Agricultural Spaces and Places
Studying User-Created Maps
for *Farming Simulator 15* at Scale

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Abstract This chapter investigates the relationship between virtual spaces in the computer game *Farming Simulator 15* (GIANTS Software 2014) and the actual cultural landscapes and places that user-created maps refer to and represent. It argues that scholars can make meaningful statements about trends and tendencies in user-created modifications, or mods, by using techniques of 'distant reading' borrowed from the Digital Humanities. The chapter demonstrates how collecting and analysing metadata about mods from mod-hosting websites can help us better understand the politics of cultural representations of games for which mods constitute an important part of the play experience, and argues that the proposed method can supplement and benefit other scholarly approaches to studying user-generated content.

Keywords User-generated content, mods, game studies, digital humanities, distant reading, cultural representation, Farming Simulator

Introduction

The simulated spaces and environments in computer games have always had complex relationships to actual cities, regions, nations, and cultures. This is particularly evident in the history of games which simulate 3D environments. Even before 'photorealistic' graphics, designers of many games strove to create an indexical relationship between the virtual spaces in their games and the actual world. This trend in game design begins at least as early as 1982 with the release of *Microsoft Flight Simulator 1.0* (Microsoft 1982), which includes separately loaded skyboxes of American cities marked by recognisable features and landmarks such the *Statue of Liberty* in its rudimentary merged New York/Boston environment in order to emphasise the game's

relationship to the actual world.[1] In recent years, the *Grand Theft Auto* series (DMA Design, Rockstar North 1997–2013) has become well-known for the close relationship between its open world maps and real-world cities. As critics have noted, *Grand Theft Auto V*'s (Rockstar North 2013) open world map Los Santos mirrors in part the landscape and architecture of Los Angeles, the Bay Area region, and their surrounding topography (Sweet 2013).

This trend in game design of recreating or referencing actual places and cultures in digital game spaces speaks to a longer history of fictional and non-fictional forms of representation which strive to reproduce the world through media. It also serves as an example of the politics of representation in which developers, regulators, localisers, and players alike imagine, construct, and negotiate what Rebecca Carlson and Jonathan Corliss call "mythologies of cultural difference" (Carlson and Corliss 2011, 61). But especially in recent years, when access to the resources, skills, and tools necessary to produce simulated 3D environments has become more attainable, user-generated content in the form of modifications, commonly referred to as mods, have become as important to many players' experiences of a game world as the developer's 'official' version. Ranging from small aesthetic tweaks like self-created skins for polygon models to complete overhauls of the core rules and systems of a game, mods can be seen as a form of voluntary play (Kow and Nardi 2010), a form of participatory culture (Postigo 2010), or a form of free labour, which Tiziana Terranova once described as both "voluntarily given and unwaged, enjoyed and exploited" (2013, 34).[2] Active mod communities transform and blur the boundaries of 'official' versions of computer games into user-created "assemblages" (Taylor 2009), constituted by professional, amateur, and hobbyist developer contributions.

The practice of 'modding' poses a challenge to how researchers should study the relationship between spaces in computer games and actual places and cultures. If a computer game is not only the 'official' retail version released by developers, but is also constituted by an ecology of user-generated content in the form of mods (and other para- and meta-textual media) which users themselves combine in unpredictable ways, how would one study a particular game, series, or genre's representations of nations and cultures, especially when active modding communities often produce hundreds or even thousands of individual mods? In this chapter, I will offer a method called 'distant reading', borrowed from the Digital Humanities, for studying mods at scale, which could help researchers answer this question in a meaningful way. In order to

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1   For further information on the constitution of the skybox and the concept of the *world-shaped hall*, the adaptation of physically real regions, biomes or topographies of the world, see Bonner's chapter in this book.

2   For more about the relationship between labour and play, especially with regards to computer games, see Kücklich, 2005.

demonstrate this method, I will present a case study of user-created maps for *Farming Simulator 15* (GIANTS Software 2014) in which I collected and analysed metadata in order to understand how modders describe their mods in relation to actual places and cultures. In what follows, I will present a multiple-method approach to understanding mods as cultural representations, give background on the *Farming Simulator* series (GIANTS Software 2008–2019), explain how I carried out my case study, and present findings about which cultures and places most often serve as inspiration for *Farming Simulator 15* modders.

A Multiple-Methods Approach to Mods
as Cultural Representations

In addition to the method I will propose below for studying mods at scale, if we want to understand mods as cultural representations, we also need to consider the structures and systems that shape modding communities and their creations, the individual and social motivations which drive modding as a practice, and the multiple layers of meaning inherent in aesthetic objects like mods. Fortunately, there is an extensive body of scholarship on user-generated content which we can draw from in order to understand the creation of mods, modding culture, and modding aesthetics. One of these approaches to studying mods could be called the 'political economy' approach. Olli Sotamaa exemplifies this approach when he argues in his essay "'Have Fun Working with Our Product!': Critical Perspectives On Computer Game Mod Competitions" that by looking at the rules and structures of "mod competitions" we can better understand trends in user-generated content (2005, 6). Sotamaa's argument traces how game developers and publishers use "mod competitions" to "direct hobbyist creativity by defining what is suitable and fitting and what is clearly prohibited" (ibid.) through rules for entries to the competition and restrictive End User License Agreements which limit mod-creator's rights with regard to their creations. Political economy approaches like Sotamaa's draw our attention to structural influences on modding practices and make us attentive to how organisational systems like a "mod competition" can generate and reinforce ideologies both in the subject matter of mods and in the ways in which mods are produced and circulated.

   Scholars have also conducted research on mods by studying the culture of modding communities and modders' motivations for creating mods. This approach often uses interviews, questionnaires, and surveys to try to understand why modders create mods in the first place. Hector Postigo's article "Of Mods and Modders" (2007) and Sotamaa's article "When the Game Is Not Enough: Motivations and Practices Among

Computer Game Modding Culture" (2010) both use these instruments to measure the value of modder work and the motivations behind modding, which range from using modding as a form of "artistic endeavour" and as a way to build a portfolio of work in order to enter the game industry (Postigo 2007, 309–10), to a combination of "playing, hacking, researching, self-expression, [and] cooperation" (Sotamaa 2010, 246). In a later study titled "Computer Game Modders' Motivations and Sense of Community: A Mixed-Methods Approach" (2014), Nathaniel Poor combines tested, quantitative survey instruments such as the "Brief Sense of Community Scale (BSCS)" developed by Peterson et al. (2008) with qualitative, informal interviews to study modders' motivations and sense of "community." Poor's mixed-methods approach yielded interesting results which called into question earlier studies' claims that many modders allegedly create mods in order to get a job in the games industry (2014, 1258). The interplay between qualitative and quantitative methods in Postigo's, Sotamaa's, and Poor's works is instructive because it helps us understand why modders create mods and demonstrates how inductive surveys and quantitative studies can serve as a counterpoint to deductive, top-down, theoretical approaches.

In addition to studies of the political economy of modding and the social aspects of modding culture, some studies focus on the design, subject matter, and form of mods themselves, treating them as aesthetic objects which suggest and cater to different kinds of desires and subjectivities. Tom Welch's online-published article "The Affectively Necessary Labour of Queer Mods" (2018) adopts an aesthetic approach to mods and examines two different practices of modding computer games which resist "hegemonic attitudes towards gender and sexuality" (ibid.). Using examples from a variety of popular, commercial video games, Welch argues that modders have resisted heteronormative game design by introducing queer content and play in the form of "cosmetic enhancements" which alter the representational aspects of games and "mechanical alterations", changing the rules and structure of play to imagine different, queer subjectivities and desires (ibid.). Welch's approach is valuable for us here because it reminds us that mods, just like other aesthetic objects, do political work and imagine particular forms of social and individual life.

While there are many other important scholarly contributions to the study of user-generated content for computer games, these three approaches reveal three different focuses in the study of mods: studying the structures which encourage certain kinds of modding practices, studying modders and the practice and culture of modding itself around a certain game or in a certain context, and studying particular examples of mods which reveal creative, political, and social practices. My approach to the present study is drawn from the Digital Humanities practice of collecting and analysing metadata. It builds off of work such as Michael Black's article on the history of Mozilla (2015), in which Black argues that "close-reading" is "not suited to the scale and scope of modern application software" and that "distant reading" can help us better "narrativize" the

history of software development practices (ibid.). As I will demonstrate in my case study, I believe distant reading can help us understand histories and practices of modding in ways that strengthen the three previously mentioned approaches to studying mods: it can serve as a counterpoint and empirical test of structural critiques of modding production, it can help researchers interested in the social aspects of modding identify particularly important individuals and groups within a modding community for further quantitative and qualitative study, and it can contextualise the aesthetic analysis of particular mods and help us understand what kinds of cultural representations are typical or exceptional in modding for a given game, series, or genre.

Case Study and Method— A Distant Reading of *Farming Simulator 15*

In order to demonstrate how the distant reading of metadata about mods might help us answer questions about how games mediate and represent ideas of nation and culture, I will present a case-study of user-created maps for *Farming Simulator 15*. The *Farming Simulator* series is developed by GIANTS Software, a Swiss developer originally based in Zürich which has since expanded to Erlangen, Germany and Brno, Czech Republic. The series began in 2008 with the release of *Landwirtschafts-Simulator 2008* (GIANTS Software 2008)*,* and continues to the present day with over a dozen iterations in the series up to the most recent game, *Farming Simulator 20* (GIANTS Software 2019). In the series, players operate industrial farming equipment and perform various kinds of agricultural work from a first-person perspective. The game is open-ended and features large, 'open-world' spaces where the player is free to plant, harvest, and sell crops in order to buy more fields and farming equipment.

Over its many iterations, the *Farming Simulator* series has changed how it positions the setting of its maps in relation to actual places and cultures. Early iterations of the series contain few obvious markers that would indicate any specific region, nation, or culture,[3] but later in the series, the developers began to embrace map designs that had clear references to actual places in the world. For example, *Farming Simulator 2013: Titanium Edition* (GIANTS Software 2013) has two maps: Hagenstedt, which has landscape features like Dutch-style windmills that suggest a European setting, and Westbridge Falls, a map of a small, 'western' town that is littered with flags of the

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3   Although, the map for *Farming Simulator 2008* does feature a brewery where you can sell your crops, many wind turbines, and two churches, suggesting a certain economic, religious, and cultural setting in which beer, Christianity, and sustainable sources of electricity are important.

United States of America. This trend continues in *Farming Simulator 15*, where players have the opportunity to farm in the 'Nordic' forests of the map Bjornholm, or even on a former 'farmer cooperative' titled Sosnovka, which is likely a reference to the political and agricultural history of the Czech Republic.[4] These trends in the official maps released by developer GIANTS Software suggest a slow embrace of references to specific places and cultures, and thus cultural landscapes, with an emphasis on European and American settings.

As the developers themselves claim, part of the success of the *Farming Simulator* series is due to its ability to attract large numbers of modders. Because GIANTS Software built the game engine for *Farming Simulator* to be compatible with common scripting languages like LUA and file formats like .xml, even *Farming Simulator 2008* attracted a relatively large modding community that quickly began adding new tractors, crops, weather effects, and maps to the game. Even casual searches of websites for *Farming Simulator* mods suggest that modders began early on to make reference to specific farms, regions, nations, and cultures in the titles and descriptions of their maps. However, the question of whether this trend became the norm over the course of the series is difficult to answer by manually reading and taking notes about individual maps, as there are hundreds or even thousands of user-created maps for some iterations of *Farming Simulator*.

In order to test whether there is a significant tendency in user-generated maps to refer to or represent actual places and cultures, I collected metadata about user-created maps for *Farming Simulator 15* from five different mod-hosting websites. Both as an example for distant reading and as a study of the series in general, *Farming Simulator 15* is a good test case for several reasons. As previously mentioned, modding has always been important to the series, and mods likely played an important role in many players' experiences of the game. Additionally, the *Farming Simulator* series, and *Farming Simulator 15* in particular, is quite popular around the world,[5] resulting in a "network effect" in which an active modding scene attracts large audiences, which in turn attracts more modders.[6] Also, in terms of availability of data and stability of the data set, *Farming Simulator 15* is ideal: the game is still recent and popular enough that many websites still host data and mods for it, but most 'active modders' have moved on to later titles in the series, meaning that the set of possible *Farming Simulator 15* mods should be relatively stable.

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4 I base this assumption on the fact that the map features Czech Republic-based tractor brands and on histories of agriculture in the Czech Republic/Czechoslovakia. For more on this history, see Miller 1999.

5 According to reporting from VICE, *Farming Simulator 15* sold "3 million copies in two years" (Maiberg 2016).

6 For more about the "network effect" see Srnicek (2016, location 668).

After extensive research and iteration, I wrote a series of *Python*-based computer programs to automate the collection of metadata from five different mod-hosting websites: ls-portal.eu (2019), ls2015.com (2019), fs15.lt (2019), farmingmods.net (2019), and farmingmod.com (2019).[7] I chose these websites based on several criteria. I selected only websites that were specifically dedicated to mods for GIANTS Software's *Farming Simulator* series, and I favoured websites which hosted more mods and had more data about those mods. Moreover, I chose websites that had more 'likes' on their Facebook pages (in order to select popular mod websites), as well as websites with a variety of languages and domain names in an attempt to capture data from a wide variety of modders from different geographic locations.

One thing that became apparent while collecting data from these websites was that they often hosted the same mods, suggesting they were gathering data from similar sources. But there was also a great deal of variety in the level of detail and comprehensiveness of these different websites: both farmingmod.com and farmingmods.net had ~3,000 different webpages for mods in their map categories, while LS2015.com had the least, with 310 distinct URLs for user-created maps. Another challenge in cleaning and analysing data was the lack of version control on the websites that I collected data from. All five sites treated maps with titles like "Big Farm v1.0" and "Big Farm v2.0" as separate and unrelated maps, giving each their own separate page. While I initially cleaned my collected data to exclude updates or patches (for example, counting Big Farm and all its subsequent versions only once), in my final analyses, I decided to include new versions of maps in the total count of maps on each website, as visitors of these mod-hosting websites would have seen the titles of those maps more frequently, a fact which may have shaped how both mod-producers and -consumers thought about the 'spaces' of maps for *Farming Simulator 15*.

In the end, I collected the following categories of data from all five websites: titles of mods, text descriptions of mods, and dates when mods were uploaded to a particular website. Unfortunately, download counts were not always available, and authorship/crediting data was often missing or difficult to parse, barring the possibility of tracing mods back to teams or authors, or making any judgments regarding which mods were most well-received by players. Based on the data I was able to collect, I decided to conduct my analysis with the goal of answering two questions:

7   As a note, "fs" stands for "Farming Simulator" and "ls" stands for the German title of the game, "Landwirtschafts-Simulator." I could not collect data from GIANTS Software's official *Mod-Hub* platform, as it seems they only host mods for their newer releases, *Farming Simulator 17* (GIANTS Software 2016) and *Farming Simulator 19* (GIANTS Software 2018). In a future version of this project, I may consider trying to use the Internet Archive to collect data from this 'official' mod platform as well.

— Question 1: Is it a common practice for modders to describe their maps as representing or referring to an actual culture or place?
— Question 2: If modders *do* frame their maps as representing or referring to specific places or cultures, which places and cultures are most common?

I collected information on nearly 8,000 webpages across all five websites and conducted analyses on statistical samples of each website separately. Sampling is a process by which one can draw statistically relevant conclusions about a large population without having to analyse every unit of that population. To create samples for each website, I used a sample size calculator available online from the Australian Bureau of Statistics (2018) and calculated simple random samples of each website's total number of mods that had a 95% confidence level and a confidence interval of .05. This means that my samples had a 95% chance of accurately representing the total 'population' of mods on each website, plus or minus five percent. Once I had created one sample for each website, I attempted to find a program, tool, or method to automatically recognise words in the titles and descriptions of the mods which referred to a specific place or culture. Although there are some programs that are supposed to do this relatively accurately, such as the *Python* library "geograpy" or the Stanford Natural Language Processing Group's *Stanford Named Entity Recognizer* (NER), these programs were either too inaccurate or only functional for a limited number of languages. Because my dataset included text in a variety of languages (English, German, French, Portuguese, Polish, Russian, and more), I manually analysed the title and description of each mod, searching map titles in Google Maps to see if they were actual towns, cities, farms, or regions in an actual country, marking whether or not the mod was referring to an actual place or culture, and if it was, noting which country.[8] After completing this analysis, I was able to answer both questions that I set out to answer. With regards to Q1, the data I collected suggested that it *is* a common practice for modders to describe their maps as representing or referring to an actual culture or place. As can be seen from *» Table 1*, depending on the website, there is anywhere from a 54.4% – 70.0% chance that a modder will describe their map as referring to an actual culture or place. This suggests that indexicality and cultural specificity are important to mod creators and constitute the norm in map-making for *Farming Simulator* 15.

Because I was able to answer Q1 in the affirmative, I could also give a meaningful answer to Q2: "If modders *do* frame their maps as representing or referring to specific places or cultures, which places and cultures are most common?" The answer to this question also varied by website, but one clear trend emerged: on almost every website,

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8   Just as a note, I have superior reading proficiency in English and German and basic reading proficiency in French and Spanish. While this method was still surprisingly effective for languages that I do not have proficiency in, there may be a few errors in my counting, but I do not think they are significant enough to discount this method or my findings.

Table 1 Results for Question 1 "Is it a common practice for modders to describe their maps as representing or referring to an actual culture or place?" (graphic by the author).

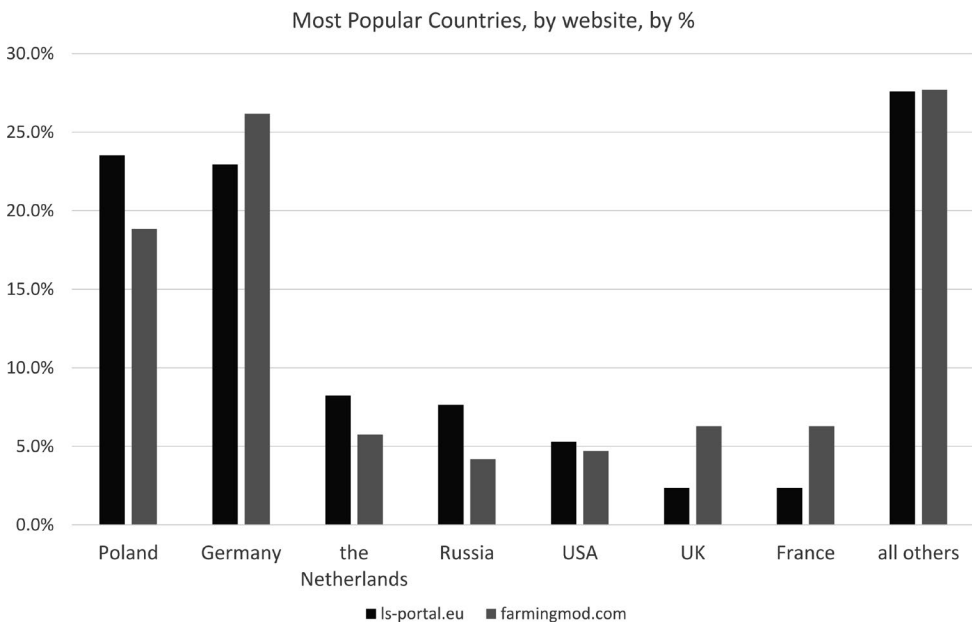| Website	Population	Sample Size	Yes (count)	No (count)	Yes (%)	No (%)
LS2015.com	310	172	114	58	66.3%	33.7%
ls-portal.eu	655	243	170	73	70.0%	30.0%
fs15.lt	802	265	177	88	66.8%	33.2%
FarmingMod.com	2943	340	191	149	56.2%	43.8%
FarmingMods.net	3105	342	186	156	54.4%	45.6%

Fig. 1 A chart comparing popular countries mentioned on ls-portal.eu and farmingmod.com.

Germany and Poland emerged as the first and second most popular settings for user-created maps for *Farming Simulator 15*. However, the countries which appeared alongside Germany and Poland in the top five varied by website.

For example, the graph above (» *Fig. 1*) shows a comparison of the top five countries mentioned in map titles and descriptions on ls-portal.eu with the top five countries on farmingmod.com. As can be seen, Poland and Germany are the clear favourites on both websites, but the UK and France are slightly more popular on farmingmod.com, while the Netherlands and Russia are third and fourth on ls-portal.eu.

Conclusion

On their own, these findings make it clear that modders who create maps for *Farming Simulator 15* often choose to describe their maps as set in Germany or Poland, meaning that central and east European regions have a special importance in modders' imaginations of *Farming Simulator 15*'s agricultural spaces. But the findings produced by this distant reading perhaps take on their fullest significance when brought into conversation with political-economy, social science, and aesthetic research methods. Going back at least as far as *Farming Simulator 2011*, GIANTS Software has hosted "mod-contests" for each PC iteration in the series. When looking at the list of winners from 2015, we see trends that resonate with our meta-data findings: maps and machine brands with connections to Germany, Poland, the United States of America, and other European countries are well-represented among the winning mods. Further studies of the political economy of modding for *Farming Simulator* could use this distant-reading method to test whether the rules, structures, and awards for these mod-competitions create material and social feedback-loops which encourage modders to adopt certain national and regional places as the inspirations for their maps. Our meta-data findings also have significance for the study of *Farming Simulator* modding communities. Despite the fact that early versions of *Farming Simulator* were developed by a Swiss and German team, the prevalence of "Polish" maps suggests that further social-scientific studies of modding communities around *Farming Simulator* should investigate the importance of both German *and* Polish modding communities.

Our findings also have important implications at the level of aesthetics. When exploring the in-game rural spaces of several user-created maps, it can often be difficult to tell the difference between "German," "Polish," "French," or any other kind of map: most maps are composed of rural landscapes with large, open fields, rolling hills, paved and dirt roads, clusters of trees, a few houses or small apartment buildings, and the shops and points-of-sale which play an important part in the game's simulation of farming. Unless a player has first-hand experience of a certain place, there is very little *within* user-created maps to indicate that they are meant to refer to specific, real-world places. However, in light of the results of our distant-reading method, which shows that modders often frame their maps in reference to real-world places, small details in maps like road-signs and billboard, designed to mimic their real-world counterparts, take on increased aesthetic importance as markers of cultural specificity and authenticity. In this way, we can see that the rustic and rural spaces in user-created maps are often infused with larger political and cultural understandings of locality, regionality, and nationality, and serve as a good example of what Carlson and Corliss call the production of "cultural mythologies" (2011). In this process, cultural workers, such as modders, craft mythologies about cultural specificity through aesthetic objects, producing works about their own regions or nations for consumption abroad or

constructing mythologies about "foreign" places out of materials available to them in their own socio-cultural context. Our meta-data analysis strengthens aesthetic analyses of user-created maps by drawing our attention to the political significance of framing digital spaces in local, regional, and national terms.

Of course, there are many more questions that one could ask about modding practices and culture using this data-driven method, but this case study is meant to illustrate how distant reading can inform a variety of approaches to studying the structures, culture, and aesthetics of modding. Although this study has focused on user-generated maps, this method could also be used to study other forms of para- and meta-textual media that often shape our engagement with computer games, such as wikis, forums, and other social, user-created textual forms. Further development of this method would require scholars to grapple with the importance of other forms of media beyond text, such as screenshots and videos, which modders use to showcase their works and communicate what their mods are about. But even in the narrow application which I have presented here, I believe that this data-driven approach to studying modifications at scale represents a valuable contribution with wide application to how we understand mods, the culture of modders, and the creative media objects they produce.

Figure

Fig. 1: Graphic by the author.

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