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Total conversion mods: expanding beyond the original game

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The goal of this article is to outline selected aspects of the phenomenon of game modding, with particular emphasis on mods known as total conversion mods. The text mentions the features of such mods which are both fundamental and most characteristic, in order to establish the necessary context for further discussions concerning the differences between total conversion mods and other types of mods. The article aims to address the question of the legitimacy of approaching total conversion mods as independent text by presenting the most important features of such mods and their application and discussing how they function in the chosen example, i.e. *ST: New Horizons*, so that the following question may be posed: Do the changes introduced to the original game's gameplay and mechanics in a given conversion mod justify regarding it as a separate game text?

KEYWORDS: mods, total conversion mods, modders, fan activity

Since early 2000s, the subject of third-party software, popularly called "mods," has been discussed by many academics and researchers. The word "mod" is an abbreviation of words "modify" or "modification," and it refers to any player-made software that alters and adds new elements to already existing games.[1] However, in their works researchers would mostly focus on the motivations for making mods or relationship between modders and producers of the original game (Nieborg, 2005; Postigo, 2007; Sotamaa, 2007; to name just a few).[2] Similarly, one quite popular line of research focuses on regarding mods as an example of the creativity and activity of fans of particular games.[3] As Hector Postigo points out,

> [r]ecent work by Henry Jenkins and others has brought significant attention to fan-programmers and the ascendance of the fan in new media consumption and production (Hartley, 2006; Jenkins, 2006c; Taylor, 2006). Referred to generally as "modders," fan-programmers have been mapped onto theories of "convergence," where fans and producers are converging in their roles (Jenkins, 2006b). Fan-programmers form knowledge communities (part of what Pierre Levy has called "collective intelligence") whose actions are informed by participatory culture and that at times are

[1] O. Sotamaa, *When the game is not enough: Motivations and practices among computer game modding culture*, "Games and Culture" 2010, no. 5(3), pp. 239–255.
[2] D. Nieborg, *Am I mod or not? – An analysis of first person shooter modification culture*. Paper present-ed at Creative Gamers Seminar 2005, University of Tampere.
[3] H. Jenkins, *Convergence culture: Where old and new media collide*, New York 2006. See also T.L. Taylor, *Play between worlds: Exploring online game culture*, Cambridge, MA 2006.

in opposition to the commodity-driven proprietary nature of the cultural industries (Jenkins, 2006a; Levy, 1997).[4]

Due to the fact that many people are involved in the modding community, the number and variety of mods is quite high.[5] Different creators focus on different aspects of their favorite games and, in consequence, the mods they make vary widely in subject, scope, and complexity. As Olli Sotamaa notes, mods[6]

> can range from single objects such as plants and buildings to operational vehicles and weapons, modified squads, and complete islands. Compared to mission making, add-ons typically demand more working phases and more specialized tools. Single add-ons are often collected to a theme-based add-on pack to simplify downloading. In the context of OFP, the expression "mod" equals a thematic combination of missions and add-ons. In other connections, the term "total conversion" is often used. When the missions form together a continuous plot, a mod is said to include a „campaign." It is, however, important to bear in mind that the modder categories do not follow any simple hierarchy.[7]

Of course, there are many possible motivations for modders to create their mods, most of which can be divided into three broad categories. The first category includes modders who view their activity of mod creation mostly as a creative and artistic endeavor that helps them to add aesthetic value to their favorite games. In the second category, there are modders who view modding as a way to allow them to better identify with the games and thus make the game play more enjoyable for them. They try to make the games "their own" by designing and adding elements that often relate to elements from popular culture or national culture of the modder. In the third category, there are modders who believe that the experience they acquire by creating mods will help them to get a job in the digital game industry.[8]

This issue connects directly to another important aspect of modding that many researchers focus on, that is, the issue of the modders having to master a set of very specific skills in order to be able to create their mods. This need for modders to have such particular skill set places them apart from other fan creators, seeing as creating a mod tends to be more complicated than a significant number of other forms of fan activity:

[4] H. Postigo, *Of mods and modders: Chasing down the value of fan-based digital game modifications*, "Games and Culture" 2007, no. 2, p. 301.
[5] P. Levy, *Collective intelligence: Mankind's emerging world in cyberspace*, Cambridge, MA 1997.
[6] It is worth noting that in discussing mods, Sotamaa utilizes more detailed classification, referring also to addons. There is quite a split between researchers regarding the use of terms "mod" and "add-on", as well as the issue of what kind of software made by fans should be referred to by one term or the other. Many researchers focused more on programming and game development tend to use term "add-on" more often, while researchers focused more on fan activity and Internet communities tend to prefer the term "mod". In most cases those scholars mean the same software or differentiate between mod and add-on based on the scope of the software (as in above citation from Sotamaa), so for simplification and in order to make this text both easier to read and more coherent the term "mod" will be used throughout this text to signify both mods and add-ons.
[7] O. Sotamaa, *When the game is not enough…*
[8] H. Postigo, op. cit., p. 310.

Regardless of the level of complexity of the add-on, some degree of technical and social skill is required on the part of the fans contributing content. For example, mappers and modders must have knowledge of scripting languages, graphics programs, and software development kits (SDKs) especially designed for a given graphics engine associated with a game. They must also have knowledge of the history, technology, and architecture of a given time period if the map or mod is historically based. In many instances, modders, mappers, and others go to great lengths to establish realism and historical accuracy, sometimes going so far as recording the actual sounds for specific weapons to be included in their modifications. Fan-programmer communities working on game addons bring together a host of otherwise disparate interests, such as military history, history of technology, social history, and technological tinkering.[9]

Apart from adding new items, maps or buildings to the game, mods can also modify the gameplay experience. The simplest examples of this would be modding a single player game into multi-player one. In such cases, according to Walt Scacchi, the experience of a single player versus the game environment gameplay is changed into an experience of a group of players versus the game environment, a player versus a player, or a team of players versus another team of players gameplay.[10] Mods can also "enable experiences other than expected [gameplay], like using a modded game for storytelling or film-making experiences is also a practice of growing interest, with the emergence of a distinguishable community of gamer-filmmakers who produce machinima as either a literary medium, or an art form (Kelland, 2011; Lowood & Nitsche, 2011; Marion, 2004)."[11] As Scacchi points out, more and more mods for games focus not on adding new elements to the game but more on making viewing or manipulating elements of the game easier for people, which is particularly useful for machinima creators.[12] As for what the particular mod is supposed to add or modify, they can be divided into a variety of different categories. Those proposed by Scacchi are: "(i) user interface customizations and agents, (ii) game conversions, (iii) machinima, and (iv) hacking closed source game systems."[13] However, instances of software most commonly called "mods" by modders and players would be the ones from the "user interface customizations and agents" and the "game conversions" categories.[14] That is why this text focuses on examples of mods that fall into those categories.

A brief overview of most commonly occurring mods

One of the most easily recognizable examples of user interface customizations mods are ones that allow players to manipulate or rearrange the action bars and icons in games. This type of mod is very

[9] Ibidem, p. 302.
[10] W. Scacchi, *Modding as an open source approach to extending computer game systems*, [in:] IFIP International Conference on Open Source Systems, Berlin 2011, p. 65.
[11] Ibidem.

[12] M. Kelland, *From game mod to low-budget film: The evolution of Machinima*, [in:] *The Machinima reader*, eds. H. Lowood, M. Nitsche, Cambridge, MA 2011, pp. 23–36.
[13] W. Scacchi, op. cit., pp. 65–66.
[14] E. von Hippel, *Perspective: User toolkits for innovation*, "Journal of Product Innovation Management" 2001, no. 18(4), pp. 247–257.

popular among MMORPG players, as in the case of MMORPGs the mods focus on either fitting as much information for the players on the screen, or on rearranging and changing all the icons, action bars and any other user interface elements in such a way that they occupy as little space on the player's screen as possible, thus enabling the players to see more of what is happening during the gameplay. Many such mods allow the users to manipulate the user interface elements to customize them to their specific taste or add new ones. A good example of relatively simple interface customizations mod is *Bagnon* for the game *World of Warcraft*,[15] which only changes the way in which the game displays the player avatar's bags, merging five separate bag windows into one. On the other hand, *WeakAuras* for the game *World of Warcraft*[16] is a much more complicated interface customizations mod, which allows the players a high degree of manipulating the user interface in the game, as well as the ability to add new interface elements. Another popular type of simple mod that changes the user interface to some degree concerns in-game camera manipulation options. Such mods allow users to manipulate in-game cameras to a greater degree than the unmodified game normally allows for. *Better Camera Mod* for the game *Total War: Warhammer II*[17] is an example of such a mod, which allows the player to move the camera closer or farther away during battles, so they can get a better view of what is happening on the battlefield.

Most game conversion mods focus on adding new elements to the game. There is an extremely wide variety of this type of mod, as well as of the types of things they add to the games. One of the simplest examples of game conversion mods are map mods. This type of mod simply adds additional maps that players can use for their gameplay, as in the case of *Aldollin's Middle Earth,* which adds a map of Middle Earth from J.R.R. Tolkien's books to the 4X game *Sid Meier's Civilization VI*.[18] Similarly, another example of relatively simple game conversion mods would be ones that add items, weapons or armor that is not present in the original version of the game. *Roman Imperial Armor and Weapons (replacer)* is an example of such a mod type for the game *The Elder Scrolls V: Skyrim*;[19] it replaces Imperial weapons and armor (which are inspired by the armor and weapon of Roman legionaries) in the game with models of armor and weapons that look as close as possible to historically accurate Roman ones.

As mentioned earlier, game conversion mods are very popular, and the number of their types is vast. The scope of this text does not allow me to present and describe examples of all of them. Just as Scacchi points out, game conversion mods are

[15] https://www.curseforge.com/wow/addons/bagnon (accessed: 7.10.2022).

[16] https://www.curseforge.com/wow/addons/weakauras-2 (accessed: 7.10.2022).

[17] https://steamcommunity.com/sharedfiles/filedetails/?id=1143181517 (accessed: 7.10.2022).

[18] https://steamcommunity.com/sharedfiles/filedetails/?id=1152835889 (accessed: 7.10.2022).

[19] https://steamcommunity.com/sharedfiles/filedetails/?id=60867508 (accessed: 7.10.2022).

the most common form of game mods. Most such conversions are partial, in that they add or modify: (a) in-game characters including user-controlled character appearance or capabilities, opponent bots, cheat bots, and non-player characters; (b) play objects like weapons, potions, spells, and other resources; (c) play levels, zones, maps, terrains, or landscapes; (d) game rules; or (e) play mechanics. Some more ambitious modders go as far as to accomplish (f) total conversions that create entirely new games from existing games of a kind not easily determined from the original game.[20]

Even though Scacchi considers total conversion mods to be a part of game conversion mods, he indicates that they are a different—if not a special—type of mods. Indeed, the case of total conversion mods brings to light many issues and problems that are not relevant in the case of other mods—the main issue being the question wherever the total conversion mod for a game can be regarded, as Scacchi also mentions, as a new game, separate from the original one for which this mod was created?

Total conversion mods

Let us start from the beginning, by discussing what modders, players and researchers actually mean by calling some software a "total conversion mod". A total conversion mod is actually a set of many smaller mods that create a bigger coherent whole, in fact, a new fully functioning game. The main goal of such types of mods is to allow people to play their favorite game in a setting taken from another popular culture text—be it a novel, a movie, or even another game—or in a gameworld inspired by a specific historical time period. Because of that most total conversion mods enable players to enjoy gameplay in the world of e. g. *Game of Thrones*, *Star Trek*, or *World of Warcraft* in a game that was originally created for different setting or having their own one. The *Warcraft* franchise started as an RTS series and was later made into a MMORPG series, but total conversion mods allow players to enjoy the story and characters created for this franchise through different gameplay characteristic of other games. A good example of this would be *World of Warcraft Universalis* for the game *Europa Universalis IV*,[21] which allows players to experience gameplay in a way specific to grand strategy wargames instead of MMORPG or RTS games in the gameworld created for the *Warcraft* franchise.

The difference in scope and complexity is not the only difference between most mods and total conversion mods. As mentioned before, the main goal of total conversion mods is to transplant a fictional world from another text of popular culture into a given game, but by doing that—in most cases—modders also have to make changes to the gameplay and game mechanics. Those changes are one of the main characteristics that make total conversion mods a separate and unique type of mods. Additionally, the main motivation for those modders differs from motivations behind other game conversion mods of play

[20] W. Scacchi, op. cit., p. 66.

[21] https://steamcommunity.com/sharedfiles/filedetails/?id=1796527319 (accessed: 7.10.2022).

mechanics. The main motivation of modders for game conversion mods of play mechanics is to change the specific mechanics of a game in a way to make the gameplay easier, faster, or more fun. In the case of total conversion mods, the main motivation for modders is to make the gameplay and game mechanics fit the new setting better, even if some of those changes result in making the game more complex and more complicated to play. The aforementioned aspects of total conversion mods are the reason why many players and some researchers consider a game modified by a total conversion mod to be a different, if not even separate, game from the original, unmodified title.[22] To better understand why a total conversion mod of a game can be considered as a new and separate game from the original one, a detailed analysis of a set of such mods and games will serve as a representative example of the changes that are introduced and their effect on gameplay. The example used in this text is the total conversion mod *ST: New Horizons* for the game *Stellaris*.[23]

ST: New Horizons mod for Stellaris

Stellaris is a science-fiction 4X, simulation, grand strategy game made by Paradox Development Studio and published on 9th May 2016. In this game, players engage in a race of people who have just started their exploration and colonization of a galaxy. The main goal of the game is for the players to overcome various problems and crises to control most of the galaxy, be it through military might or diplomacy, or through leading the galaxy's senate. The main game mechanics players can use to achieve this goal are taking control over solar systems by building space stations, colonizing planets and building space fleets to defend the player's space or invade rival empires. Like any 4X and grand strategy game, *Stellaris* is quite complex and has many mechanics regarding economy, production, or stability of the player's empire, as well as many options of interacting with other empires in the galaxy.

ST: New Horizons is a total conversion mod for *Stellaris* created by a group of modders (there are eleven creators listed on the Steam site for this mod) that allows players to create and expand their space empire in a gameworld based on the fictional world of *Star Trek*. The first obvious change to the original game introduced in this mod concerns parts of the game interface—specifically, the art from the original game that is used as a background in different menus and loading screens is swapped with fan art for *Star Trek*. In the same venue, the total conversion mod substitutes the original sounds and music in the game for sounds and music known from various *Star Trek* movies and series. The second most obvious change to the original game in regard to gameplay and game mechanics is the galaxy map on which

[22] See: O. Sotamaa, *When the game is not enough…*; W. Scacchi, op. cit.; and https://www.reddit.com/r/pcgaming/comments/6tglbf/what_are_some_of_your_favorite_mods_for_your/ (accessed: 7.10.2022).

[23] https://steamcommunity.com/sharedfiles/filedetails/?id=688086068 (accessed: 7.10.2022).

players can play. In the unmodified version of the game, the galaxy for a specific gameplay is created randomly, with the player having the ability to influence several aspects of the size and shape of the galaxy map they will be playing on. In *ST: New Horizons*, the players do not have as many options to influence the size and shape of the galaxy map, as they play in the Milky Way galaxy, and the map is a recreation of the Milky Way galaxy from the *Star Trek* shows, movies, and games.

The third change that *Stellaris* players will immediately notice in the *ST: New Horizons* is the appearance of ships in the game. The models of ships from the original game are swapped for models of ships from the *Star Trek* universe, so the players who choose to play as Klingons will be able to field fleets of ships that look like Klingon ships from the movies and shows instead of default *Stellaris* ship models. Another change regarding ships that the total conversion mod *ST: New Horizons* implements into the game is a different ship design system. In the unmodified version of the game, players can design their ships to include certain types of weapons, armor, shields and equipment (engines, sensors, etc.), but in the mod not only the types of weapons, armor and shields are changed to ones representative of the *Star Trek* universe, but they also include equipment not present in the original game. The best examples of that are the substitution of generic energy weapons from the original *Stellaris* with phasers and disruptors, as well as the inclusion of deflectors in the ship design, which are characteristic of the *Star Trek* franchise and not present in the unmodified version of the game.

The fourth change that *ST: New Horizons* applies is one to the gameplay and game mechanics regarding the available races that players can choose to play as. All races available for the players are obviously races known from the *Star Trek* movies and shows, but modders had to make changes not only to the appearance of races' sprites that players can see in several windows and menus in the game but also to their statistics and modifiers. In *Stellaris,* every race gets a set of statistics that influences the specialization of said race and as a consequence, the optimal way of playing such a race, e.g. races with modifiers to space and ground combat will be better suited to the more militaristic style of gameplay, while races with modifiers with relation to other races and diplomacy will be well suited to a more diplomatic style of gameplay. In the total conversion mod *ST: New Horizons*, all statistics of races are remade to better match with how they were represented in the *Star Trek* movies and shows, and as a consequence of that, modders had to add statistics modifiers to them that are not present in the original game. In some cases, those changes are seen by players as something that would make playing certain races harder or more complicated, but are included nonetheless, since their main goal is to make the *Star Trek* races more accurately represented in the game, rather than to make them easier of more fun to play.

The fifth and one of the most dramatic changes that *ST: New Horizons* brings to the gameplay concerns the planet classification and,

as a result, to the whole mechanics of colonizing other planets. In the original *Stellaris*, planets available for colonization are divided by their climate characteristics, e.g. desert or tropical planets. Habitability is a race's statistic that is influenced by the planet's climate, and the higher it is, the better the planet is for that race to colonize—for instance, races with an arid climate preference will find that arid, desert and savanna planets have high habitability and are easy to colonize, while at the same time alpine, arctic and tundra planets are almost impossible to colonize without researching any technology that would increase the race's habitability for such planets. Alongside the climate classification, *ST: New Horizons* also includes the planet classification from the *Star Trek* movies and shows, which influences the race's habitability value for planets. This change can mean which an arid planet that in the original game would have had 80% habitability for a desertpreferring race has 50% or even lower habitability for a desertpreferring race, depending on the additional *Star Trek* classification added to it—e.g. an Mclass (earth-like) desert planet will have similar habitability value as in the original game, but the same planet being class F (volcanic) will have 0% habitability for any race except Tholians.

Another gameplay aspect of *Stellaris* that is changed by the total conversion mod *ST: New Horizons* is the technology available for research to the players. Most of the technologies from the unmodified version of the game are removed from the modified game and in their place are introduced technologies specific to the *Star Trek* universe, e. g. replicator or deflector technology. Also, in order to represent *Star Trek* races more accurately in the game, modders introduced some technologies that are available only to certain race, e.g. many technologies available for research for the Borg are specific only to them, and those technologies influence modifiers or mechanics applicable only to the Borg.

Conclusion

As can be expected from software on the scale of a total conversion mod, *ST: New Horizons* changes many more aspects of the gameplay, game mechanics and user interface of *Stellaris* than the ones discussed. Although there are many more examples of changes that total conversion mods bring into a game that could be mentioned, those presented here are the most important ones in regard to the main goal of this text. Due to the volume limit, only the most prominent and crucial aspects of total conversion mods could be presented—those which will hopefully serve as a starting point for further research into how exactly such mods are unique among all other types of mods—to draw attention to this particular perspective in analyzing of mods as a whole.

The changes emphasized in the analysis of the total conversion mod *ST: New Horizons* for *Stellaris* should provide a sufficient general demonstration of the scope and complexity of the undertaking that is creating a total conversion mod. Also, another purpose of presenting examples of the changes to the gameplay and game mechanics—mostly changes to the ship designs and the system of habitability of planets and,

consequently, colonization—is to indicate the reasoning behind regarding total conversion mods as separate games. The main justification for such an assertion lies in the fact that players playing a total conversion mod will experience a significantly different gameplay from the one provided by the unmodified original title—as demonstrated by the case of *ST: New Horizons*, where the overhaul of the system of habitability of planets on its own forces players to change their strategy as regards expanding their empire and colonization efforts. In simple terms, the strategy in which players might try to control the whole map of the game with an empire of only one race is almost impossible, or at least highly impractical and hard to achieve (as in the mod discussed here the colonization options while having only one race in one's empire are distinctly more limited than in the original game). The consequence of those changes is the need for players to change the expansion strategies they have developed while playing unmodified games—in this case, *Stellaris*. Similarly, changes to the technology and items that ships can be equipped with in *ST: New Horizons* force players to rethink the way in which they will go about designing their space fleets and how they will wage war in the game. In general, waging a war in this total conversion mod is harder and on a smaller scale than in original game, especially in the first hundred years of the game. The game mechanics connected in some way to waging a war in the game are mostly influenced by the items a player can put on their ships and the race statistics, which influence ground combat during planet invasions. It is therefore natural that in the wake of changes to those aspects of the game in *ST: New Horizons* the players will have to change their typical *Stellaris* military gameplay. Of course, it is necessary to remember that the changes in this mod are motivated by making the gameplay experience more characteristic of one in the universe of *Star Trek*. All of the examples used in this text emphasize how the sum of changes that a total conversion mod such as *ST: New Horizons* can bring to the original game is profound enough to consider the resulting experience to be a separate game with unique gameplay experience, rather than just another mod for a game.

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