consumer spending in 2021 (\$175.8 billion), according to the 2021 Global Games Market Report published by Newzoo.
- The video game market in China is a pillar industry as its total actual sales revenue in 2021 accounts for one-eighth of the revenue of the whole Chinese entertainment and media industry in 2021 (\$358.6 billion), ranging from cinema, music and radio to traditional TV and home video, according to the estimation of PwC.

Legal issues

- The typical legal issues that have triggered lawsuits in China nowadays include game modding, cloning, game cracking, legal determination of virtual objects, in-game creativity such as game webcasting and machinima.
- However, besides reasons such as economic incentives and the trend of greater segmentation of the market, many of these issues only became prominent after the digital content creation tools became accessible and affordable to gamers and the commercial model of the video game industry changed from an ownership model to a subscription and microtransaction model.
- It is the disruptive power of democratization of technology and the growing interchangeability and interoperability among systems and platforms that have caused and connected the abovementioned problems.
- However, the current trend in both court judgements and scholarship has been to focus merely on addressing specific problems through the lens of application of the current laws.

Property rights of game items?

- There is no such an issue until the Internet came and help games developed into a massive player model in which everyone is connected and items are exchangeable.
- As a result, gamers started to trade these virtual objects, even their user accounts. With the rapid development of internet-connected home consoles such as Xbox and PlayStation, mobile gaming and payment, the trade of virtual objects in games is now a gigantic market in China.



Property rights of game items?

- When gamers are capable of exchanging game items, legal problems related to theft and fraud popped up. The legal determination of these virtual objects, especially when the game developers decide to terminate the operation of the game, became crucial.
- The first Chinese case concerns the legal determination of game items was ruled in 2003.
 - 李宏晨诉北京北极冰科技发展有限公司娱乐服务合同纠纷，北京市朝阳区人民法院（2003）朝民初字第17848号；北京市第二中级人民法院（2004）二中民终字第02877号
- Article 127 of the Civil Code of China: Where there are laws particularly providing for the protection of data and online virtual assets, such provisions shall be followed.

The debate: is it a property right?

- Can it be a **property/real right**?
- it is possible to control and manage them exclusively, they have independent economic value, and they need certain space to exist (These characters also echo the common law definition of property as laid down in the *Ainsworth* case, which provides a property must be “definable, identifiable by third parties, capable in its nature of assumption by third parties, and have some degree of permanence or stability”.)
- Article 114 of the Civil Code provides that “Real rights are the rights to directly and exclusively control a specific thing by the right holder in accordance with law, which consists of the ownership, right to usufruct, and security interests in the property.”

The debate: is it a property right?

- Problem is obvious: the enjoyment of the game items is dependent on the cooperation of the game company.
- Some scholars thus suggest that the game company should be the owner of the virtual property and pointed to the contractual relationship between the gamer and the company.
- Behind the debate are the differences in remedies provided by the creditors' rights derived from the contract and a real right, as the former is considered a right in personam (对人权) and the latter is considered a right in rem (对物权) .

The futuristic approach

- The above discussion in China is meaningful with regard to traditional games such as MMORPG, in which game items are predesigned by the game developer and assigned to the gamers after certain conditions are met
- new genres of games such as sandbox games like Minecraft can provide gamers with the chance to create their own game items - items not predesigned by the game developer but created by gamers using the contents (building blocks such as pixels) provided by the game
- Compared with the game developer, the gamer who created the virtual items will be the most suitable owner of the property rights, if any.
- depending on the creative freedom provided by the game to the gamers, the virtual items created by the latter may qualify as independent and original literary, artistic or musical works
- the issue of game items is highly relying on the game design and the relationship between gamers and game developers protected by copyright.
- the issue of game items is highly relying on the game design and the relationship between gamers and game developers



Metaverse?

- At the dawn of the metaverse, it is foreseeable that games will be included as an important part as it develops. And the key is to build “an ecosystem of ‘interchange’ solutions that interconnect, translate, and exchange information/users/assets across and between myriad different and competing platforms.”
- the discussion of having virtual property over game items will then become meaningful: when gamers are capable of transferring game items from one platform to another, the need for property protections for gamers will naturally pop up.

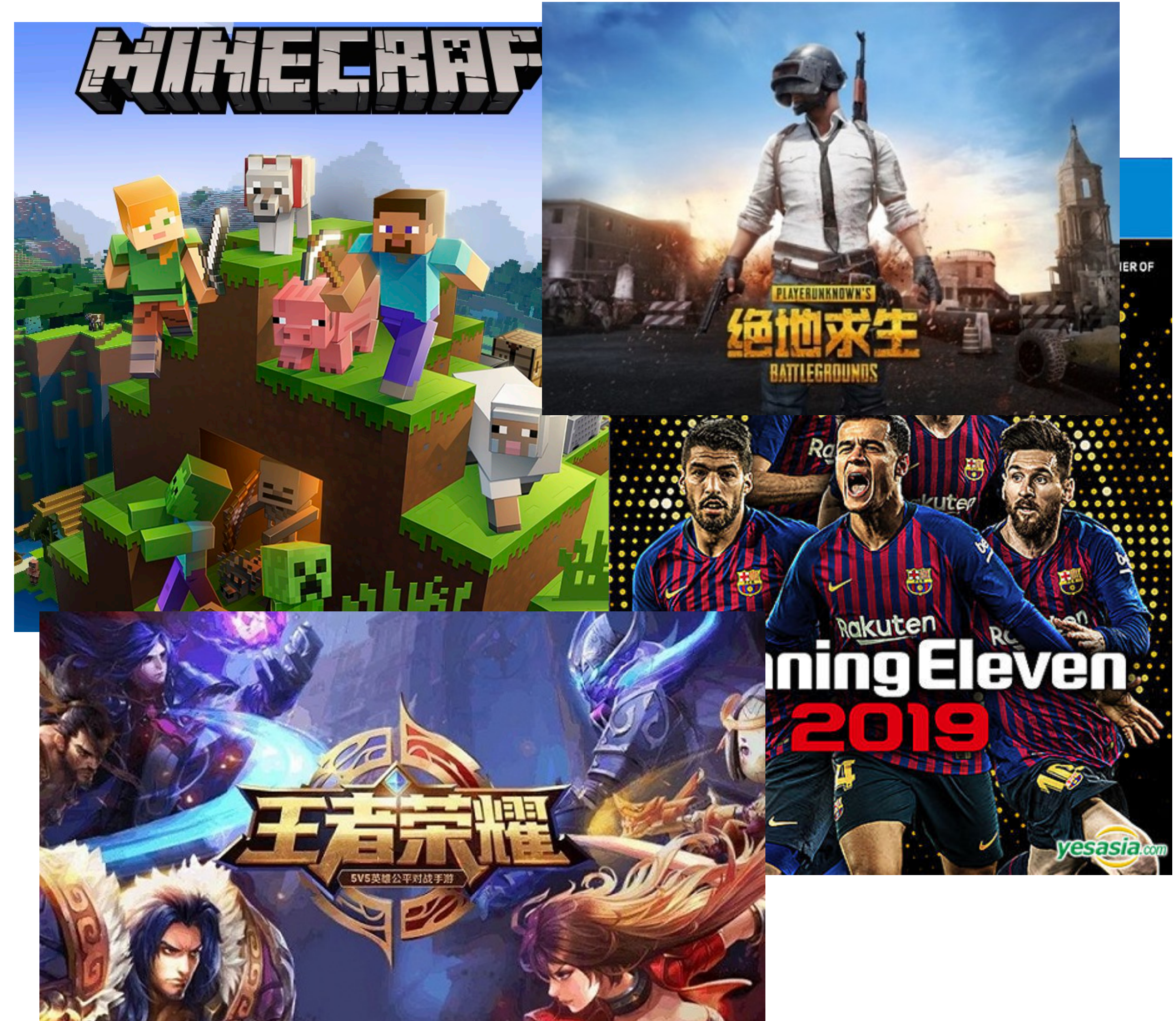


Copyright protection of video games?

- **2015 Douyu case** (上海耀宇文化传媒有限公司诉广州斗鱼网络科技有限公司, 上海市浦东新区人民法院 (2015) 浦民三(知)初字第191号; 上海知识产权法院 (2015) 沪知民终字第641号): "As the game competition is not predesigned, and the game screen displays is an objective and intuitive expression of the ongoing game competition, which is generated by a number of gamers from both sides in accordance with the game rules and through their respective operations, and the game process is random and irreproducible, and the game result is uncertain, the game screen display is not a work under the Copyright Law of China."
- **the NetEase case** (网易诉广州华多, 广州知识产权法院 (2015) 粤知法著民初字第16号; 广东省高级人民法院 (2018) 粤民终137号): "This creation process (of the game) integrates various means such as character, script, artwork, music, costume design and props, which is similar to the method of filming a movie. Therefore, the continuous images presented by the video game running on the terminal device can be considered as works created in a way similar to cinematography."
- the game screen display presented when the gamer played the game is a presentation of "the game materials coming from the game developer, and the result of the combination of these materials by the game program, therefore it is definitely a copyrighted work." (Cui 2016)

The core elements of games

- break down games into smaller fixed parts in order to grasp the core elements.
- All games consist of: game engine + game resource database
 - **Game engine/source code** = the combination of machine recognizable codes (art 3(8) of CLC, art 2 of Regulations on Computer Software Protection)
 - **Game resource database:** consists of various elements, such as audio, video, pictorial, and textual files.
- 暴雪娱乐有限公司诉上海游易网络科技有限公司案，上海市一中院（2014）沪一中民五（知）初字第23号。
- 腾讯诉4399，广东高院（2017）粤民终第763号。



The futuristic approach

- In the future, especially in a metaverse setting, it is expected that the importance of the contributions from the gamers to the game will be magnified.
- it is still certain that for most video games today, the specific combination of the copyright contents pulling from the game resource database, generated according to the gamer's instruction, is definitely copyrighted as it is predesigned by the underlying computer program and envisaged by the game developer.
- It is just that the various contributions from gamers have created some new problems

Modding?

- The term modding refers to the “act of changing a game, usually through computer programming, with software tools that are not part of the game. This can mean fixing bugs, modifying content to improve it, or adding content.”
- “partial conversion” and “total conversion”
- modders usually do not have the access to the engine, their focus is usually on the presentation of the game content. They usually rely on official editor provided by the game developer, or they can use third-party modding programs.
- Some game developers encourage Mods, some dislike.



Infringement?

- No direct cases: not beneficial to do so, and attacking modders with legal weapon is against the game culture and it is just not economically reasonable.
- Most “partial conversion” mods are built upon the original game materials and heavily rely on the original game, the infringement case can be easily established. (Micro Star v. FormGen Inc. 154 F.3d 1112 (9th Cir. 1998).)
- For “total conversion” mods, if all the artworks are replaced, then the game screen display will be totally different. Whether it is an infringement will depend on the game type and whether the game engine is copied.

Fair use?

- Not covered by the listed exceptions.
- Four factors:
 - first: not transformative, competing with the original work (questionable for single player games as you will need the original game first and then patch it; but for multiplayer games, mods will hinder the interoperability among games);
 - Second, fictional, so not in favor of fair use
 - Third, only the “total conversion” mods may stand a chance to claim insubstantial borrowing if the mod released does not contain the game engine and the game screen display generated by the mod does not utilize any of the original contents.
 - Fourth, even though scholars have pointed to the positive market effects that derivative works such as mods could bring to the original work, they are often not stable and hard to quantify, and the impact of the mods on the game developers’ market for future derivative works is obvious negative as that market is deemed exclusive to the game developer.

Game cloning?

- Game clone is a synonym for game reskinning. They refer to those that change the game engine and contents of an existing game while retaining the original expression and actual gameplay, rules, storyline and other elements.
- What differentiate it from mods is that clones are created by competitors in the market with a direct economic purpose.

2007 QQ Tang case

- a South Korean game developer Nexon Holdings, filed for copyright infringement and unfair competition against Tencent, believing that Tencent's Bomb and Bubbles (BnB) game *QQ Tang* has copied its BnB game *Crazy Arcade*.
- As there is no evidence to prove that Tencent has used the original game engine and the game contents, the plaintiff can only go for substantial similarities by comparing the game screen displays. The court has carefully examined the 37 sample screenshots provided by the plaintiff and has ruled that there is no copyright infringement as no substantial similarity can be found.
- It is noteworthy that the plaintiff did not raise any claims about the similarity of their gameplay ab initio, as it will probably be considered an idea rather than an expression.



2019 Taiji Panda case

- The case concerns two Action Role Playing Game (ARPG) games: *Taiji Panda* and *Hua Qian Gu*, and their game design are much more complicated than BnB games.
- The plaintiff believes that *Hua Qian Gu* developed by the defendant, is a **clone** of its game *Taiji Panda* and there are substantial similarities in the game structure, gameplay rules, numerical content, placement rhythm (how and when specific contents are presented to gamers) and software documentation.
- The court in the first instance has reiterated the importance of the idea and expression dichotomy and has pointed out that even though in general gameplay rules are considered ideas, when the expression of those rules are described in detail thus are original, it can still enjoy copyright protection. The court in the first instance thus concluded that the game structure along with the placement rhythm are merely ideas therefore not protected.



2019 Taiji Panda case (2)

- Second instance: With regard to the idea and expression determination, the court opined that:
- “The content of specific interface graphics and interface text can be identified as specific ‘form of expressions’, and the layer of abstraction and generalization above them can render the specific setting of a specific rule of play. The content of this second layer can be identified as the ‘content of expression’, which can also be recognized as the object protected by copyright law. Of course, the further abstraction and generalization above this level to the higher level of gameplay and rules should be considered as belonging to the category of ideas.”



Why different ruling?

- Games are much more developed.
 - In the Tetris case, the gameplay, along with the “game mechanics and rules”, were first excluded by the court as they are considered ideas rather than expressions. But the court went on to indicate that the rules are not copyrightable “does not mean, and cannot mean, that any and all expression related to a game rule or game function is unprotectable” and “[t]he style, design, shape, and movement of the pieces are expression.”
 - Tetris Holding, LLC v. Xio Interactive, Inc., 863 F.Supp.2d 394 (D.N.J. 2012).
- the court has introduced the Ninth Circuit’s extrinsic and intrinsic tests into the analysis. The extrinsic part is similar to the AFC test, while the intrinsic test aims to examine the “ordinary person’s subjective impressions of the similarities between the works.”
- In this case, the court conducted the intrinsic test by using the reports of video game bloggers that Spry Fox describes in its complaint that suggest the two games are substantially similar.
 - Spry Fox, LLC v. Lolapps, Inc., No. 2:12-cv-00147 (W.D. Wash., 2012)



Why different ruling?

- In the Taiji Panda case, the game has four sub-systems, such as battle system and character development system, and each sub-system also contains several subsidiary systems, and they all have different rules.
- The description of the aims and functions of each of these sub-systems is an idea rather than expression no doubt, but how these functions are presented in a literal and graphical way via game interface design is apparently expressive.
- In the 2014 DaVinci case that concerns two similar card games, the court held that “the characteristics and manner in which the characters interact, not merely the names and pictures used to depict them, are creative and expressive elements in a roleplaying game and are protectable.”
 - DaVinci Editrice S.R.L. v. ZiKo Games, LLC, No. H-13-3415, 2014 WL 3900139, at *11 (S.D.. Tex. Aug. 8, 2014).



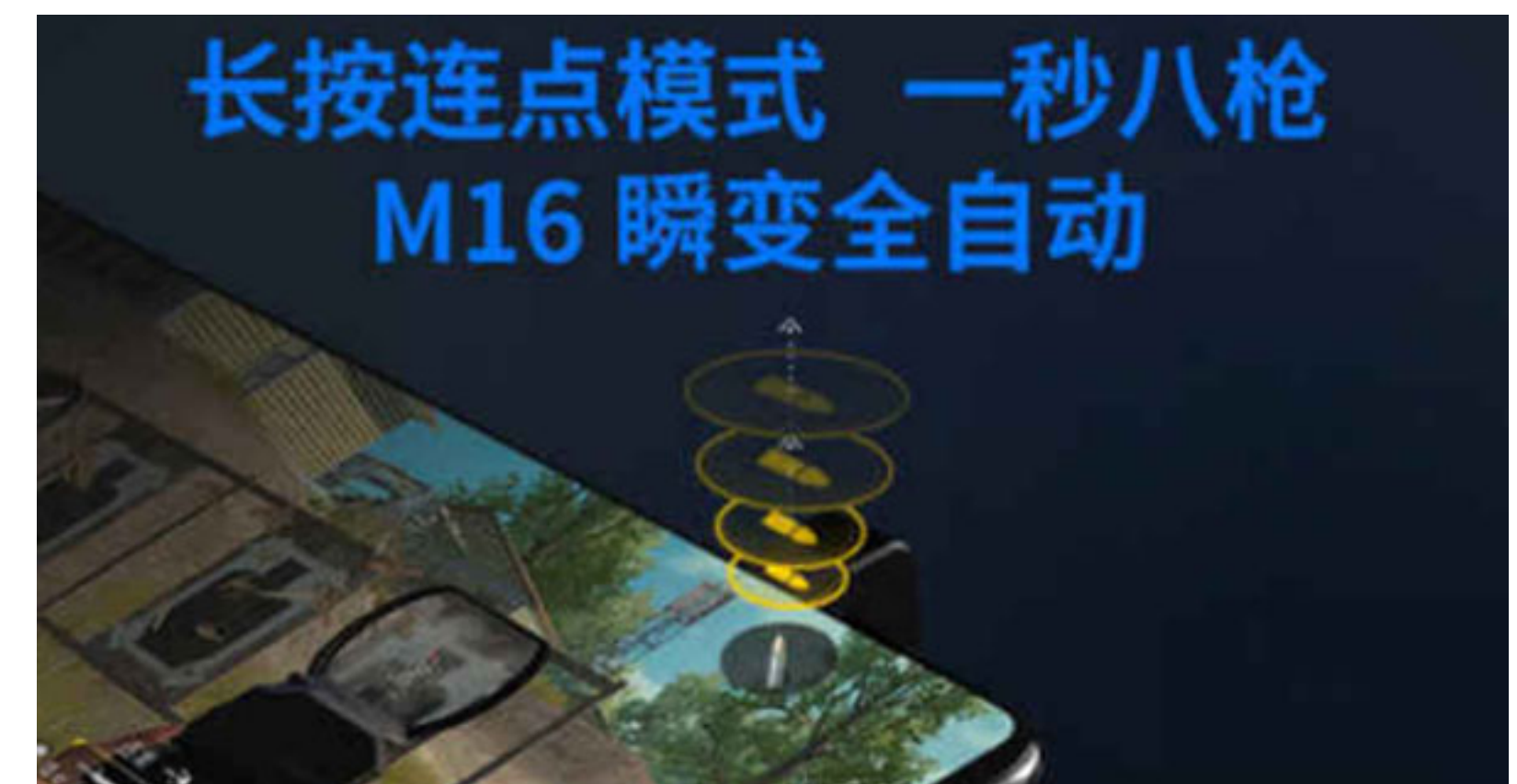
Game cracking?

- cracking (破解) refers to the modification of the program to remove or disable certain features such as copy protection features
 - 光荣诉3DM, 北京知识产权法院 (2016) 京73民初370号; 北京高级人民法院 (2018) 京民终第174号。
 - 腾讯公司与任我行电子游戏机商店商标侵权及不正当竞争案 (2020) 粤0104 民初46217号。
- anti-circumvention problem?
 - Article 48 of the CLC and Article 24(3) of the Regulations on the Protection of Computer Software
 - Nintendo of America Inc v King & Go Cyber Shopping (2005) Ltd, 2017 FC 246. (Canada)



Game cheating?

- Cheating (作弊, 外挂) refers to the various methods (usually in the form of cheating programs) to gain unfair in-game advantages over others.
 - Lewis Galoob Toys, Inc. v. Nintendo of America Inc. 964 F.2d 965 (9th Cir. 1992).
 - "Having paid Nintendo a fair return, the consumer may experiment with the product and create new variations of play, for personal enjoyment, without creating a derivative work."
 - MDY Industries, LLC v. Blizzard Entertainment, Inc. et al, No. 2:2006cv02555 - Document 82 (D. Ariz. 2008).
 - MDY Industries, LLC v. Blizzard Entertainment, Inc and Vivendi Games, Inc., 629 F.3d 928 (9th Cir. 2010).
 - 腾讯诉飞智, 上海市杨浦区人民法院 (2020) 沪0110民初字第5283号。
- game developers in China have often resorted to the courts for criminal sanctions against cheat program developers that have seriously interfered with the normal operation of the game: Article 285(3), Article 225, Article 217 of the Criminal law of China.



The futuristic approach

- our legal rules should be constantly updated so as to come up with better solutions rather than sticking to the old copyright rules and the thin copyright protection we have developed for simple games
- the courts' interpretations of the ambiguous parts of our law must consider various angles: in judging a case that concerns companies like Tencent against an uneven game developer, the courts should keep a tight grip on their interpretation strings to maintain a fair competition environment.
- In the future, when a gaming system like a metaverse environment grows big enough to accommodate different types of games, the problems related to mods may become technically obsolete
- The clone and cheating issues can also be by and large addressed if the metaverse is ruled by its users that are in control of the policies created to determine how the world behaves - such as the Decentraland controlled by the Decentralized Autonomous Organization (DAO)
- As most of these metaverses are built upon blockchain technologies such as non-fungible tokens (NFTs) and smart contracts, game cracking will be by and large meaningless as the principles behind a traditional video game and a metaverse game are completely different.

Webcast?

- **2015 Douyu case (上海耀宇文化传媒有限公司诉广州斗鱼网络科技有限公司):** it was ruled that the game screen display is not copyright protected, but “an audio-visual video program of game competition consisting of various elements such as images and sounds” that includes “the plaintiff's commentary on the content of the game, related images such as the filming studio, as well as subtitles and sound effects” can be copyright protected.
- **the 2017 NetEase case (网易诉广州华多):** “even if the game screen was utilized as a tool to demonstrate the player’s skill, it is just a difference of perspective between player and viewers, and it will not surely obliterate the value of the game screen display [;]” hence “the value was not transformed,” and that “[webcasting] does not fit within any listed exceptions in Article 22 of the CLC,” and was therefore not fair use.



Machinima?

- The term machinima is a portmanteau of “machine” and “cinema”, referring to film production by using video game engines instead of live-action or traditional animation.
- In-game tools: Rockstar Editor; External tools
- the creator of machinima has utilized some of the game screen displays along with the copyrighted figures without permission.
- no direct case of machinima, but the EULAs provided by many game developers have provided rooms, albeit with certain conditions, for non-commercial machinima projects to survive



The futuristic approach

- The current trend in China is, game webcasting is not a fair use unless it is truly transformative.
- for traditional games ranging from chess games, card games, board games to MMORPG video games, gamers enrolled are still, by and large, presenting the predesigned gameplays so not that transformative.
- However, in a sandbox game like Minecraft or even a metaverse environment, in which players are free to design many things including the gameplay, then they will enjoy much greater freedom with regard to creativity. It is more likely that the gamer could succeed in a fair use case if the developers of a game only provide gamers structures, tools and materials and let the gamers decide the rest.
- machinima is more transformative compared with game streaming. But for the potential market consideration, when the commercial interests are big enough, and the game developers have engaged in the licensing and even production business of machinima, the doubts about it being a potential market naturally will vanish.

A holistic account

- The concept of the video game as a type of computer program has evolved greatly from the original concept over the past thirty years: it has changed from a single-player entertainment into a multiplayer social networking platform or a medium, which offers vast opportunities for gamers to communicate and develop new ideas, and an interface for various peripheral devices that help to enhance the experience for gamers, such as virtual reality (VR) glasses and motion capture suits, to plug in.
- It is expected that in the near future, interoperability will be the key for any game to succeed in the Chinese market. The legal challenges above may disappear or evolve and expand to a different level. The piecemeal solutions discussed above are apparently insufficient and will eventually become obsolete.

Law 3.0?

- Law 1.0: the traditional approach to the law, which involves the application of legal principles to specific fact situations.
- Law 2.0: results from the arrival of new technologies. The classic application of rules in a Law 1.0 sense are disrupted, and jurisdictions begin asking whether existing rules are fit for purpose. The onus of articulating new rules and frameworks to regulate innovative technology shifts from the courts to the legislative and executive branches.
- Law 3.0: evolves from the disruption of the Law 2.0 mindset. As technologies increasingly present themselves as possible regulatory tools, jurisdictions move from the previous mindsets to question whether technologies could be employed to limit, mitigate or entirely prevent certain behaviours.
 - Roger Brownsword, *Law 3.0: Rules, Regulation and Technology* (Abingdon: Routledge 2020)

Law 1.0

- Drawbacks:

- the propertization claims of gamers related to virtual game items are theoretically justifiable but practically hard to enforce
- Depending on the game design, some items in a game are exchangeable or even seizable by other gamers, such as the in-game weapons and armours that can enhance the ability of the character in an MMORPG game, while some items in a different game are not separable from the character, such as the skins of characters and guns that only serve as decoration provided by Battle Royale games such as PUBG. Assigning a one-size-fits-all property right over these different items will only cause chaos in game management.
- Gamers cannot “take” the item outside the game (Metaverse?).
- If virtual items are deemed property, then when a gamer owns valuable virtual items in a game cheats, it will be hard to explain why the game developer can ban the game account of the cheater, thereby rendering his items worthless.
- A contractual relationship, in which the gamers are paying for the right to play the game and use the virtual items provided by the game developer, will better serve the purpose.

Law 2.0

- does the Chinese government want to promote the gaming industry? If yes, to what degree shall we protect the game developers? Specifically, to what degree shall we recognize the rules set by their EULAs that concern the entitlement of contributions of gamers?
- The courts should recognize the terms that in accordance with the national policies:
 - **Game account** transferable?
- making clear that the gamers are signing a service contract with the game in the EULA will help to eliminate the potential risks associated with the game developers
 - The current ambiguity in the nature of the virtual items may give gamers a **wrong impression that they “owned” the virtual items**, which has spawned the related underground market. The clarity provided by the EULA could thus straighten out the problem, and those who choose to transact will have to bear the risk of not being recognized.
 - trading platforms such as Taobao and Pinduoduo could then have a legitimate reason to **ban** those online shops that sell virtual items
 - gamers will **lower their expectation of the value** of them, and indirectly lower the price set by the game developer due to the asymmetry of expectation
 - It will then gradually encourage the game developers to **explore new ways to add value to the virtual items** to lift up the price. In a future metaverse setting, the portability of virtual characters and items across different scenarios could then serve as a new growth, and a contractual setting could provide just the flexibility with the game developers needed to adapt the game characters and items for different scenarios than a property setting.

Law 2.0

- the regulatory agencies should intervene and suggest the gaming industry establish a strict code of practice with regard to gamer contributions such as modding, webcasting and machinima
- it is improper for game developers to claim ownership over derivative works or ask the gamers to grant them basically all the rights and license to exploit derivative works in their EULAs that could potentially be justified by fair use, which is a common practice today.
- these unfriendly terms be replaced with a neutral description of the possible infringing nature of the unauthorized derivative works and the likelihood of claiming fair use.

Law 3.0

- The underlying game structure will become the game-changer.
- The structure of the game, or the “architecture” of it as termed by Lessig, will decide whether there is still a need to regulate the above issues, as most of them are actually the side-effects of the technology development and hence can be addressed via a structural change.
- the wide application of blockchain technology in metaverse games and the shift of management power of the community from the game developer to gamers will eliminate these problems that are firmly connected to the anonymity of gamers.
- When the game environment looks increasingly like the real world, the costs of hacking, cracking and cheating will become extremely high as the related reputational and economic costs will become unbearable for gamers as well.
- when the game developers are merely providing gamers with a tool for metaverse development, and the contribution from gamers with regard to new game design and creative combination of game materials are considered the core of a metaverse game, it is expected that the external derivative works will be marginalized to a degree, and the gamers who create can be treated as co-developers or owners of their creation, provided that the gamers’ community is in control of the game management.