Crowdsourced translation in indie game localization. Case study: the community translation of Finding Paradise

Capellini, Thomas

Thomas Capellini

Crowdsourced translation in indie game localization

Case study: the community translation of *Finding Paradise*

Supervisor: Lucía Morado Vázquez

Jury: Silvia Rodríguez Vázquez

Mémoire présenté à la Faculté de traduction et d'interprétation (Département de Traduction, unité de Français) pour l'obtention de la Maîtrise (Ma) universitaire en traduction et technologies (MATT), mention localisation et traduction automatique

Université de Genève

Année académique 2020-2021

Août 2021

Déclaration attestant le caractère original du travail effectué

J'affirme avoir pris connaissance des documents d'information et de prévention du plagiat émis par l'Université de Genève et la Faculté de traduction et d'interprétation (notamment la *Directive en matière de plagiat des étudiant-e-s,* le *Règlement d'études des Maîtrises universitaires en traduction et du Certificat complémentaire en traduction de la Faculté de traduction et d'interprétation* ainsi que l'*Aide-mémoire à l'intention des étudiants préparant un mémoire de Ma en traduction*).

J'atteste que ce travail est le fruit d'un travail personnel et a été rédigé de manière autonome.

Je déclare que toutes les sources d'information utilisées sont citées de manière complète et précise, y compris les sources sur Internet.

Je suis conscient-e que le fait de ne pas citer une source ou de ne pas la citer correctement est constitutif de plagiat et que le plagiat est considéré comme une faute grave au sein de l'Université, passible de sanctions.

Au vu de ce qui précède, je déclare sur l'honneur que le présent travail est original.

Nom et prénom : Capellini Thomas

Fribourg, le 2 août 2021

Acknowledgments

I would first like to thank my supervisor, Lucía Morado Vázquez, for providing the most helpful guidance throughout the writing of this dissertation.

I am also expressing my gratitude to my jury, Silvia Rodríguez Vázquez, for accepting to examine this dissertation, as well as the ethics committee president, Alexander Künzli, for helping me design the survey in conformity with ethical guidelines.

Most importantly, none of this would have happened without the precious insight from *Finding Paradise* community translation contributors: the localization manager, Andrii Raboshchuk, who kindly provided details about technical aspects of the project; the 24 volunteer translators, revisers and testers who took time to complete the questionnaire and share their experience; and the game creator, Kan Gao, who answered my enquiries. My most sincere thanks to all of you.

Finally, I wish to thank people who are close to me for their interest and encouraging words.

Table of contents

List of tables

List of figures

1. Introduction

Video games are versatile technological and cultural artefacts (O'Hagan & Mangiron, 2013). With an ever-growing market surpassing any other entertainment industry, it is not surprising that games have sought to go global. Localization (the translation and adaptation of a game for international export) is now an integral part of the industry. There are many intricacies to this process, from technological challenges to the much-debated notion of cultural adaptation or legal constraints. Thanks to rapid technological progress, the development of increasingly versatile translation tools has proven helpful in managing the huge volumes of content to localize. At the same time, the participatory nature of the "Web 2.0" has given birth to alternative game development, distribution and localization models, short-circuiting the traditional, "AAA"-based, linear value chain (Egenfeldt-Nielsen et al., 2016, p. 21; Toftedahl et al., 2018, p. 3) and causing a shift towards more dynamic models. Indie games (self-published, often more experimental games developed by small, independent teams) have found their place on digital distribution platforms such as Steam (Valve Corporation), gaining immense popularity in the past decade to the point where it is now impossible to imagine the industry without them (Lien, 2013). Indie games have been able to reach wider audiences by using online, technology-based localization strategies that can rely on the unconditional contributions from dedicated, sometimes highly skilled fan community members. Those rapidly evolving translation practices have broadened the horizons of translation studies and unlocked areas of research largely underexplored to date. With game development, publishing and localization becoming more and more accessible to the wider public, so does documenting the localization processes of open initiatives. Navigating through a sea of interconnected translation subconcepts, this dissertation aims to contribute to the existing literature by contextualizing, defining and understanding a localization model that consists in letting crowdsourced fans carry out the localization of indie games. To this end, the participant-oriented case study of an indie game that successfully implemented this model is proposed, followed by a discussion on the caveats and potential ethical implications of this model.

2. Literature review

The main purpose of this chapter is to contextualize the research by providing an overview of the intricacies of game localization, as well as other translation subconcepts involving various forms of online collaboration. From there, it will describe how those collaborative practices are articulated in the game localization field, and more especially "indie" games.

The first section (2.1) will start with an overview of game localization. It will highlight the similarities and differences between game localization and the related concepts of software localization and audiovisual translation (AVT), as well as provide details about key aspects of the field, such as levels of localization (2.1.1), localization models (2.1.2), localization tools (2.1.3), and the process of cultural adaptation and censorship (2.1.4).

The second section (2.2) will attempt to define a category of games described as "indie", how indie games supposedly differ from their "AAA" (big budget) counterparts, problems with this categorization, and how this distinction can still be useful.

The third section (2.3) will temporarily depart from game-related considerations and present an overview of collaborative translation practices, which emerged in the midst of what is commonly referred to as the "Web 2.0".

The fourth section (2.4) will look at how those collaborative practices apply to some branches of game localization by focusing on fan translation or "translation hacking", which consists of the unsolicited translation of video game scripts by fans.

The fifth section (2.5) will be dedicated to the relatively recent concept of crowdsourcing and how crowdsourced translation differs from community translation.

Finally, the sixth section (2.6) will attempt to narrow down the concept of crowdsourced translation to indie games and justify the need of investing that area of research.

2.1 Game localization

Game localization (l10n) is "the process of *translating* and *adapting* [emphases added] a game to appeal to multiple players across language barriers, different cultures, and countries and regions with conflicting laws and political stances" (Consalvo, 2012, p. 59). This definition rightly suggests that localization consists in more than merely translating words. The practice dates back to the commercialization of the first arcade video games in the 70s. Although early games required minimal to no localization efforts (mere UI [user interface], names, or documentation), rapid technological progress and increased machine capacity led to the

inclusion of more content, such as long chunks of text, voiced dialogues and cutscenes.[1] As a result, localization became an increasingly complex and multi-faceted field that incorporates aspects of both software localization and audiovisual translation (AVT) (O'Hagan & Mangiron, 2013, p. 21), as well as its own specificities.[2] Software localization practices themselves date back to the global commercialization of American computer software in the 80s and

> [...] works with translatable text embedded in non-translatable program code. Especially the translation of the text elements in user interfaces has to cope with space restrictions. Localization therefore comprises an adaptation of the size of buttons, dialogue boxes and other elements to the length of the target text. (Schubert, 2010, p. 352)

User interfaces, dialogue boxes, and working with files containing both translatable and non-translatable content are characteristics shared by both software localization and game localization.[3] Increasingly elaborate game cutscenes in turn draw on AVT dubbing and subtitling techniques, although AVT standard practices are not necessarily applied to game localization (Mangiron, 2017, p. 87). Finally, culture-specific video game content may be altered during the localization phase in order to meet cultural adaptation, age rating and censorship requirements.

2.1.1 Levels of localization

Video games feature a wide variety of textual and non-textual content that require variable amounts of effort to localize. Resource availability and expected returns on investment generally determine whether a game will be localized, and to what extent. Thayer & Kolko (2004, pp. 17–18) proposed a three-level model, from the least to the most complex and expensive level:

- **Basic localization** consists in translating in-game text content and leaving graphical user interface (GUI), such as icons or buttons, untouched.

[1] A cutscene or cinematic is "any non-interactive storytelling or scene-setting element of a game" (Hancock, 2002). It may pre-rendered as a full-motion video (FMV) or rendered using the game engine.

[2] For a historical review of game localization, see Bernal-Merino (2011) and O'Hagan & Mangiron (2013, pp. 46–63).

[3] The upcoming case study will illustrate the potential technical challenges arising from manipulating such files (see section 4.4).

- **Complex localization** additionally translates the GUI and icons.
- **Blending** rewrites the story and modifies the graphical assets of the game in order to conform to the target culture.

The third level (blending) is meant to "highlight[] the unique challenges associated with the global gaming industry", with which software localization is not concerned (Thayer & Kolko, 2004, p. 21).

Chandler & Deming proposed another model and distinguished three levels of localization, based on three types of localizable content (2005/2011, pp. 8–10):

- **No localization** can be seen as level zero and refers to situations in which the game (usually cheap, "budget" titles) is delivered as is, without any changes.
- **Packaging and manual localization**, also referred to as "box and docs", includes all localizable content found on printed material, such as keep cases (or cardboard boxes in earlier generation consoles), instruction booklets, teasers, and other advertisements.
- **Partial localization** means that all in-game text, such as UI, dialogues or help files, is translated.
- **Full localization** additionally includes voiceover (dubbing).

Those levels do not reflect all possible scenarios, for there could be "partial partial localizations" with localized UIs but untranslated dialogues, or a "partial full localization" with target-language voiceover combined with subtitled original voices.[4] Moreover, graphical or gameplay changes are not taken into consideration. Finally, the "box and docs" localization level does not reflect the shift from game disks to digital downloads that occurred in the 2010s.[5] Those observations indicate that game localization is a dynamic concept that needs

[4] As was the case in the 2004 U.S. release of Gamecube Japanese role-playing game (JRPG) *Tales of Symphonia*, where the main cutscenes were dubbed in English, but skits (short, optional scenes) were not because of time constraints (Nintendo World Report, 2004). European releases featured English dubbing instead of the original Japanese voiceover. However, the 2014 PS3 version of the game did include both English and Japanese voices and in fact advertised the latter, perhaps indicated a move towards maintaining proximity with the original source.

[5] In 2020, digital sales accounted for 91% (an estimated $158 billion) of the global games market revenue, including 72% of console games, 98% of PC games, and 100% of mobile games (Batchelor, 2020). Digital distribution platforms include Nintendo's eShop, Sony's PlayStation Store, Microsoft Store (Xbox) or Steam, GOG.com and Epic Games Store (computer games). Sony's PlayStation 5 Digital Edition and Microsoft's Xbox Series S (both released in late 2020) were sold as lower-cost models than their basic counterparts and lacked disc drives, forcing players to acquire games through digital download.

permanent updating, i.e., that models that were valid a decade ago may not reflect current practices. Table 1 is a comparison of both models.

Object	Thayer & Kolko	Chandler & Deming
None	-	No localization
Packaging and manual	-	Box and docs
In-game text	Basic localization	Partial localization
GUI	Complex localization	
Voiceover	-	Full localization
Story, graphics	Blending	-

TABLE 1. LEVELS OF LOCALIZATION (ADAPTED FROM CHANDLER & DEMING, 2011, PP. 8–10; THAYER & KOLKO, 2004, PP. 17–18)

As full localizations slowly tend to become standard practice, Thayer & Kolko's "blending" level was build up on and further levels were introduced. For instance, a "deeply localized" game is

> [...] brought closer to the consumer in each locale, in other words, anything that is not against the game world itself and can ease the immersion of players can be reconsidered and adapted to fit what is considered to have a more successful local impact (Bernal-Merino, 2011, p. 17)

This model is coherent with a position where the *skopos* (Reiss & Vermeer, 1984/2014), i.e., the purpose or aim of game localization, is to entertain the end user (O'Hagan & Mangiron, 2013, p. 150). The term "transcreation", originally attributed to Vieira, who used it in the context of poetry translation in Brazil (1999, as cited in Bernal-Merino, 2014, p. 88) has been applied to game localization to describe phenomena of this kind, which stress translator's agency and a sense of "defiance" (O'Hagan & Mangiron, 2013, p. 199) and unashamedness (Bernal-Merino, 2014, p. 90). However, end users (i.e., gamers) do not form a homogeneous group (see for example the nine gamer personas sketched in Newzoo, 2021) with similar expectations. As a result, some may prefer a "foreignizing" translation, while others will enjoy a "domesticating" translation, to borrow Venuti's terms (1995/2008). Moreover, it is not clear how exactly transcreation is different from cultural adaptation, which is part of the localization process (see 2.1.4) and echoes Thayer & Kolko's "blending" level.

To summarize this overview of localization levels, it can be said that various textual and non-textual elements can be localized, that some assets are more technically complex, time-consuming and/or costly to localize, and that all those factors may lead to partial localizations (or none), despite a general tendency towards fuller localizations. Because of the gargantuan revenues of the video game industry (and equally large funds allocated to game development and marketing),[6] localizations and foreign market sales are key to maximizing revenues. Regardless of this economical development, opting to localize a game still has risks, such as low sales and missed key release dates (e.g. Christmas) (Chandler & Deming, 2005/2011, p. 8). Moreover, the success of a game in a foreign market is often difficult to predict, leading some companies to "inevitably err on the side of caution, choosing not to spend extra money on a game to translate or localize it" (Consalvo, 2012, p. 60).[7] The language(s) in which to localize the game into must also be determined. In addition to English, European versions usually include 4 languages: French, Italian, German and Spanish, commonly referred to as "FIGS". Languages from "emerging" gaming markets, such as Russian, Polish, Brazilian Portuguese, simplified and traditional Chinese, and Korean are increasingly often localized into (O'Hagan & Mangiron, 2013, p. 16). Square Enix's *Final Fantasy VII Remake* (*FFVIIR*, released in 2020 on PS4) included subtitles in FIGS, CJK[8], Latin American Spanish and Brazilian Portuguese, but "only" had English, French and German (and of course Japanese) voiceover. From an economical point of view, other country markets are likely not big enough to warrant localization efforts.

2.1.2 Localization models

Once it has been decided that a game will be localized, one must choose how to do it. Various coexisting localization models have been identified. O'Hagan & Mangiron propose several distinctions based on the localizer's status (who it is) and the timing of release (2013, p. 116):

- With an **in-house model**, the translation team works under the direct supervision of the developer and/or publisher.

[6] In 2020, the global game market generated an estimated $159.3 billion (Newzoo, 2020). By comparison, the global theatrical and home/mobile (content released digitally and on disc) market generated an estimated $80.8 billion (Movie Picture Association, 2020), and the global recorded music market an estimated $21.8 billion (ifpi, 2021). Some modern "AAA" games have over $100 million development budgets. For an overview of the evolution of game costs, see Koster (2018).

[7] For example, back in 2013 *Tales* series producer Hideo Baba's rationale was to only localize flagship, remake or all-star titles, due to lack of localization staff (Kai, 2013).

[8] CJK stands for Chinese, Japanese and Korean.

- With an **outsourced model**, the localization is carried out by an external vendor.
- With a **sim-ship model** (which stands for "simultaneous shipping"), international versions are released at the same time as the original version.
- With the **post-gold model** (derived from "gold master"[9]), the game is localized after the release of the original version.

In the late 90s and early 2000s, Japanese games were often released months to years later in North America and Europe, assuming they made it to the West at all.[10] Over time, however, the sim-ship model came to be more widely used. For example, the gap between the domestic and international releases of *Pokémon* mainline games can be compared overtime, spanning almost 25 years. The release dates are listed in Table 2.

Game	**Release date**		
	Japan	**North America**	**Europe**
Red and Green (*Red and Blue* in NA/EU)	Februrary 27, 1996	September 28, 1998	October 5, 1999
Yellow	September 12, 1998	October 18, 1999	June 16, 2000
Gold and Silver	November 21, 1999	October 15, 2000	April 6, 2001
Crystal	December 14, 2000	July 30, 2001	October 31, 2001
Ruby and Sapphire	November 21, 2002	March 19, 2003	July 25, 2003
FireRed and LeafGreen	January 29, 2004	September 9, 2004	October 1, 2004
Emerald	September 16, 2004	May 1, 2005	October 21, 2005
Diamond and Pearl	September 28, 2006	April 22, 2007	July 27, 2007
Platinum	September 13, 2008	March 22, 2009	May 22, 2009
HeartGold and SoulSilver	September 12, 2009	March 14, 2010	March 26, 2010
Black and White	September 18, 2010	March 6, 2011	March 4, 2011
Black 2 and White 2	June 23, 2012	October 7, 2012	October 12, 2012
X and Y	October 12, 2013	October 12, 2013	October 12, 2013

[9] The final version of a piece of software, ready to be delivered and/or commercialized (Techopedia, n.d.).

[10] *Seiken Densetsu 3* (1995) fans had to wait until *Collection of Mana* (2019) to officially play the game in English.

Omega Ruby and Alpha Sapphire	November 21, 2014	November 21, 2014	November 28. 2014
Sun and Moon	November 18, 2016	November 18, 2016	November 23, 2016
Ultra Sun and Ultra Moon	November 17, 2017	November 17, 2017	November 17, 2017
Let's Go, Pikachu! and Let's Go: Eevee!	November 16, 2018	November 16, 2018	November 16, 2018
Sword and Shield	November 15, 2019	November 15, 2019	November 15, 2019

TABLE 2. COMPARISON OF MAINLINE *POKÉMON* GAMES RELEASES IN JAPAN, NORTH AMERICA AND EUROPE (ADAPTED FROM BULBAPEDIA, 2021)

Figure 1 shows how the gap between the original and international releases gradually decreased until the simultaneous "worldwide" (i.e., all localized versions) release of *X and Y* in 2013.

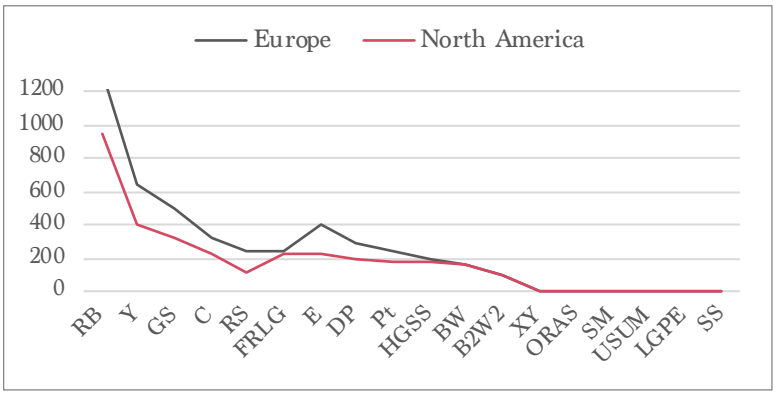

FIGURE 1. DAYS ELAPSED SINCE JAPANESE *POKÉMON* MAINLINE GAME RELEASE

The sim-ship model offers many advantages, including more impactful marketing efforts (Bernal-Merino, 2011, p. 16; Chandler & Deming, 2005/2011, p. 43) and decreased risks of unauthorized translations (Bennett, 2019, p. 293) or otherwise illegal activities. However, it also translates into a lack of contextual information for the localizers, due to the fact that the localization process is initiated while the game is still in development (O'Hagan & Mangiron, 2013, pp. 130, 193). The sim-ship model has further implications: in the past, international versions of Japanese games have commonly been based on the North American localization,

with English working as a "pivot language"[11] (O'Hagan & Mangiron, 2013, pp. 60, 130) rather than the original Japanese version. The sim-ship model pushes game publishers to move away from this workflow and localize all versions directly from Japanese. As a matter of fact, *Pokémon X and Y* was not only the first game in the franchise to be released at the same time everywhere, but also the first that used the original Japanese version as the basis for all localizations (Iwata, 2013).

2.1.3 Localization tools

Taking a step back and looking at software localization, a distinguishing feature of the field is that text is "marked up by various codes and tags" (O'Hagan & Mangiron, 2013, p. 95). Altering text that should not be translated runs the risk of breaking the code. Moreover, working with independent strings leads to decontextualization issues also found in game localization (O'Hagan & Mangiron, 2013, p. 96). In this context, computer-aided translation (CAT) tools have proven helpful to software localizers. CAT tools became widely commercialized in the 90s (Bowker & Fisher, 2010, p. 60). They allow the user to import all kinds of file formats, as shown in Figure 2.

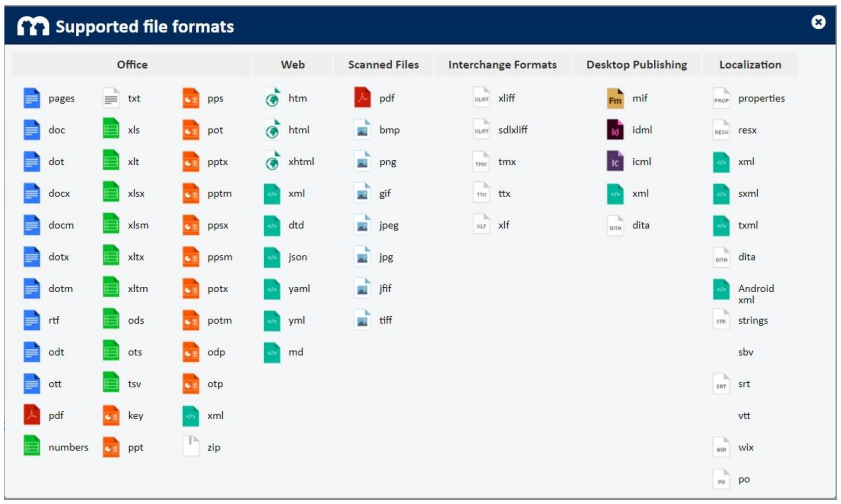

FIGURE 2. FILE FORMATS SUPPORTED BY MATECAT (MATECAT, N.D.)

[11] I.e., games are localized from Japanese into English, and then from English into other languages. The use of English as a pivot language has raised issues, such as the fact that other international versions adapt content that has already been adapted, which has been considered as an unwelcome interference by players (O'Hagan & Mangiron, 2013, p. 165).

When a file of the desired format is imported, the CAT tool breaks it down into segments (usually sentences). Figure 3 displays the line/segment number, source text, target output, and segment status (vertical bar). In this particular context, the translation was generated by a machine translation (MT) engine. The function of the "TM Search" and "Glossary" tabs are explained in the next paragraphs. Although there is a wide variety of available CAT tools, most work and display information similarly.

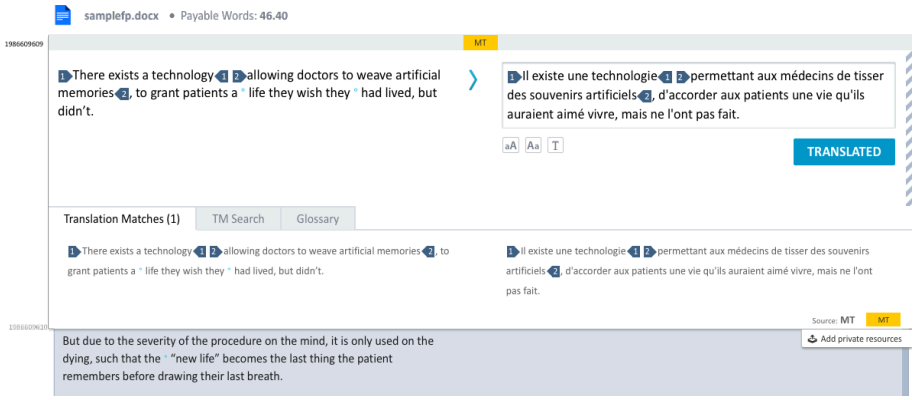

FIGURE 3. MATECAT TRANSLATION EDITOR

CAT tools typically integrate various functionalities:

- Translation memories (TMs)

Translation memories store previously translated text and allow the translator to reuse it when possible. That previously translated text consists of bitexts, i.e., linked source and target segments (Bowker & Fisher, 2010, p. 61). Similarities between a new segment and one that is stored in the TM are presented in the form of x% "matches", where $0 < x \leq 100$ indicates the degree of resemblance. When the match is under 100%, it means that both segments are similar, but not identical, and the user can post-edit the pre-translated text accordingly. These so-called "fuzzy" matches are often considered useful when there is a correspondence of 60% or more (Bowker & Fisher, 2010, p. 61). On the other hand, 100% matches mean that both segments are the same. Recycling previous translations allows translators to not only gain time, but also maintain consistency throughout the text or even across documents (TMs can be reused in later projects). Consistency might be otherwise very difficult to achieve, especially when several translators work on the same text. TMs are often a main feature of modern of computer-assisted translation (CAT) tools. They have their own standardized file

format (Translation Memory eXchange, or TMX[12]) which enables importation and exportation across people and platforms.

- Concordance search

This component (see Figure 4) allows the user to search the TM for words or phrases and displays them in context:

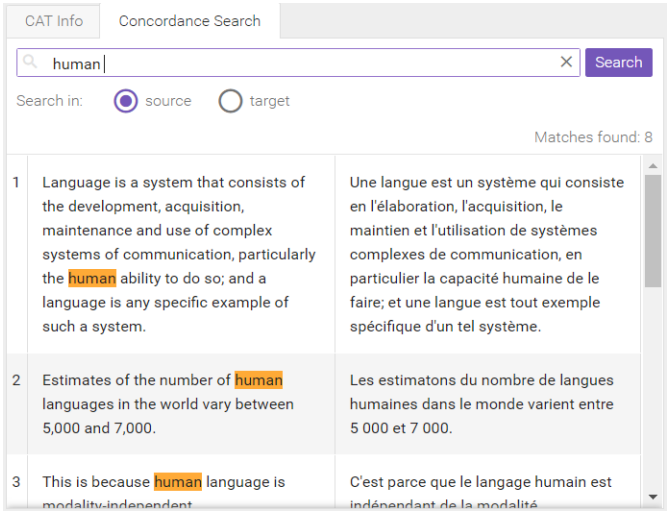

FIGURE 4. CONCORDANCE SEARCH IN SMARTCAT (SMARTCAT, 2021)

- Termbases (TBs) or glossaries

Termbases store terms, i.e., linguistic units, the meaning of which depends on field-specific context. For instance, the meaning of "mouse" depends on whether the field is "mammals" or "computer hardware". A TB term record often displays the term itself, as well as an equivalent in the target language, a definition, an example sentence in context, and the source of the information (Bowker & Fisher, 2010, p. 61).

- Machine translation (MT)

Machine translation is a fully automated process in which a computer software translates text from a source language into a target language without human intervention. (Humans may pre-edit the source input or post-edit the target output.) MT engines can be divided into three types: rule-based, statistical, and neural. Early MT engines were rule-based and used

[12] TMX is a specification of XML, which essentially consists of a human and machine-readable text file with a well-defined structure. For a discussion on XML-based localization standards, see Roturier (2020). For a quick presentation of XML and the similar XLIFF format, see Dias (2013).

grammar and language rules, as well as field-specific terms. On the other hand, statistical and neural engines "learn" how to translate by analyzing very large corpora of parallel text (with source language segments aligned with corresponding target language segments) (Simard, 2020, p. 80). Neural machine translation (NMT) in turn relies on a neural networks computational approach (Forcada, 2017). An example of a NMT engine is DeepL, released in 2017 which translates 26 languages as of June 2021. CAT tools increasingly support MT integration.

CAT tools have many other functionalities, such as collaborative and project management tools, or "placeholders" that lock pieces of text and prevent them from being altered (see also O'Hagan & Mangiron, 2013, p. 95). Finally, modern CAT tools come in various flavors. They can be classified according to whether they are paid or free, and whether they are desktop-based (users must install a piece of software in order to use the tool) or cloud-based (accessed through a web browser, with no installation required), as shown in Figure 5.

FIGURE 5. POPULAR CAT TOOLS (SMARTCAT, 2019B)

Apart from CAT tools, software localization benefits from tools that enable extracting, exporting and importing back translatable content, as was the case in the upcoming case study, or protecting tags.

Despite all their apparent benefits, and perhaps surprisingly, commercial CAT tools have not been so readily adopted by game localizers. According to O'Hagan & Mangiron, this initial reluctance was due to the fact that

> [...] game products are diverse and thus more resistant to a standardized approach that can work well with the localization of productivity applications. The latter tend to generate more consistent and somewhat homogenized texts than those in games, and

> are thus more suited to the use of such technologies as Translation Memory (TM). (2013, p. 143)

This does not mean that the game industry has fallen behind in terms of use of translation technologies. In fact, in order to meet multilingual, sim-ship requirements, game developers have used project management applications and content management systems (CMS) such as Keywords Studio's XLOC and/or deployed their own in-house tools. Those include glossaries, centralized translation databases, or audio localization tools, such as Square Enix's Moomle (O'Hagan & Mangiron, 2013, pp. 143–146). Interviews with professional game localizers can provide valuable insight into the processes and tools used by big game companies.[13]

Popular CAT tools have also attempted to cater to game localizers' needs, with MemoQ releasing a game localization eBook guide (2017). The use of such technologies assuredly worked in favor of improving translation quality, with notoriously bad localizations of games released in the 90s or early 2000s[14] being largely part of the past, though some localization models pose new challenges, such as the sim-ship model resulting in ever-tighter schedules, or the outsourcing model preventing translators from accessing to the full contents of the game (O'Hagan & Mangiron, 2013, pp. 193, 307–309).

2.1.4 Cultural adaptation and censorship

Cultural adaptation and censorship are related in that they can extend to graphics and gameplay, in addition to deliberately altering textual content. Those changes typically occur for copyright, age rating, and/or culture-specific reasons.[15] As regards age rating, various region-specific systems exist, such as the Pan-European Game Information (PEGI, Europe), the Unterhaltungssoftware Selbstkontrolle (USK, Germany), the Russian Age Rating System (RARS), the Australian Classification Board (ACB), or the Entertainment Software Rating

[13] For example the instructive interview with some *Final Fantasy VII Remake* (*FFVIIR*) localizers, posted on the official Final Fantasy Portal Site (Square Enix, n.d.).

[14] See Mandelin (2018) for examples.

[15] Numerous examples can be found in 2004 Nintendo Gamecube RPG *Paper Mario: The Thousand-Year Door* (*TTYD*). Original references (or perceived resemblances) to a Playboy bunny, alcohol, *2001: A Space Odyssey*, murder, or the Nazi salute were all removed or toned down in international versions, and the oft-cited character Vivian was referred to as either a feminine-looking boy, a cisgender girl or a transgender girl, depending on the language chosen (see TCRF, 22 July 21). The Cutting Room Floor (TCRF) is a wiki dedicated to discovering and cataloging unused and debug content in video games. Similarly, the original international releases of 1998 *Pokémon: The First Movie* (*M01*) suffered from heavily toned-down dialogues, Manichaean depiction of the main characters, and an entirely missing 10-minute prologue (see Bulbapedia, 2021b).

Board (ESRB, North America), with somewhat consistent age thresholds and color schemes. The labels are displayed in Figure 6.

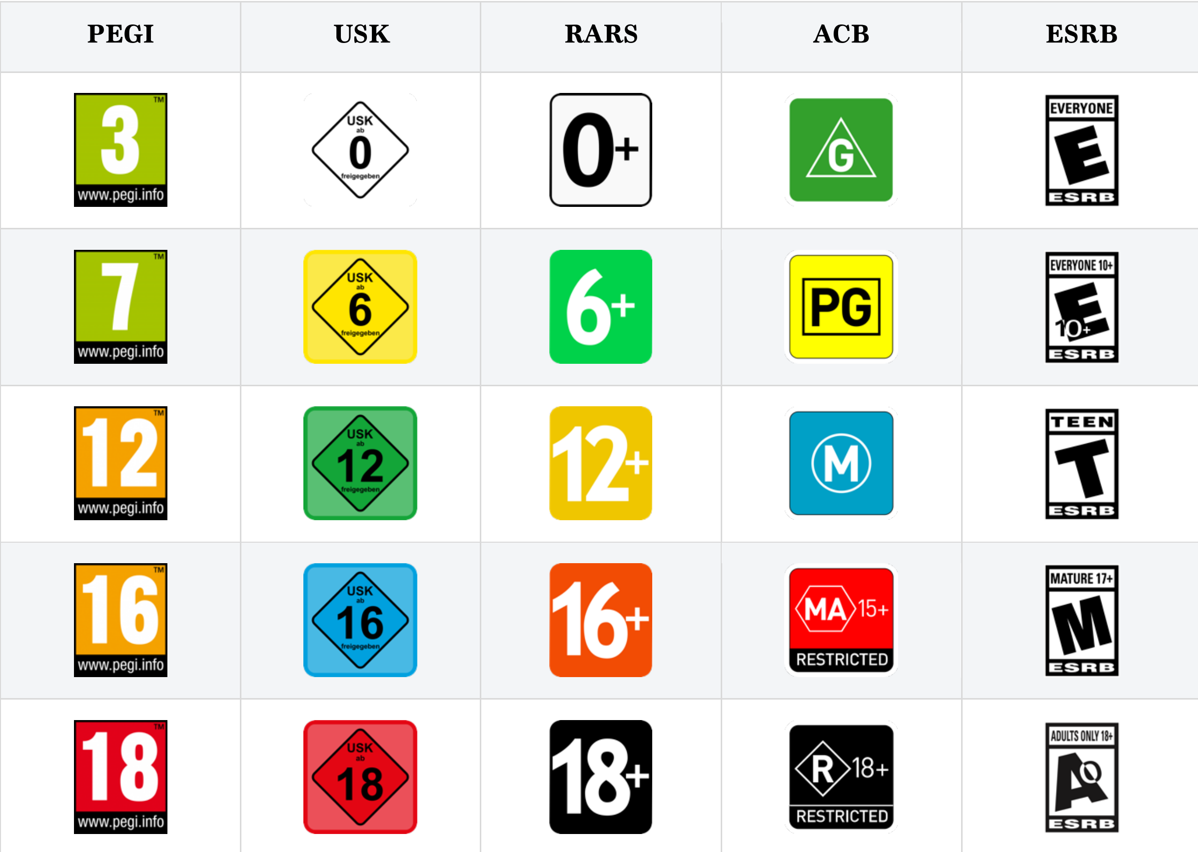

FIGURE 6. VARIOUS AGE RESTRICTION SYSTEMS

Additionally, rating systems may advise parents with respect to the suitability of a game by using content descriptors, such as (in PEGI's case) "bad language", "discrimination", "drugs", "fear", "gambling", "sex", "violence" or "in-game purchases". Each rating system has its own assessing methods, and results may vary considerably.[16] Country-specific laws may also come into play, such as German laws forbidding Nazi symbolism (Thayer & Kolko, 2004, p. 26). Cultural gaps are important when adapting from Japanese to Western markets or the other way around. For instance, Japan has a generally more permissive attitude as regards references to sex, alcohol or tobacco (O'Hagan & Mangiron, 2013, p. 222), whereas Western games tend to have more explicit depictions of violence and blood (Kent, 2004, as cited in O'Hagan & Mangiron, 2013, p. 208).

[16] For instance, 2004 PC game *The Sims 4* had a 6+ USK rating, but an 18+ RARS rating.

The above considerations may explain why, in O'Hagan & Mangiron's view (2013, p. 172), game localization fits Nord (1997/2018)'s concept of "instrumental translation". Nord's functionalist approach distinguished two types of translation processes:

- **documentary translations**, which aim at "producing in the target language a kind of document of (certain aspects of) a communicative interaction in which a source-culture sender communicates with a source-culture audience via the source text under *source-culture* [emphasis added] conditions (Nord, 1997/2018, p. 46); and
- **instrumental translations**, which aim at "producing in the target language an instrument for a new communicative interaction between the source-culture sender and a *target-culture* [emphasis added] audience, using (certain aspects of) the source text as a model or as material (Nord, 1997/2018, p. 136).

Game localizations that follow the instrumental translation model thus depend on the guidelines (provided by rating systems), laws and cultural norms of the target region.

Internationalization (i18n) can make the localization process smoother. It consists in developing a game in a "localization-friendly" way (O'Hagan & Mangiron, 2013, p. 80), i.e.,

> [...] designing a code base, core feature set, and UI [user interface] that are generic enough to accommodate translations of any language. The code should support accented characters, international keyboard layouts, and international date and currency formats (Chandler & Deming, 2005/2011, p. 4).

As far as internationalization efficiency is concerned, limiting cultural references in the first place has been recommended (Chandler & Deming, 2005/2011, p. 7). However, such changes are far from being universally welcome by end users. As a matter of fact, while some may be allergic to any "trace of 'foreignness'", others may look down upon bowdlerized/tampered adaptations (O'Hagan & Mangiron, 2013, p. 328). Heterogeneous user expectations make choosing a course of action challenging. However, one thing is certain: the exotic flavor of some games can turn out to be an actual asset.[17] Video games being "interactive multimedia digital content forming [...] technological and cultural artefact[s]" (O'Hagan & Chandler, 2016, p. 327), a product-specific approach has been preconized (O'Hagan & Mangiron, 2013, p. 91).

[17] O'Hagan & Mangiron mention the highly successful 2006 PS2 game *Okami*, which is set in ancient Japan and largely retained original cultural references in international versions (2013, p. 174). See also Footnote 4.

2.2 Indie games

The term "indie" was first used in the music and film industries to refer to records and movie productions that were not affiliated to major producers or film studios. According to Lipkin, indie media are often characterized by "a protest against status-quo", with indie games displaying deep nostalgia for past eras of gaming as well as a focus on creativity and providing an enriching experience over profit and mere distraction (2013, pp. 9–10, 21). Additionally, indie game developers resort to "alternative production and distribution structures" that are beneficial from an economic point of view: free and low-cost technological tools enable small budget teams to complete projects without third party funding, while digital distribution platforms generate more revenue in proportion to retail price (Lipkin, 2013, p. 12).

In a Polygon interview, indie game developer and spokesperson Ismail Rami attributed the rise in popularity of indie games to "breakout successes like *Braid* [2008] and *Super Meat Boy* [2010]", which showed that small, sometimes one-person teams were capable of making the headlines (Lien, 2013). On a technical level, the advent of digital storefronts, made possible by widespread high-speed internet (Lipkin, 2013, p. 16) provided a place for indie developers to advertise and sell their games. 2013 is usually seen as a breakthrough year (Lien, 2013), as it is when

> [...] both Sony and Nintendo broke from their restrictive rules for independent developers, essentially opening the indie floodgates for the PS3, the PS4, the Vita, the Wii U and the 3DS. Microsoft, no doubt taking notes, unveiled its ID@Xbox self-publishing program months later. (Rose, 2013)

The number of new games released on online storefront Steam (launched in 2003) sharply increased starting in 2013 (see Table 3). The platform lets indie game developers self-publish for a modest $100 fee (Steam, n.d.). In addition, many indie games are now published and showcased on major game consoles (e.g., through Nintendo's "Indie World"), which highlights "the new readiness that exists among the console platforms to embrace and support small studios and help promote their games" (Poole, 2020).

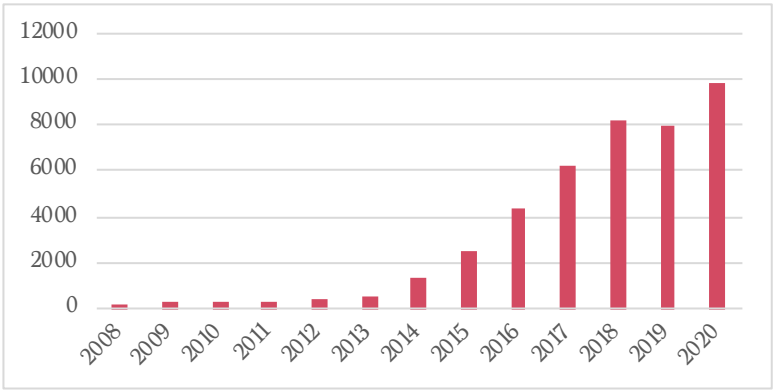

TABLE 3. TOTAL NUMBER OF GAMES RELEASED ON STEAM PER YEAR (ADAPTED FROM GALYONKIN, N.D.)[18]

But what is it that really distinguishes indie games from their "mainstream" counterparts? In their attempt at narrowing down the definition of "indie", Garda & Grabarczyk (2016) first mention the financial, creative and publishing independence of the developer, the combination of which leads to more or less independent game:

- Financial independence is understood as the developer's self-funding their production, with no dependence (financial or otherwise) to any third party.
- Creative independence implies that the developer is also the target audience (i.e., that they do not alter the game specifically to please others).
- Publishing independence requires the developer and publisher to be the same entity.

Following the claim that "indie" is not merely an abbreviation of "independent", Garda & Grabarczyk propose a (non-exhaustive) set of time-specific "contingent properties" (distinct attributes) that set them apart from mainstream or independent games (2016, pp. 12–15). Those include (1) digital distribution, (2) an experimental nature, (3) a small budget and low price, (4) a retro style, (5) a small file size, (6) a small team, (7) a personal and authentic "indie mindset", (8) an indie scene, and (9) specific middleware (game engine). Consequently, a game can be considered indie when it combines two criteria: first, it must combine all three types of independence. Second, it should be characterized by a set of correlated contingent properties. Table 4 shows the difference between independent (non-indie) games, games that look indie but are not, and indie games, which combine independence and indie-likeness.

[18] Based on estimations.

	Independent *(at least one criteria)*	**Indie-like**	**Indie**
Financial independence	✓	-	✓
Creative independence	✓	-	✓
Publishing independence	✓	-	✓
Set of contingent properties	-	✓	✓

TABLE 4. DIFFERENCE BETWEEN INDEPENDENT, INDIE-LIKE AND INDIE GAMES (ADAPTED FROM GARDA & GRABARCZYK, 2016)

Since 1998, the Independent Game Festival offers recognition to the indie scene. In order to enter the competition, applicants must be "independent game developers" and their game must have an "indie spirit" (IGF, n.d.). While such requirements are undoubtedly subject to interpretation, they do echo Garda & Grabarczyk's criteria.

The above should make apparent that "indie-ness" is an elusive and perhaps fleeting concept that has prompted seemingly contradictory headlines, such as "How indie games went mainstream" (Lien, 2013). As a result of technological advancements in the 2010s, some indie games have indeed moved from "retro-inspired [...] niche PC" games to "console hits that compete head-on with games produced by big studios" (Poole, 2020). Some critics note a tendency in the most successful indie products to "eventually adopt[] the same capital values as the conglomerates they seem to oppose" (Thomsen, 2014). Similarly, Pérez Latorre compares the indie vs. mainstream game opposition to King's exploration of "indiewood" cinema (an overlap of the independent and Hollywood sectors), described as "an area of duplicity and compromise, in which the 'true heritage' of the independent sector is sold out, betrayed and/or co-opted into an offshoot of Hollywood" (King, 2009, p. 1, as cited in Pérez Latorre, 2016, p. 17). Newman notes that indie cinema is divided into "calling-card movies made by those gunning for a career in Hollywood and more authentic, true indies by artists without such mainstream aspiration" (2009, p. 20). This division is likely also found among indie game developers. As a result, a more realistic approach is to view indie and mainstream games as a continuum rather than two separate, opposite categories.

Notwithstanding those contentions, defining "indie" helps contextualize alternative localization models prevalent in the indie scene. Those models involve various agents, from fans to freelancers to the game developers themselves (see for example Berthouzoz, 2019, p. 92).

2.3 Collaborative translation and community translation

Collaborative translation is far from new: early examples include the translation of the Hebrew Bible into Greek (the Septuagint, traditionally attributed to 72 scholars) or Buddhist texts. In fact, "collaboration is evident in all types of translation scenarios and across the whole process of translation, from authors, to publishers, to translation agencies and to translators" (O'Brien, 2011, p. 17). However, collaborative practices gained ground thanks to recent technological progress, namely the Internet and globalization, digitalization and the interconnected nature of the "Web 2.0"[19], which emphasizes user-generated content[20] and social interaction. Scholars (Armstrong, 2019; Jiménez-Crespo, 2017; Mangiron, 2017) have used the term "prosumer" (Toffler, 1980) to refer to that new online environment that blurs the line between users and creators. The word "ubiquitous" probably captures best the essence of this "technological revolution". Examples of its concretization include the rise of video hosting websites such as YouTube (made possible by widespread broadband Internet connection) and smartphone and tablet operating systems (such as Android and iOS) in the mid- to late 2000s (Mittell, 2012, pp. 6–7). Wikipedia is the best example of a "read/write" (Mittell, 2012, p. 35), "Web 2.0" website that anyone can edit. At the time of its creation, the number of entries on Wikipedia grew at about 1000 times the rate they did on Nupedia, its "more traditionally single-authored and peer-reviewed" predecessor, with quality ranging from "questionable" to "robust" (Mittell, 2012, p. 36). Wikipedia's success paved the way for other wikis, sometimes specific to fandom subcultures, as exemplified by the for-profit wiki hosting service Fandom (formerly Wikia), or independent, often multilingual wiki networks such as the Nintendo Independent Wiki Alliance (NIWA)[21] or Encyclopædiæ Pokémonis[22], which are curated by communities of devoted fans. Such websites provide an unparalleled wealth of information made possible by the joint effort of community members.

Generally speaking, collaborative translation "is when two or more agents cooperate in some way to produce a translation" (O'Brien, 2011, p. 17). It is often used interchangeably with "community translation" (O'Hagan & Mangiron, 2013, p. 303). Many other terms have been proposed, usually to emphasize a specific aspect of the practice, such as volunteering, the fact that is is free, etc. (Jiménez-Crespo, 2017, p. 23). When examined in the context of game

[19] That is, "the stage of development characterized by a marked increase in the ability to interact with websites, resulting in the emergence of social media websites and the proliferation of user-generated content" ("Web, n.10.b.," n.d.). Wikipedia can be classified as a Web 2.0 site, as opposed to its Web 1.0 counterpart Encyclopædia Britannica.

[20] As a result, the term "user-generated translation" (UGT) has been proposed (O'Hagan, 2009, p. 94).

[21] NIWA is a fan-focused network of independent wikis (NIWA, n.d.). Bulbapedia is a member of NIWA.

[22] Encyclopædiæ Pokémonis is a multilingual, open-content Pokémon encyclopedia project (n.d.).

localization, this phenomenon is commonly referred to as "fan translation" (O'Hagan, 2009, p. 94).

2.4 Fan translation

Fan translations consist of unsolicited, spontaneous initiatives "set up by fans and for fans" that bring otherwise inaccessible foreign-language content to language peers (Fernández Costales, 2012, pp. 124, 128, 2013, p. 94). Examples include fansubbing (television and anime subtitles), scanlation (manga scans), and fan translation of video games. It has been described as a "user-centered process" characterized by a relation among equals (Fernández Costales, 2013, pp. 96, 98).

As the name suggests, fan translations of video games are carried out by individual or groups of game enthusiasts. Sometimes referred to as "translation hacking" (O'Hagan, 2009, p. 94), they typically involve "romhacking", i.e., manipulating ROM (read-only memory) game data to alter graphics, dialogues or gameplay (Muñoz Sánchez, 2009, p. 170). The practice dates back to the mid- to late 1990s, when emulation gained popularity (Díaz Montón, 2011, p. 70).[23] Since technical skills are required,[24] fan translation projects typically have hackers and translators work alongside (Muñoz Sánchez, 2009, p. 171). The translation is usually released as a free patch (unlike "bootlegs" which are sold illegally and at a loss to the original manufacturer) that is applied to the ROM, which is itself then played on an emulator.

One may wonder why fan translators go to such lengths. Speaking of anime fansubbing, O'Hagan mentions "(1) the complete absence of subtitles, (2) considerable delays in subtitle production and (3) a reaction to over-editing [...] exercised by American television networks" (2012, p. 28). Similarly, since its inception in the 90s and 2000s, "translation hacking" has been driven by the poor quality or, more commonly, unavailability (O'Hagan & Mangiron, 2013, p. 301) of officially localized games, more specifically Japanese role-playing games (JRPGs). Additionally, international versions of JRPGs are often toned down due to censorship. One of the most famous examples of "translation hacking" is RPGE's fan translation of *Final Fantasy V*, which dates back to 1998. On the fan translation information page, three contributors are credited for hacking, translating and script editing/revising, respectively (RHDN, n.d.). Another notorious project was the fan translation of 2006 Game Boy Advance RPG *Mother 3*, which was carried out by a team of 12 dedicated fans who hacked,

[23] Emulators execute ROMs and enable the computer to replicate a video game console hardware.

[24] For more detailed information about the ins and outs of romhacking, see Muñoz-Sánchez (2007).

translated or otherwise contributed to the project.[25] Eight were credited for hacking and three for translating, with the patch being released in 2008. As those examples suggest, fan translations of JRPGs tend to combine the efforts of skilled computer "hackers" and students of Japanese (Consalvo, 2012, p. 60). Although such initiatives emerge spontaneously, a hierarchical structure of some sort within the community that initiates the project usually remains for participation management purposes (Jiménez-Crespo, 2017, p. 262).

Fan translations are by definition unsolicited by the game publisher and are in fact "currently considered illegal" (Mangiron, 2017, p. 302). However, the distribution of fansubs, which is a more established practice than "translation hacking", is said to potentially benefit Japanese copyright holders thanks to the increased visibility and free promotion, and is as a result mostly tolerated as part of a "gentlemen's agreement" (Díaz-Cintas & Muñoz Sánchez, 2006, p. 44). "Fanslations" of games that have not been localized may be similarly tolerated when no official localization is planned.

2.5 Crowdsourced translation

"Crowdsourcing" (portmanteau of "crowd" and "outsourcing") is a term that was popularized by Howe (2006):

> Simply defined, crowdsourcing represents the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call. This can take the form of peer-production (when the job is performed collaboratively), but is also often undertaken by sole individuals. The crucial prerequisite is the use of the open call format and the large network of potential laborers.

Following that initial publication, crowdsourcing quickly began to draw attention from researchers from different backgrounds. This led to some confusion as to what characterizes this phenomenon (Jiménez-Crespo, 2017, p. 13), as it can apply to "any job which is 'outsourced' to the general public" (Anastasiou & Gupta, 2011, p. 638). Estellés and González attempted to provide a general definition. In their words, crowdsourcing is

> [...] a type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying

[25] More information can be found on the fan translation project's official website (The MOTHER 3 Fan Translation, n.d.)

> knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task. (2012, pp. 9–10)

They proceed to list eight delimiting characteristics:

- There is a clearly defined crowd (even if that definition is general).
- There exists a task with a clear goal.
- The recompense received by the crowd is clear.
- The crowdsourcer is clearly identified.
- The compensation to be received by the crowdsourcer is clearly defined.
- It is an online assigned process of participative kind.
- It uses an open call of variable extent.
- It uses the Internet.

When trying to compare fan translation (understood as the community translation of a video game unsolicited by the publisher) to a translation model based on crowdsourcing, the main difference seems to reside in the starting point: the former is initiated spontaneously by the very people who carry out the task and prioritizes the free exchange of information, whereas the latter is a top-down, market-driven effort (Fernández Costales, 2013, pp. 96, 98; O'Hagan, 2012, p. 30) initiated by companies or organizations. Additionally, fansubbing and fan translation are experimental in nature in that the people involved do not hesitate to flout audiovisual translation (AVT) norms or ratings/censorship requirements in their "quest of authenticity", whereas crowdsourcing, which is based on the business term outsourcing, aims to become a "legitimate translation model" (O'Hagan, 2012, p. 30; O'Hagan & Mangiron, 2013, p. 303). In that sense, fan translations are more "free-spirited" in that they do not necessarily have to conform to established norms.

On a technical level, crowdsourced contributors need not hack through the game files and are readily provided with the necessary resources. In other words, the preparation phase is facilitated; its complexity depends on whether the game was internationalized during development, or on the contrary not localization-friendly.

Table 5 summarizes the main differences between fan translation and crowdsourced translation, based on the literature cited.

Fan translation	**Crowdsourced translation**
Unsolicited and spontaneous fan initiative	Solicited by companies and corporations

Horizontal (bottom-up) hierarchical structure	Vertical (top-down) hierarchical structure
Prioritizes the free exchange of information	Must retain a degree of professionalism
Experimental	Follows professional practice norms
Initiator does not make profit	Initiator makes profit[26]
Illegal / legal grey area	Legal

TABLE 5. DIFFERENCES BETWEEN FAN TRANSLATION AND TRANSLATION CROWDSOURCING

Both practices do share common characteristics, such as self-motivation and a community spirit (O'Hagan, 2012, p. 31), as well as the fact that they are carried out free of charge or (in some cases of crowdsourcing) for little compensation.

With new emerging translation practices have come new terms, sometimes coexisting and leading to confusion. Figure 7 is an attempt to provide a visualization of the translation subconcepts presented so far in this chapter and how they are linked to each other. Due credit goes to Hebenstreit (2019, p. 152), from whom the map is adapted with modifications to be consistent with the terms used and relationships established before. Those modifications are discussed in the next paragraph.

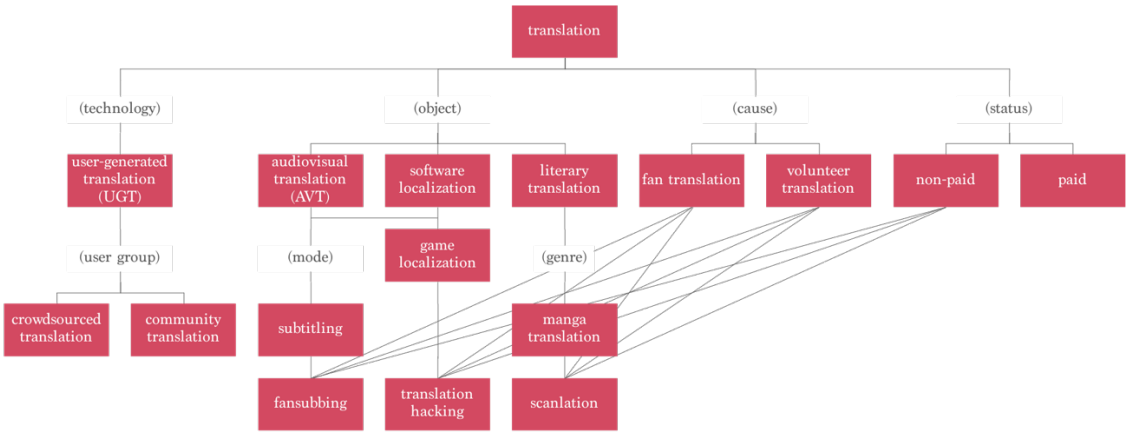

FIGURE 7. CONCEPTUAL MAP OF "TRANSLATION", ADAPTED FROM HEBENSTREIT (2019, P. 152) WITH MODIFICATIONS

The term "user-generated translation" (UGT) was chosen to refer to the "Web 2.0"-based translation practices meta-concept. UGT was proposed by O'Hagan to describe translations

[26] Nonprofit organizations may also initiate crowdsourcing projects.

"carried out based on free user participation in digital media spaces where Translation is undertaken by unspecified self-selected individuals" (2009, p. 97). The concepts of collaborative or community translation, fan translation, and crowdsourced translation can all be seen as manifestations of UGT in various contexts. Following the linking of game localization to both AVT and software localization (see section 2.1), software localization is included and can be seen as a subconcept of translation that focuses on software applications. Manga (Japanese comic) translation is preferred to general comic translation to stress the fact that scanlations involve mangas more often than other types of comics, much like fansubbing is historically centered around Japanese animation. It is important to note that "fan translation" is commonly used to refer to the unsolicited localization of video games, much more so than "translation hacking". However, the latter is left on the map for clarity purposes and to avoid using the same term twice. Finally, "non-professional translation" is replaced by "non-paid translation", as professionals do get involved in fan translation projects, but receive no payment from an employer or client, since there is none.[27] This makes clear the fact that fanslations are carried out free of charge, but not necessarily by people without professional work experience. Finally, it should be noted that this map is by no means exhaustive, but rather focuses on concepts relevant to the present topic of research.

Placing "crowdsourced translation" on the map is difficult. Sometimes, (online) collaborative translation has been proposed as a hypernym of crowdsourced translation (see Jiménez-Crespo, 2017, p. 19; O'Brien, 2010, p. 19). On other occasions, no clear difference is made between the two (see Kelly et al., 2011, p. 89). Table 6 lists some terminological variants.[28]

Community translation (O'Hagan, 2009)	**Crowdsourced translation (Hebenstreit, 2019)**
Collaborative translation (Fernández Costales, 2012)	Crowdsourcing (O'Hagan, 2009)
Online collaborative translation (Jiménez-Crespo, 2017)	Translation crowdsourcing (Jiménez-Crespo, 2017)
Community-driven translation (Hebenstreit, 2019)	Crowdsourced collaborative translation (O'Brien, 2011)
	Crowdsourcing translation (Anastasiou & Gupta, 2011)

TABLE 6. TERMS USED FOR COMMUNITY TRANSLATION AND CROWDSOURCED TRANSLATION

[27] To name one example, at the time of *Mother 3*'s fan translation, Clyde "Tomato" Mandelin, one of its renowned contributors, already had professional translation experience (Parkin, 2008).

[28] Zwischenberger (2021, pp. 3–8) provides a conceptual discussion on the topic.

Community translation clearly cannot by a subconcept of crowdsourced translation, for any community translation that consists of an unsolicited bottom-up effort is not crowdsourced. On the other hand, crowdsourced translation cannot be a subconcept of community translation either, because not all crowdsourced translations involve "communities" (Estellés-Arolas & González-Ladrón-de-Guevara, 2012, p. 12). With business connotations and the implication of large crowds, "crowdsourcing" might not be the appropriate *term* to describe community translations of video games that are based on the crowdsourcing model. In fact, the upcoming case study used the term "community translation" with no mention of crowdsourcing. Still, its *concept* helps distinguish solicited top-down initiatives from fan translations. For a lack of a better term, "crowdsourced localization" will thus be used.

2.6 Crowdsourced localization of indie games

The emergence of computer-aided translation (CAT) tools in the 90s, more specifically of free, easy-to-learn, cloud-based CAT tools has favored online collaborative translation and crowdsourced translation practices: contributors no longer need to purchase expensive pieces of software or worry about steep learning curves. Moreover, being stored on the cloud, their work is instantly shared with others. With over 36,000 games tagged "indie" on Steam as of July, 2021[29] and usually over 1000 available in any of the 28 languages listed on the platform, indie games look like promising avenues to explore alternative localization models.

Existing research on the localization of indie games is relatively scarce, but valuable. Consalvo (2012) explored the (paid) localization of Japanese indie game *Recettear: An Item Shop's Tale* (2010) by Carpe Fulgur, a small company consisting of three people at the time. Carpe Fulgur negotiated the rights to localize and distribute *Recettear* with the game developer EasyGameStation. Toftedahl et al. (2018) conducted interviews on the topic, focusing chiefly on the developers' side. Three in six developers reported using community-based translation; at the same time, however, two of those three mentioned paid freelance services website Fiverr (Toftedahl et al., 2018, p. 12). Therefore, it seems that only one in six developers had their game translated by the community for free. Villar Gómez (2017) presented crowdsourcing as a viable option in the context of indie game localization, with an hypothesized quality loss. The scenario in her case study concerned the localization of *Fragments of Him*, an indie game published by Sassybot and released in 2016. The localization was carried out by the researcher herself and involved working with a CAT tool and Excel spreadsheets containing the script. There was no communication with the game developer

[29] This does not mean that all of them meet the criteria for "indie-ness" discussed in 2.2.

during localization process, and it is not clear to what extent the project was solicited. Mangiron noted that crowdsourcing was "one of the most frequent methods used by indie developers" (2017, p. 88). However, only one in 35 interviewed game developers in Berthouzoz's study reported localizing their game through crowdsourcing (2019, p. 91). At the same time, 26 reported using fan translation. This hints at potential confusion between "fan", "community" and "crowdsourced" translation among game developers and stresses the importance of clearly defining those concepts. The above also shows that the crowdsourced localization of indie games is not well documented or mentioned in passing and requires more attention in order for its mechanisms to be understood.

2.6.1 Benefits and risks

One of the most apparent benefits of crowdsourced localization is speed, thanks to the access to a large pool of potential contributors, which can be crucial to game developers who deal with increasing word volumes and ever-tighter deadlines (O'Brien, 2011, p. 18). Another benefit is cost reduction, for volunteers usually receive little to no compensation. This can be especially appealing to indie game developers, who often work with tight budgets and may outright not be able to afford paid localization services. Moreover, first timers have no way to predict the success of their games, unlike major game companies with long-established franchises. If crowdsourcees have game knowledge like fan translators do, their expertise could also prove to be a valuable asset that professional localizers sometimes lack.[30]

On the other hand, recurring problems have been documented. First of all, the fact that many people are involved may pose coordination challenges. Because of that, proper project management is crucial (Anastasiou & Gupta, 2011, p. 639). Other potential issues range from inconsistent and/or incomplete translations to region-specific slang and longer deadlines (Sola, 2020). Zwischenberger discussed the potentially exploitative nature of crowdsourced translation, especially in the case of initiatives launched by for-profit companies like Facebook, Twitter or LinkedIn (2021, pp. 10–11).[31] From a consequentialist point of view, she argued that crowdsourced translation for profit-oriented companies could be seen as exploitative in that it harms a third party (in this context, professional translators) in terms

[30] Some game companies actually value game culture more than translation expertise (O'Hagan & Mangiron, 2013, p. 244).

[31] See also McDonough Dolmaya (2011).

of remuneration or status (McDonough Dolmaya, 2011, p. 103; Zwischenberger, 2021, pp. 11–12).[32]

As far as quality is concerned, its evaluation relies on dynamic models that vary from one situation to another, though they usually "revolve around notions such as 'faithfulness to the source text', 'equivalence', 'lack of errors' or 'does not feel right'" (Jiménez-Crespo, 2017, p. 122). In that sense, "[c]rowdsourcing takes to the extreme the fact that an acceptable degree of quality seems to be in the eye of the users and/or users-translators" (Jiménez-Crespo, 2017, p. 139). Some methods have been proposed to mitigate quality issues in general. According to O'Brien, organizations that utilize the crowdsourced translation model can choose to have professional translators proofread and revise the final product and/or implement a peer-voting system where the crowd votes for the best translation (O'Brien, 2011, p. 19). That being said, peer-voting, which has been used in large-scale crowdsourcing initiatives such as Facebook (Jiménez-Crespo, 2017, p. 54), might not be implementable in smaller-scale projects. Moreover, projects like Facebook awarded points that made contributors rank up a virtual leaderboard (Zwischenberger, 2021, p. 9). Smaller-scale community-based projects likely do not rely on such gamification strategies.

2.6.2 Motivation and profiles

While crowdsourcing is a powerful tool, its potential on the translation profession is currently believed to be limited (Jiménez-Crespo, 2017, p. 58), as it largely depends on how much the content appeals to the unpaid translator. In fact, motivation is thought to be more of a concern than quality (Jiménez-Crespo, 2017, p. 92), as volunteers can opt out at any time, not being bound by any professional contract. While its *levels* can vary, motivation is also typically divided into two types:

> The most basic distinction is between intrinsic motivation, which refers to doing something because it is inherently interesting or enjoyable, and extrinsic motivation,

[32] *To the Moon*, the 2011 prequel to *Finding Paradise*, was translated into French by a team of volunteers who spontaneously submitted their work to the game developer. Reception from French players was overwhelmingly positive. However, a professional localizer working for an agency noted that free work may deprive freelancers from potential clients and advised that fan translators be remunerated, e.g., by receiving a share of the extra profits made (tartagueul_81, 2012). This is especially true if the crowdsourcer can afford to pay for localization services (e.g., major game publishers). Indie game developers have much more limited resources and profits are usually modest.

which refers to doing something because it leads to a separable outcome. (Ryan & Deci, 2000, pp. 54–55)

Motivation is rarely either one of these types but rather a mix of several, as shown in Table 7.[33] (While both integration and intrinsic motivation refer to activities that are valued by self, the former still implies the presence of some separable outcome.)

Amotivation *(Non-relevance)*	**Extrinsic motivation**				**Intrinsic motivation** *(Enjoyment)*
	External regulation *(Salient extrinsic rewards)*	Introjection *(Ego involvement)*	Identification *(Conscious valuing of activity)*	Integration *(Congruence)*	
Impersonal	External ++	External +	Internal +	Internal ++	Internal ++

TABLE 7. TYPES OF MOTIVATION (ADAPTED FROM RYAN & DECI, 2000, P. 61)

Jiménez-Crespo (2017) compared seven studies on participant motivation in various crowdsourcing initiatives such as Rosetta Foundation, Facebook, Wikipedia, TED Talks, Duolingo, as well as fansub communities. He notes that intrinsic motivation (such as supporting a social cause, making content available in other languages, or being part of a community) usually plays a more significant role (2017, pp. 219–221). However, extrinsic motivation factors (such as gaining experience) were also reported, especially among professional translators (Jiménez-Crespo, 2017, p. 220). Since motivation highly depends on context, only the prevalence of intrinsic motivation in crowdsourcing initiatives can be seen as a general trend, hinting at the selfness nature of this practice. Similarly, the profiles of crowdsourced translators, such as age, gender, education, or professional background, vary considerably across initiatives. Luczaj et al.'s case study (2014) about Czech and Polish "fansubbers"[34] is mentioned for informational purposes, and because of the previously established similarities between fansubbing and fan translation (of video games). Based on two separate surveys involving 68 Czech and 40 Polish respondents, the researchers noted that:

- the average age of the respondents was 25 (Czech) or 27 (Polish);
- 60 (Czech) or 68% (Polish) were male; and
- 31 (Czech) or 50% (Polish) held a university degree.

[33] Ryan & Deci (2000, pp. 61–62) provide a thorough discussion on the taxonomy of motivation types.

[34] Non-anime subtitling included.

2.7 Conclusion

Since the mid-2000s (Mangiron, 2017, p. 77), game localization has become an increasingly researched topic in translation studies. However, oftentimes the focus steers towards "AAA" (big budget) games. While fan translation practices date back to the 90s, they are less comprehensively documented than fansubs and scanlation activities (O'Hagan & Mangiron, 2013, p. 300). Fan translations solicited by indie game developers, or crowdsourced (community) translations, characterize a recent phenomenon embedded in the participatory "Web 2.0", which emphasizes user-generated content. Widespread high-speed internet and new, cloud-based translation and communication tools have played in favor of online collaboration practices. Many indie game developers currently rely on non-paid fans to localize their games (Berthouzoz, 2019, p. 91) and crowdsourced translations are believed to be more widely used in the future (Mangiron, 2017, p. 88). The collaborative methods used in crowdsourced localizations of indie games, how they depart from those used in other crowdsourced translation initiatives, and how different this model is compared to traditional "AAA" game localization are all areas of further study.

3. Methodology

This case study looked at the implementation of collaborative methods in the crowdsourced localization of an indie game. The research question was the following:

- How are collaborative methods implemented in the crowdsourced localization of indie games?

Approaching the topic from a purely technical point of view made little sense, for, at it has been shown, who is involved, why, what is done, and how it is done largely depends on the context of the initiative (see for example Jiménez-Crespo, 2017, pp. 219–225 and Zwischenberger, 2021, p. 4). As a result, the research question was broken down into several subquestions, with the aim of offering a fuller picture:[35]

- *Who* contributed? (purpose: establish the profile of the contributors)
- *Why* did they participate? (purpose: determine the main motivation factors)
- *What* tasks did they carry out? (purpose: list roles and workloads)
- *How* did they carry out their tasks? (purpose: analyze processes before and during the localization, as well as the translation and communication tools used)
- *How many* were they? (purpose: visualize the scale of the project)

The first step was to identify a suitable initiative. By "suitable" it is meant that the localization project had to be crowdsourced and involve collaborative methods. Moreover, the game had to be "indie" (for what that term is worth). After that, a plan to collect data had to be thought out. Following Saldanha & O'Brien's overview of participant-oriented research (2013, pp. 150–204), a combination of quantitative and qualitative data collection methods was used to address the variety of data that the research aimed to collect. (For example, it would have been impossible to fully address the fourth research subquestion [How did they carry out their tasks?] with a purely quantitative approach.)

The case study took the form of a survey consisting of two questionnaires and a follow-up interview.[36] The survey was designed according to the ethical guidelines provided by the Faculty of Translation and Interpreting of the University of Geneva. Because of the potential

[35] The methodology was inspired by Toftdedahl et al.'s study (2018). That study focused on the way localization is handled by indie game developers, whereas the present case study focused on localization contributors (rather than initiators). As a result, the type of data collected and methods used varied considerably.

[36] A survey can be described as "a study design where the questionnaire is the primary focus" (Langdridge & Hagger-Johnson, 2013, p. 88). However, Saldanha & O'Brien note that "survey" and "questionnaire" tend to be used interchangeably (2013, p. 151).

involvement of minors, the survey was subjected to approval from the faculty's ethics committee. (In the end, no respondent turned out to be under the age of 18.) Permission to quote, paraphrase and use the screenshots provided by the interviewed localization manager was obtained. Permission to publish data collected in the questionnaires, including statistical data, for academic purposes only, was obtained from the respondents.

This chapter contains two sections. The first section (3.1) lists the game selection criteria and the rationale behind them, provides a description of the game selected and shows why this game was an appropriate choice.

The second section (3.2) presents the data collection methods. It is divided into three subsections, corresponding to the three methods used, namely two distinct questionnaires and a follow-up interview.

3.1 Game selection

The research was bound by Estellés and González (2012)'s proposed definition of crowdsourcing and Garda & Grabarczyk (2016)'s proposed definition of indie-ness. In other words, the selected game had to be indie and its translation crowdsourced. Additionally, analyzing collaborative methods implied that there had to be at least two (ideally more) people *per language pair*. Those considerations make up the first two selection criteria:

1. Indie-ness

The game had to be indie. As discussed in 2.2.1, "indie" can be defined as a threefold independence (financial, creative and publishing), as well as a set of contingent properties, such as a small team, a retro style and digital distribution, among others.

2. Crowdsourced translation

The localization had to be done via crowdsourcing. Estellés & González (2012)'s criteria were used to determine whether it was the case or not. A key criterion was the presence of an open call.

In order to maximize the chances of answering all five research subquestions, the game had to meet additional criteria:

3. Recentness

The game had to be relatively recent. Rapidly evolving translation technologies require up-to-date data if one wants to describe current practices. Moreover, the case study relied on a

questionnaire sent to community translation contributors. An old project would likely decrease the number of respondents.

4. Text quantity

The game had to contain a substantial amount of textual content, as more text means more ways to approach the project in terms of number of contributors, collaborative strategies, or project management. RPGs and adventure games typically feature large amounts of text, however no specific genre was sought.

5. Multilanguage / project size

The game had to feature several completed translations. A relatively big project would ensure that enough respondents would take the questionnaire, thus making the results more valuable.

In light of the above considerations, *Finding Paradise* was selected. *Finding Paradise* is an indie adventure RPG developed and published by Canadian game development studio Freebird Games.[37] It was initially released in December 2017 on PC, Mac and Linux, with a Nintendo Switch release planned in 2021. The game is presented on the studio's official website as "the 2nd full episode of *To the Moon*'s series, following the [previous entry's] two doctors as they attempt to untie a paradox within a lifetime's worth of memories". Bar a few point & click puzzle-solving sequences, the game features minimal gameplay mechanics and instead focuses on storytelling and conveying emotions to the player. It was developed with RPG Maker XP and is typically retro in style, with 16-bit graphics à la *Chrono Trigger* (but also painted backgrounds) that echo the 90s so-called golden age of RPGs. *Finding Paradise* and its predecessor received critical acclaim, both securing 81/100 scores on review aggregator Metacritic. While in 2015 Freebird Games founder Kan "Reives" Gao was the studio's only official worker, several contributors got involved, usually providing graphical assets (Cisco, 2015).

Finding Paradise ticked all the boxes as far as its "indie" status was concerned: when asked about his unconventional use of the medium (i.e. little gameplay), Gao explained that he was "just doing what [he] wanted to do" and would be able to "hang on [financially] for Episode 2 [i.e. *Finding Paradise*]" (Cisco, 2015), implying creative and financial independence. The game

[37] On GOG the game is tagged as Adventure, Point-and-click, and Sci-fi. On Steam, it is tagged by users as Story Rich, Great Soundtrack, Pixel Graphics, Indie, RPGMaker, Singleplayer, Adventure, RPG, Atmospheric, Emotional, Visual Novel, 2D, Interactive Fiction, Comedy, Walking Simulator, Funny, Female Protagonist, Retro, Point & Click, and Horror (as of June 6, 2021).

was self-published on various digital storefronts such as Steam, GOG, and Humble Store,[38] and created by a small team consisting of Gao himself and various contributors. Finally, the atmosphere of the game is resolutely nostalgic, whether one looks at the storyline or the art style. Following the previous discussion on indie-ness, the game can therefore be reasonably considered indie.

Additionally, the game was recent, featured over 40,000 words (Rayfulrand, 2017b) and had been translated into fourteen languages as of June, 2021, according to its Steam page.

To determine the crowdsourced nature of the project, it was be tested against the criteria proposed by Estellés & González:

- There is a clearly defined crowd

The crowd consisted of fans willing to participate.

- There exists a task with a clear goal

The goal was to translate *Finding Paradise.*

- The recompense received by the crowd is clear

No recompense was mentioned. It was clear that no cash should be expected.

- The crowdsourcer is clearly identified

The crowdsourcer was identified as *Finding Paradise*'s development team, as made clear by the Steam [developer] tag. More specifically, the game developer was the crowdsourcer, while the community translation project manager posted the open call and, in a way, acted as a crowdsourcer as well.

- The compensation to be received by the crowdsourcer is clearly defined

It was clear that the crowdsourcer would benefit from the initiative by listing extra languages for his game, leading to extra sales.

- It is an online assigned process of participative kind

Discord is a Voice over Internet Protocol (VoIP), instant messaging (IM) and digital distribution platform initially released in 2015. It allows users to message, call and upload

[38] A Nintendo Switch port to be published by X.D. Network was announced in late 2020.

files in servers based on shared interests, usually gaming communities. It was used for registrations and communication.

Smartcat is a *free*, *cloud-based*, "all-in-one" CAT tool that relies on modern process management (i.e. "in real time, collaboratively, and within context"), as advertised by its "Connected Translation with Smartcat" concept (n.d.). Both emphasized properties are key to a successful project that involves collaboration between unpaid translators, for contributors would likely not pay to volunteer, and a desktop-based software would add unnecessary hurdles, with collaborative work involving substantial back and forth. Moreover, the tool was reported to have a low learning curve (Smartcat, 2019a).

Additionally, the file hosting service Dropbox was used to store the files required for testing.

- It uses an open call of variable extent

The open call found on the game's public Steam discussion forum (Rayfulrand, 2017a). Posted by the localization manager, it welcomed all fans (having played the game was recommended, but not mandatory), indicated that two tools (Discord and Smartcat) would be used, and asked potential translators to put effort into it. (The full post can be found in Appendix A.) Technically, therefore, anyone could participate. There were no requirements as regards age, experience, or anything else other than dedication.

- It uses the Internet

The project relied on Internet technologies, such as online messaging applications, cloud storage services and cloud-based CAT tools.

The game meeting all the above selection criteria, it was decided that the case study would focus on *Finding Paradise*.

3.2 Data collection methods

Two separate questionnaires aimed at different groups and a follow-up interview were used. Questionnaires were chosen for several reasons. First, it was believed that most of the research subquestions presented in the methodology could be answered succinctly.[39] Second, it was the most reliable way to obtain a large number of answers in a short period of time.

[39] The fourth was thought to require a more qualitative approach.

An interview was considered crucial in order to obtain detailed technical information about the localization process and helped address that question.

The questionnaires were designed using the free and open-source web app LimeSurvey. In addition to offering great flexibility, this tool was suitable in terms of privacy, the data collected being stored on the servers of the researcher's institution.

All questions were optional, meaning that respondents were able to skip any question without justification. The rationale behind this choice was that it would lower the time required to go through the survey, as well as allow people who wanted to answer only specific sections to do so. This option had at least two potential downsides: (1) people might involuntarily skip questions, and (2) analyzing data would require looking at each question individually and calculating percentages according to the total number of people who answered that question, which may fluctuate. To mitigate the first risk, conditions were used in order to hide irrelevant questions; for instance, some questions would only appear if the respondent answered "Yes" to the previous one. That way, respondents were less likely to scroll down and potentially miss relevant questions. The second potential downside was dealt with by spending extra time analyzing the results.

3.2.1 Questionnaire for the fan translators

Because the questionnaire for the fan translators would yield most of the analyzable data, it had to be designed with especial care. More specifically, it had to answer the first three research subquestions, and part of the fourth, which is to say:

- *Who* contributed?
- *Why* did they participate?
- *What* tasks did they carry out?
- *How* did they carry out their tasks?

The questionnaire contained 35 questions at most[40] and was divided into four subsets of questions, with the idea of having each subset answer one or several specific subquestion(s). The full version of the questionnaire can be found in Appendix F.

[40] 20 to 30 in reality, depending on the participant's answers to questions from the third subset

.

The first subset (A, 9 questions) aimed to answer the first subquestion ("Who contributed?") and required collecting socio-demographic (but not personal) data. Only basic information considered valuable for the research were kept: age range, gender, education level, academic and/or professional training in translation, and employment status. Questions were worded in a neutral and non-intrusive way; for instance, age ranges were used instead of precise numeric values, an "Other" field was included for gender, and education level and employment status answer options were kept simple, with an option to add personal comments if desired. Because respondents would come from many different countries and may not be completely fluent in English, answer options such as "vocational training" or "homemaker" were considered too confusing and left out. The last question asked participants to indicate the language they helped translate the game into.

The second subset (B, 5 questions) aimed to answer the second subquestion ("Why did they participate?") by presenting a list of motivation factors (plus an "Other" field) and asking the participants how important those factors were to them. This subset also collected contextual information such as how they learned about the project, if they played the game prior to joining the project, and if they received any compensation for participating.

The third subset (C, 4 to 17 questions, depending on the participant's choices) aimed to answer the third and fourth subquestions ("What tasks did they carry out?" and part of "How did they carry out their tasks?"). Several potential tasks were identified: translation, revision, testing and graphical edits (plus an "Other" field). The first question ("What tasks did you perform?") acted as a filter that determined which follow-up questions would appear in the questionnaire. The rationale behind this design was that displaying irrelevant questions would only waste the participants' time (see also Saldanha & O'Brien, 2013, p. 154). All tasks were followed up with a question asking to provide a quantifiable unit in order to assess workload. In addition, translators and revisers were asked about their use of computer-assisted translation (CAT) tools, machine translation (MT) engines, shared translation memories (TMs) and glossaries and testers and fans who made graphical edits were given the opportunity to elaborate, with the latter being able to upload assets (the development team's permission for this was asked in the second questionnaire). Finally, everyone was asked about the tools they used to communicate with each other, as well as potential technical issues they might have encountered and how they fixed them.

The last subset (D, 4 questions) concluded the questionnaire with one question allowing the participants to write additional comments and another asking for contact details, should they desire to be informed of the results of the study and/or accept a follow-up interview.

LimeSurvey allows researchers to create Survey participants tables. This function ensures that only invited people who enter a unique code can participate. That way, no one has the possibility take the questionnaire if they are not part of the target audience. It also prevents multiple participations from a single person. Despite its advantages, this function was not used for the simple reason that the researcher did not have access to the email addresses of the respondents. Instead, the questionnaire link was posted on the #general channel of the "Finding Paradise Translation (Official)" Discord server, the link to which was publicly available in the open call posted on the game's Steam forum. Over 300 people had joined (as of May, 2021), most of whom did likely not actively contribute to the community translation, but rather considered it at some point or simply were curious about the project. Consequently, the invitation message, reminder and survey description (see appendices D, E and F) had to clearly state that the questionnaire was intended for actual contributors.

The invitation was posted Monday, May 17, 2021. A reminder was posted in the same channel about two weeks later (on Wednesday, June 2, 2021), this time using Discord role mentions, which enabled sending a notification only to users with the @Translator and @Proofreader roles, i.e., active contributors. The survey was closed about four weeks after launch (on Friday, June 11, 2021) with 24 unique respondents (including 21 who submitted a fully completed questionnaire), which corresponds to a response rate of about 27% (see section 4.1).

3.2.2 Questionnaire for the developer and localization manager

The questionnaire for the developer and localization manager aimed to provide details about the fourth research subquestion:

- *How* did they carry out their tasks?

More specifically, contacting the game developer and the localization manager would provide insight into key questions such as how the community translation project was born, as well as the technical aspects involved in the preparation of the translatable files or the guidelines that would be shared with the fans. The localization project was managed by Andrii "Rayfulrand" Raboshchuk from UNLOCTEAM, which is a professional and multilingual game localization team.

The questionnaire also aimed to answer the fifth research subquestion:

- *How many* were they?

This subquestion was not included in the first questionnaire because it did not require several people to answer it, but just one, and would have been redundant.

The full questionnaire can be found in Appendix G. The game developer was contacted on May 10, 2021 using his official email address. The localization manager was contacted on May 17, 2021 on Discord through direct message. Both answered the questionnaire, which was automatically closed about a month after contacting the game developer (on Friday, June 11, 2021).

3.2.3 Follow-up interview

The second questionnaire was followed by an "unstructured interview" (Saldanha & O'Brien, 2013, p. 72) with the localization manager, where extensive information about management tasks, such as file preparation and transformation, was provided. This addressed the fourth research subquestion ("How did [the contributors] carry out their tasks?). The interview was carried out directly on Discord using its direct messaging function. A first exchange took place on June 1, 2021, following the localization manager's submission of the second questionnaire. A second exchange took place in mid-July 2021. A third exchange took place in late July 2021. The localization manager was offered to read the researcher's report of the interview (section 4.5) and point out potentially misconveyed information. Slight adjustments were made accordingly.

Table 8 summarizes the data collection methods used, target audience, type of information collected, and type of question addressed.

Method *(platform)*	**Target**	**Type of information**	**Question**
First questionnaire *(LimeSurvey)*	Fan translators	Profile of the respondents Motivation factors Tasks performed Localization process	Who Why What How
Second questionnaire *(LimeSurvey)*	Game developer and localization manager	Localization process Number of contributors	How How many
Follow-up interview *(Discord DM)*	Localization manager	Localization process File preparation Project management	How

TABLE 8. SUMMARY OF THE DATA COLLECTION METHODS USED

4. Results

This chapter provides an analysis of the data collected using the questionnaire for the fan translators, the questionnaire for the game developer and localization manager, and the follow-up interview with the localization manager. It is organized into five sections. The first section (4.1) shows the number of respondents (i.e., people who took the questionnaire) compared to the total number of contributors in the language team (i.e., who participated in the localization project, as reported by the localization manager). The second section (4.2) shows the profiles of the respondents. The third section (4.3) provides insight into the motivation factors of the participants. The fourth section (4.4) presents the organizational structure of the project, the distribution of the various roles, and the workload for each task. The fifth section (4.5) provides details about the localization process. It is divided into six subsections. The first three subsections are an in-depth explanation of the file and project preparation (4.5.1), translation and revision (4.5.2) and testing (4.5.3) phases. Those details were mostly obtained during the interview with the localization manager. The fourth and fifth subsections analyze the participants' use of translation (4.5.4) and communication (4.5.5) tools. Finally, the sixth subsection (4.5.6) mentions some reported issues.

4.1 Number of contributors and respondents

Information from 24 contributors (plus the game developer and the localization manager) was collected. The breakdown of the number of respondents per language team is shown in Table 9.

Language team	Total	Respondents
Catalan	3	1
Czech	2	0
Danish	2	1
Finnish	1	1
French	unknown	0
German	7	1
Hungarian	2	1
Italian	8	4

Japanese	2	0
Korean	17	2
Polish	1	0
Portuguese – Brazil	7	3
Russian	9	3
Simplified Chinese	3	0
Spanish – Latin America	7	2
Spanish - Spain	4	1
Turkish	8	1
Ukrainian	3	2
Vietnamese	3	1
Total	**89**	**24**

TABLE 9. NUMBER OF CONTRIBUTORS VS. RESPONDENTS

"Total" corresponds to the numbers provided by the localization manager. The French team worked independently from the official Discord communication server, therefore the exact number of contributors was unknown. Finnish was listed as in-progress or dropped as of March 30, 2020 (Rayfulrand, 2017a), and was confirmed to be on hold as of June, 2021 by the Finnish team respondent. As a result, there were 19 teams in total, with one team (French) having an unreported number of contributors, and another (Finnish) having worked on a not-yet-implemented translation. The 17 others had had their translation implemented in the game and the number of people they had was known.

"Respondents" refers to the number of unique answers to the questionnaire. This number comprised 21 fully completed ones and 3 partially completed ones. It corresponded to about 27% of the total number of known contributors (24/88). Table 9 shows that teams varied in size between 1 and 17 contributors (4.94 on average, 4.43 excluding the largest and smallest ones).

At least one member from 74% (14/19) of the language teams submitted a questionnaire, meaning that answers came from a wide variety of sources. The most represented language

teams in the survey were the Italian (4 respondents), Brazilian Portuguese (3 respondents) and Russian (3 respondents) ones.

In the following sections, percentages are calculated so that 100% corresponds to 24 people, i.e., the total number of respondents. Situations where less than 24 people provided at least one answer are clearly indicated.

4.2 Profile of the respondents

The first subset of questions (A) provided socio-demographic information about the respondents. It answered the first research subquestion ("Who were the contributors?"). The results showed that 96% (23/24) belonged to the 18 to 34 age group (Figure 8), with only one person aged 35 to 44. As shown in Figure 9, there were mostly male respondents (75%, 18/24).

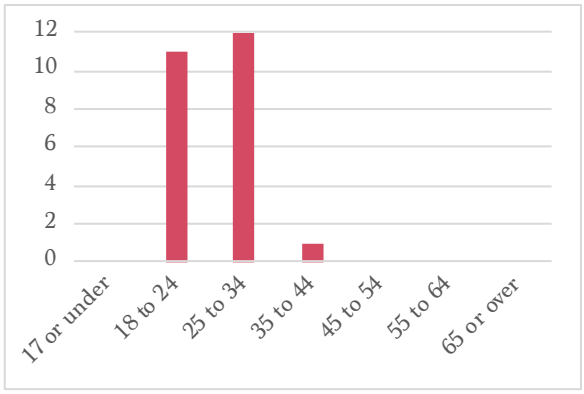

FIGURE 8. AGE GROUP OF THE RESPONDENTS

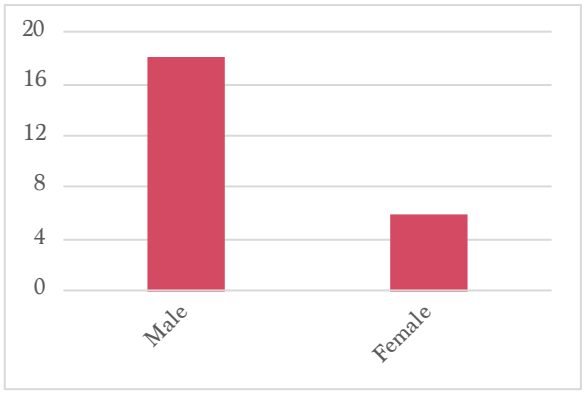

FIGURE 9. GENDER OF THE RESPONDENTS

As regards the educational background of the respondents (Figure 10), all reported having either a high school diploma (33%, 8/24), a bachelor's degree or equivalent (46%, 11/24), or a master's degree or equivalent (21%, 5/24). They were then asked if their educational background included academic training in translation. Those who replied positively were given the opportunity to provide details. 21% (5/24) indicated that they had academic training in translation (Figure 11). Two explicitly mentioned translation studies, while the other three reported taking courses on translation as part of their curriculum, for instance in modern languages.

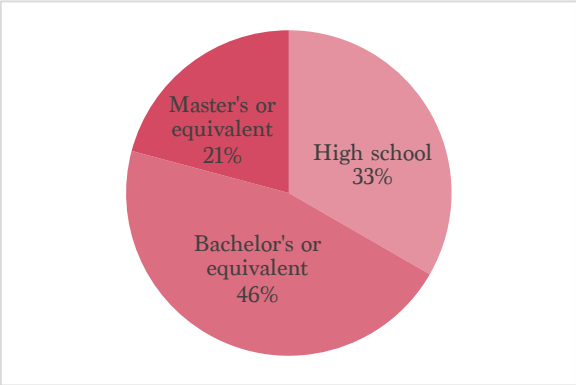

FIGURE 10. EDUCATIONAL BACKGROUND

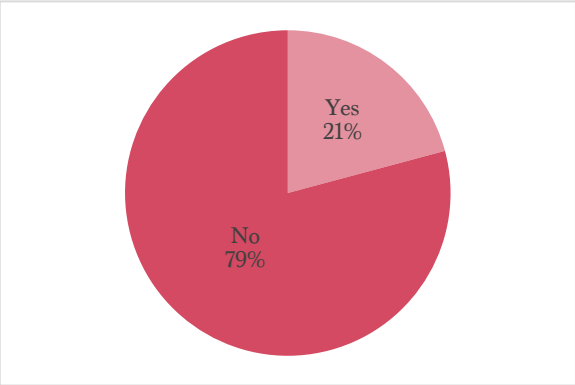

FIGURE 11. ACADEMIC TRAINING IN TRANSLATION

While relatively few respondents had academic training in translation, over half (62%, 15/24) reported having paid or non-paid work experience in the field (Figure 12). Among them, 38% (9/24) mentioned previously translating video games, with 17% (4/24) referring to indie games specifically. Other reported work experiences included subtitling (three people), volunteering (two people), translating articles (two people) or songs (one person), occasional translations to help boss understand content (one person), academic (one person) or local municipality (one person) texts, websites (one person), and post-reviewing (one person). Responses hinted at freelance, employee and volunteer activities.

33% (8/24) of all respondents reported being students (Figure 13). The rest described themselves as full-time (38%, 9/24), part-time[41] (8%, 2/24) or self-employed/freelance (8%, 2/24) workers. 13% (3/24) indicated that they were unemployed.

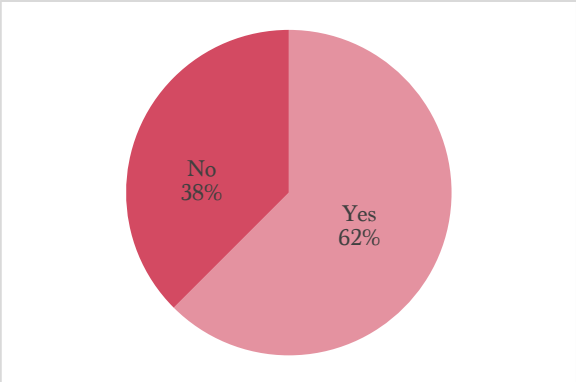

FIGURE 12. WORK EXPERIENCE IN TRANSLATION

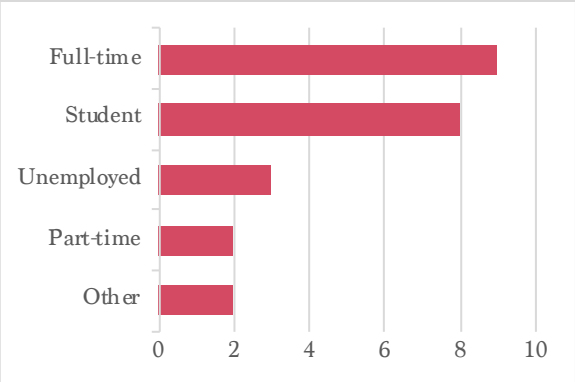

FIGURE 13. EMPLOYMENT STATUS

[41] Less than 40 hours per week was considered part-time.

4.3 Motivation factors

The second subset of questions (B) aimed to determine how, and especially why the contributors got involved. It answered the second research subquestion ("Why did they participate?"). Most respondents indicated that they had learned about the project through the official announcement post (54%, 13/24) or by word of mouth (29%, 7/24). Two people indicated that they were familiar with *To the Moon* (the 2011 prequel to *Finding Paradise*) and had interest in localizing the game even before its release. Others mentioned a Facebook post in a game group (one person), a friend (one person), or being contacted by a contributor after correcting a translation mistake in a fan music video that included the ending song (one person). One respondent wrote that they approached the translation team offering their services.

Prior to joining the project, most respondents (71%, 17/24) stated that they had played the game from beginning to end or at least part of it (8%, 2/24). 4% (1/24) reported watching a Let's Play,[42] and 17% (4/24) reported not having played through the game at all nor watched a Let's Play (Figure 14).

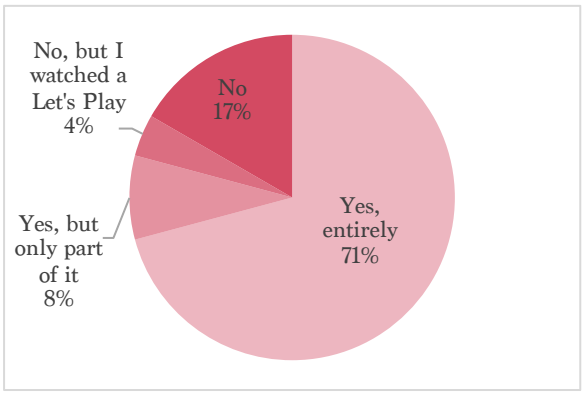

FIGURE 14. PLAYTHROUGH OF THE GAME BEFORE STARTING THE PROJECT

While respondents contributed for free, some perks were apparently offered in the form of free game copies, merchandising, or cash. 67% of the contributors (16/24) reported having their names mentioned in the game credits.

Fans were then asked what pushed them to participate. For each proposed motivation factor, they had to assess on a Likert scale whether they personally found it "very important", "important", "not very important" or "not important at all". An even-point scale was used to

[42] A Let's Play consists of a recorded playthrough of a game with commentary provided by the player. A link to a Let's Play uploaded on YouTube was provided in the official translation Discord server.

encourage the respondents to take position. The most important motivation factor was personal interest, with 96% (23/24) considering it important or very important. The least important motivation factor was financial compensation, with 8% (2/24) considering it important (and none very important). Opinions on other motivation factors were more balanced: recognition and CV experience were considered important or very important by under half (46%, 11/24 and 42%, 10/24, respectively) of the respondents,[43] while over half (62%, 15/24) listed being part of a community as important or very important. Intrinsic motivation factors, such as personal interest, were considered way more important than extrinsic factors, such as CV experience or financial compensation. Details are shown in Figure 15.

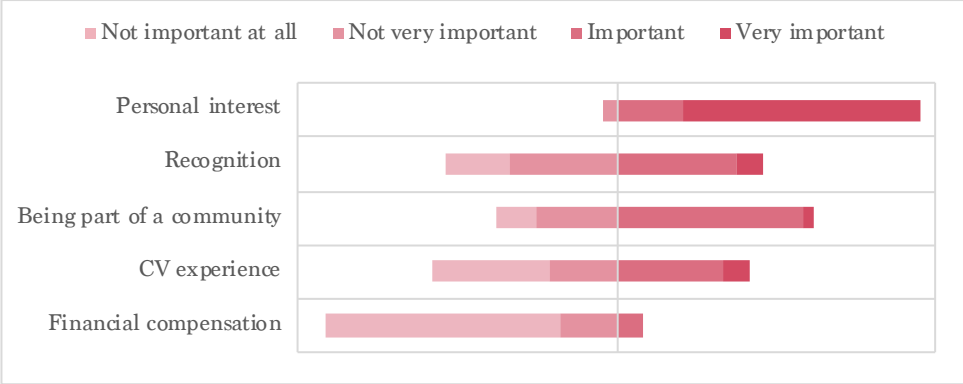

FIGURE 15. MOTIVATION FACTORS (STACK BAR)

Respondents were given the opportunity to list other motivation factors. 17% (4/24) explicitly mentioned making the game available to closed ones or people who spoke their language. Interestingly, the four respondents who mentioned this extra factor spoke "minoritized" languages as far as the game localization industry is concerned, i.e., neither FIGS (French, Italian, German, Spanish) nor CJK (Chinese, Japanese, Korean). More people were likely motivated by this factor, therefore it is included in Figure 16, but not attributed any weight.[44] Comments also showed that "personal interest" could be understood as a combination of love for the game itself (i.e., the content being translated) and interest in translation as an activity. Being of help (8%, 2/24) and the rewarding feeling of doing something useful (4%, 1/24) were also stressed. Finally, one person mentioned free time as a requirement. The star plot

[43] CV experience was slightly more important to respondents with work experience in translation (see Figure 18).

[44] Making the game available to other people should have been an item. Because it was not, calculating its weight based on comments provided by the respondents would likely yield a lower score than if it had been an explicitly listed item.

data was calculated as follows: each individual answer increased the motivation factor's score by 0 ("not important at all"), 1 ("not very important"), 2 ("important") or 3 units ("very important").[45] The grey plot (back) represents answers from respondents who reported having work experience int translation, whereas the red plot (front) represents answers from all respondents.

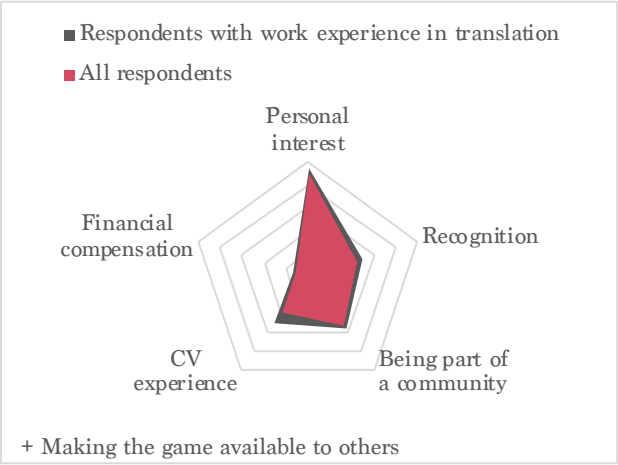

FIGURE 16. MOTIVATION FACTORS (STAR PLOT), WITH A 6TH ADDED TO REFLECT THE RESPONDENTS' ANSWERS

4.4 Tasks

The project followed a simple hierarchical structure with various roles: 1 Project Manager, 1 Technical Specialist, Translators, Proofreaders, and on occasions language-specific QA teams (see Figure 17). The project was managed by UNLOCTEAM, a multilingual localization team, with some of its members contributing to the translation and revision as well. Each language-specific team comprised between 1 and 17 members.

[45] For instance, the score for CV experience would correspond to 9*0 + 5*1 + 8*2 + 2*3 = 2/72 units, or 3.75/10.

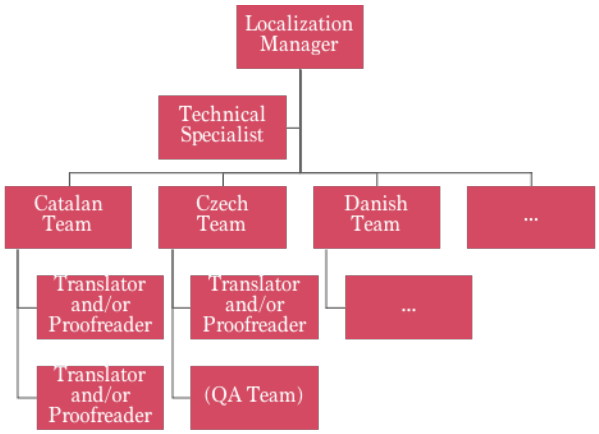

FIGURE 17. PROJECT ORGANIZATIONAL STRUCTURE

The third subset of questions (C) provided more details as to what the contributors did exactly. Since one respondent did not provide answers past subset B, the total number of respondents from there was 23. Unsurprisingly, nearly everyone (96%, 22/23) declared that they had carried out translation tasks, with most also revising the script (61%, 14/23) and testing the game's functionality (65%, 15/23) (Figure 18). The person who did not mention translation tasks indicated that they had focused solely on revision. The results suggested that roles were not mutually exclusive and that most fans were multitaskers. In fact, over half (52%, 12/23) listed all three tasks, 13% (3/23) translation and testing, and 4% (1/23) translation and revision (Figure 19). Still, some people reported carrying either only translation (26%, 6/23) or only revision (4%, 1/23). The survey listed a fourth answer option, namely "graphical edits", however no one selected it, as it turned out that texture edits were implemented by the localization manager. One respondent mentioned "team management", suggesting that language teams were internally structured as well.

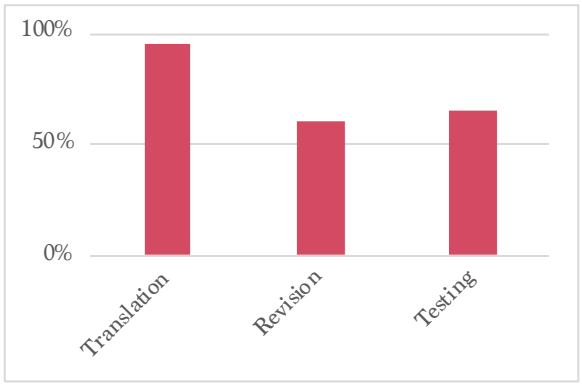

FIGURE 18. TASKS CARRIED OUT (SINGLE TASKS)

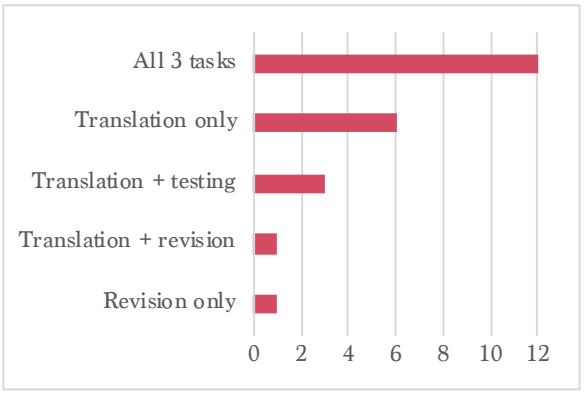

FIGURE 19. TASKS CARRIED OUT (COMBINATIONS)

4.4.1 Workload

For each task, respondents were asked to provide an estimate of the workload. It could be expressed in words, lines, segments, hours, or percentages. This proved challenging, for the text files used contained both translatable and non-translatable (i.e., game code) content (see Figure 27, Figure 28 and Figure 29 in 4.5.2). As a result, the CAT tool used for the project, Smartcat, unavoidably indicated a much higher word count than that of the actual game script (over 90,000 vs. about 40,000). That being said, an attempt to analyze the data was made by converting the estimations provided by the respondents to percentages. The results showed that contributions reportedly varied from less than 10% to 100% of the game's translation, with an average of about 40%. 25% (4/16) reported translating 75% or more of the text and 50% (8/16) 24% or less, with the rest (25%, 4/16) somewhere in between (Figure 20).[46] Due to the nature of the data collected, this number is merely a rough estimate.

On the other hand, over half of the respondents (58%, 7/12) indicated that they had revised everything, sometimes multiple times (25%, 3/12), while 25% (3/12) reported revising less than 40% of the text (Figure 21). On average, revisors revised about 75% of the text (again a rough estimate).

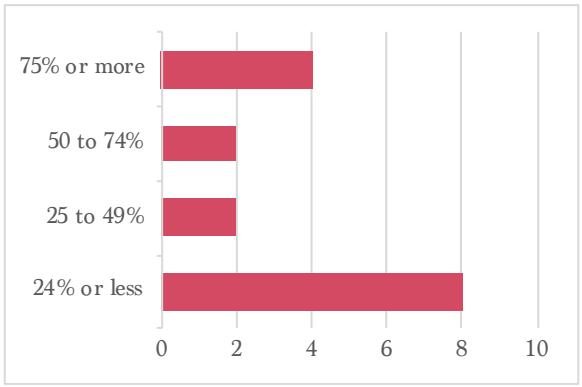

FIGURE 20. PERCENTAGE OF TEXT TRANSLATED

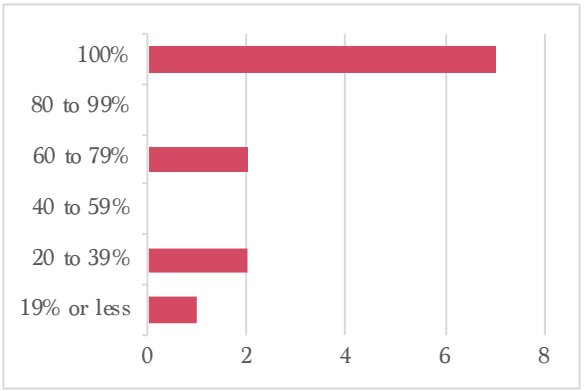

FIGURE 21. PERCENTAGE OF TEXT REVISED

As regards testing, various answers were given, based on two distinct frames of reference: the actual number of hours spent testing, and the duration of the phase. Based on the answers given, the number of hours spent testing varied from 3 to over 40 hours, with an average of about 18 hours (rough estimate based on 8 answers). The testing phase was reported to have lasted between 3 weeks and 4 months (based on 3 answers). One person indicated that there was constant testing as the translation phase progressed. 87% (13/15) of the respondents who

[46] Out of the 22 translators who reported translation tasks, 6 did not provide any workload estimation. Similarly, 2 out of 14 revisers did not provide estimates.

mentioned testing as a task tested the entire game, while 7% (1/15) tested any part they wanted and 7% (1/15) tested parts that were assigned to them.

4.5 Localization process

The localization process was divided into phases that can be seen as a series of back-and-forths between the localization manager and the various translation teams (Figure 22). Preparation work was carried out by the localization manager (see 4.5.1), with language teams working with text files on Smartcat. Once the translation phase was complete (see 4.5.2), the localization manager made a test build[47] and sent it back to the language teams for testing (see 4.5.3). This process was repeated until a final build was ready for release. The file preparation, translation and testing phases are explained in more detail in the next three subsections.

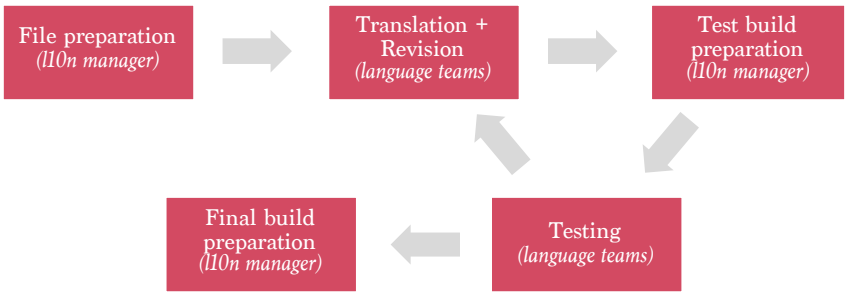

FIGURE 22. LOCALIZATION WORKFLOW

4.5.1 File preparation

For the most part, the information in the next three subsections were drawn from the interview with the localization manager, who provided valuable insight into the technical aspects of file preparation, translation, revision, and testing. Several screenshots were provided and are reproduced with permission. Additional Smartcat screenshots were found on the official *Finding Paradise* translation Discord server, as well as UNLOCTEAM's webpage dedicated to the project. In-game screenshots are included to show what modified text files and textures looked like in the game.

[47] A build is an executable version of the game that is compiled for testing purposes (O'Hagan & Mangiron, 2013, p. 8).

Initially, a complete game build was provided to the localization manager (a build consisting of a runnable version of the game's compiled source code). The project had to be decrypted in order to become editable by third-party localization tools. To do that, the localization manager pulled texts from the game into .txt files using DreaMaker by King Kadelfek, a tool extractor compatible with the RPG Maker XP game engine, the development program used to create *Finding Paradise*. Three separate text files were created, each containing specific translatable content:

- in-game dialogues
- user interface (UI) such as "Save", "Load" or "Exit"), texture texts such as writings on walls, or in the sky (see Figure 23, Figure 24 and Figure 25), etc.
- store description (the blurb that would appear on the game's Steam and GOG storefront webpages)

FIGURE 23. TITLE SCREEN OF *FINDING PARADISE* IN ENGLISH, SPANISH, RUSSIAN AND KOREAN (GAO, 2017)

FIGURE 24. "YOU ROCK" TEXTURE TEXT (ON WALL) TRANSLATED INTO RUSSIAN (GAO, 2017)

FIGURE 25. LETTERS IN THE SKY TEXTURE TEXT LOCALIZED INTO VARIOUS LANGUAGES (MISSPELLINGS INTENTIONAL) (UNLOCTEAM, 2018).

Unnecessary lines were removed from the translation project. Those could consist of text duplicates not used in the game or pre-defined text blocks related to typical JRPGs and used by default in RPG Maker XP, such as basic armor, items or abilities. (Necessary game code lines were present in the translation files.) A project was then created on Smartcat and the corresponding .txt files ("documents") were uploaded *x* times, where *x* corresponded to the number of languages pairs, with file names changed accordingly.

dialogues		Ready for translation	Andrii Raboshchuk		Freebird Games
dialogues_uk	Manager review	Andrii Raboshchuk	en > uk	Freebird Games
dialogues_ru	Completed	Andrii Raboshchuk	en > ru	Freebird Games
dialogues_fr	Created	Andrii Raboshchuk	en > fr	Freebird Games
dialogues_de	Created	Andrii Raboshchuk	en > de	Freebird Games
dialogues_tr	Manager review	Andrii Raboshchuk	en > tr	Freebird Games
dialogues_sl	Created	Andrii Raboshchuk	en > sl	Freebird Games
dialogues_sk	Created	Andrii Raboshchuk	en > sk	Freebird Games
dialogues_ro	Created	Andrii Raboshchuk	en > ro	Freebird Games
dialogues_hr	Created	Andrii Raboshchuk	en > hr	Freebird Games
dialogues_cs	Completed	Andrii Raboshchuk	en > cs	Freebird Games
dialogues_da	In progress	Andrii Raboshchuk	en > da	Freebird Games
dialogues_it	Completed	Andrii Raboshchuk	en > it	Freebird Games
dialogues_pt-BR	In progress	Andrii Raboshchuk	en > pt-BR	Freebird Games
dialogues_pt-PT	In progress	Andrii Raboshchuk	en > pt-PT	Freebird Games
dialogues_es	Completed	Andrii Raboshchuk	en > es	Freebird Games

FIGURE 26. SMARTCAT INTERFACE, AS SEEN BY THE PROJECT MANAGER (RABOSHCHUK [LOCALIZATION MANAGER], PERSONAL COMMUNICATION, JUNE 1, 2021)

Prior to having access to the platform, participants had to receive an invitation. As mentioned earlier, the open call was posted on the game's forum on Steam. It contained a link to the official community translation Discord server, where details on how to get involved were provided. Participants had to fill in a Google form with their contact details (full name, whether real or not, e-mail address, and language pair). Following that initial step, the localization manager created the user profiles on Smartcat and sent out invitations. That way, people were assigned to the language they had indicated and had access to that language pair only.

4.5.2 Translation and revision

When they opened one of the project's three documents (dialogues, UI, or store description) on Smartcat, participants would see text strings organized in lines (segments) with the source input on the left side and the target output on the right side. Segments contained both translatable content, such as dialogues or UI, and non-translatable content consisting of game code, what Jiménez-Crespo refers to as the "presentation structure" and the "programming structure" of the "multimodal" text (2017, p. 163), in other words, what is read by the end user (and displayed by the machine), and what is only "read" by the machine.

Figure 27 shows how the text file looked like once opened in Smartcat. The file name was displayed at the top left, with "dialogues_uk" corresponding to the text file containing

dialogues with Ukrainian as target language. The interface showed, from left to right, the line/segment number, followed by the source text, the target language output, and the segment status. The word count (including game code) was displayed on the top right corner, and the "Segment comments" tab on the bottom left allowed users to leave comments in case errors were found by a reviser. They would appear as bubbles that would display the comment in the bottom tab upon clicking, as on line 1219.

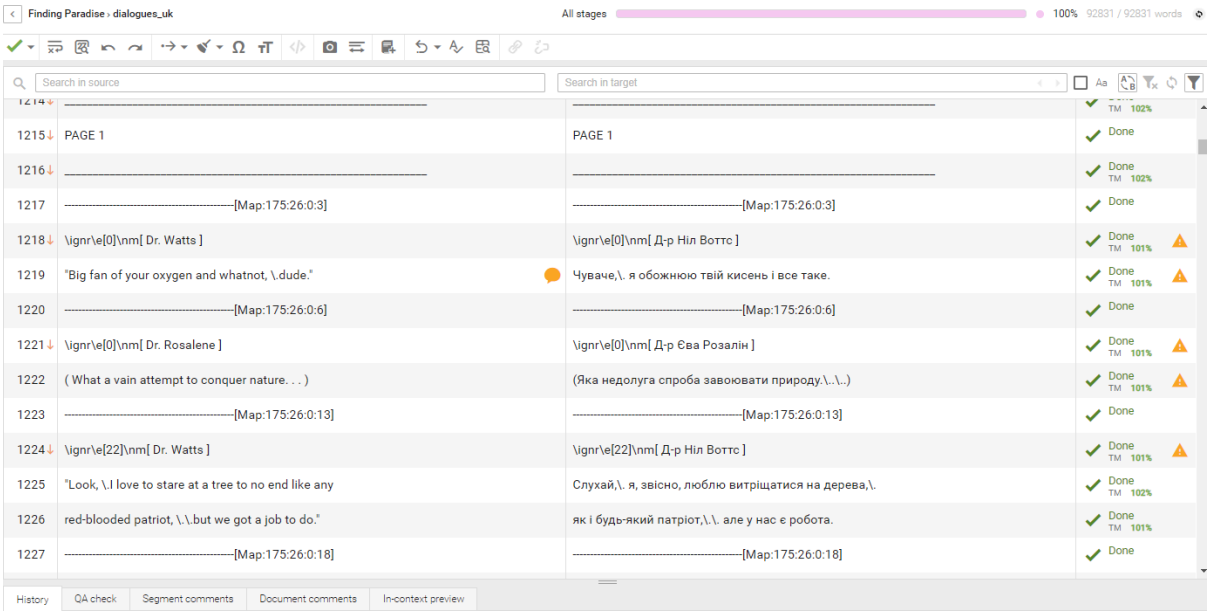

FIGURE 27. *FINDING PARADISE* DIALOGUES FILE IMPORTED IN THE SMARTCAT EDITOR, ALONG WITH UKRAINIAN TRANSLATION (RABOSHCHUK, PERSONAL COMMUNICATION, JUNE 1, 2021)

At first glance, the segments themselves, which combined game code and translatable files, looked hard to read to the untrained eye. Without clear indications, there was a real risk for the translators to accidentally break the game code by translating words that should have remained untouched. Sometimes, a segment would contain only game code, as in lines 1215 to 1217. On other times, however, a segment would contain both game code and translatable content, as in line 1218. To mitigate risks of breaking the code, the localization manager provided extensive information as regards which parts should be translated, and which ones should not.[48] Those guidelines were provided on the official Discord server. Non-translatable system text generally consisted of lines containing:

- only symbols;

[48] Smartcat's later-added placeholder feature, which enables locking specific strings using regular expressions (regex), was reportedly used in later projects.

- `\e[0]Received \c[6]\oi[52]` or similar, where only “Received” was translatable; or
- isolated words in all capitals like “MAP”, “EVENT”, or “PAGE” and isolated numbers.

Such lines had to be kept as is in the target language output (Figure 28).

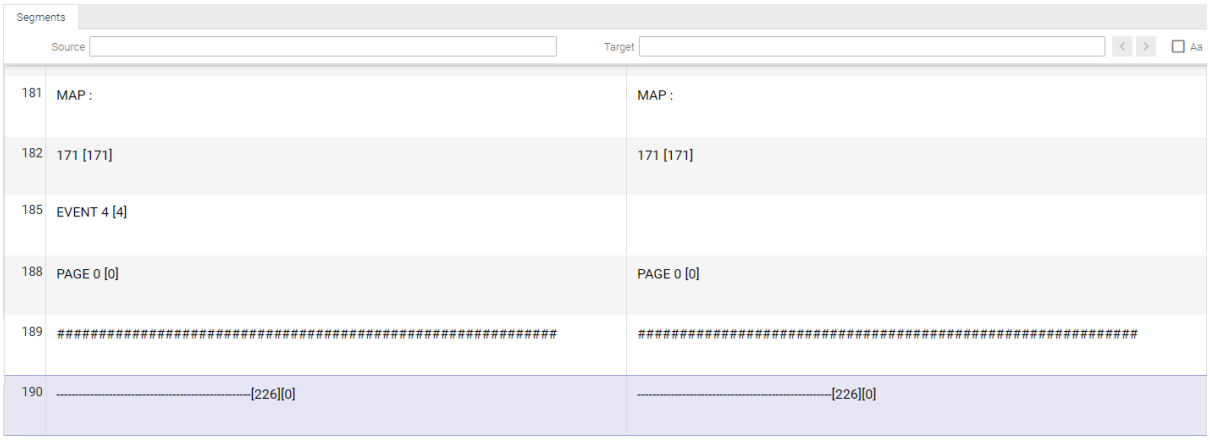

FIGURE 28. SAMPLE SYSTEM TEXT (RABOSHCHUK, PERSONAL COMMUNICATION, JUNE 1, 2021)

Dialogue text consisted of non-translatable window setup commands with the speaking character’s name (line 194 in Figure 29), followed by up to two lines of text (for the game’s speech bubbles displayed two lines at maximum). Dialogue texts sometimes contained markup, such as “\i” (italics) or “\.” (pauses for one fifth of a second) (lines 195 and 196).

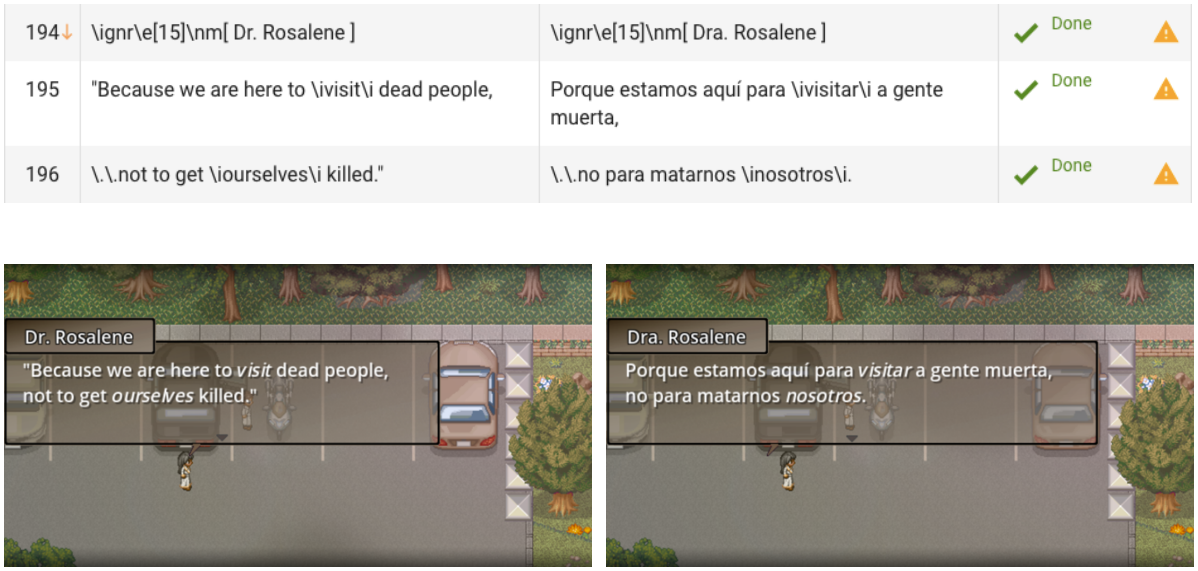

FIGURE 29. SAMPLE DIALOGUE TEXT IN ENGLISH AND SPANISH AS SHOWN IN SMARTCAT (TOP), WITH THE CORRESPONDING IN-GAME DISPLAY (BOTTOM)

4.5.3 Testing

When a translation was completed, the localization manager created the localized textures (i.e., graphical edits), imported the text files back into RPG Maker XP using DreaMaker, made a build, and sent it back to the language teams for testing. If the testers found mistakes, the text files were extracted, exported, modified, and imported back and the game was tested again. Once the translation was done and no more changes were necessary (this was usually determined by the most skilled, dedicated and/or responsible contributors), a final build was prepared for release. Antipiracy texts were removed, Steam achievements enabled, and the build was sent to the game developer's team.

4.5.4 Translation tools

Nearly everyone used Smartcat as expected, with one reported exception where neither Smartcat, nor any other CAT tool was used. Instead, the team had its own workflow, which consisted in producing a first translation that was then shared, refined and commented on by other team members on Google Sheets. Translated parts were then filtered out when deemed fine. The result was reviewed by additional members and DreaMaker was used for text extraction and importing (as explained before).

70% (16/23) did not mention using any machine translation (MT) engine (Figure 30). Among those who reportedly did, the most popular MT engine was Google Translate (22%, 5/23 mentioning it). Yandex.Translate (4%, 1/23) and Reverso (4%, 1/23) were also mentioned. Online dictionaries were mentioned, such as Multitran (one person) or crowdsourced dictionary Urban Dictionary (one person). Neither Microsoft Translator nor DeepL was mentioned.

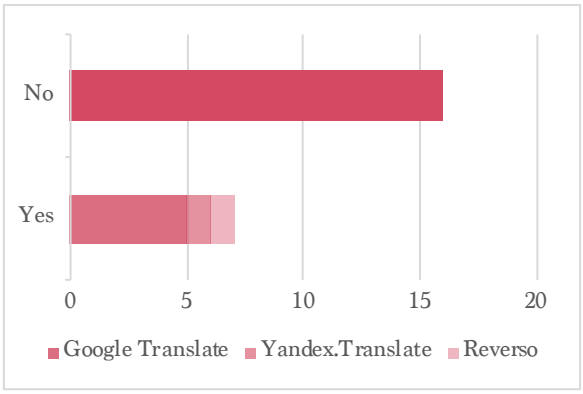

FIGURE 30. MACHINE TRANSLATION TOOLS USED

Shared translation memories (43%, 10/23) and shared glossaries (39%, 9/23) were mentioned, however the question was likely flawed in design, with several people (22%, 5/23 in both cases) answering "I don't know", suggesting that more details should have been provided. (Moreover, what the language team's glossary contained exactly could have been valuable information.) In any case, both translation memories and glossaries were built-in Smartcat functions, therefore most respondents likely used them somehow. When asked about their use of other software, one person mentioned LanguageTool, a multilingual grammar, style and spell checker.

4.5.5 Communication tools

91% of the respondents (21/23) reported using Discord to communicate. The public channels were reported to be used for communication with the localization manager, notably about the technical aspects of the project, whereas private, language-specific channels were used to communicate with fellow team members through text or voice calls. 22% (5/23) mentioned e-mails, with 9% (2/23) indicating that they used this medium to communicate directly with the game developer. E-mails were also used by one person to communicate with testers and share notes. 9% (2/23) mentioned Freebird forums, with one person writing that they used it to find other translators. Finally, one person indicated that their team communicated through a WhatsApp group.

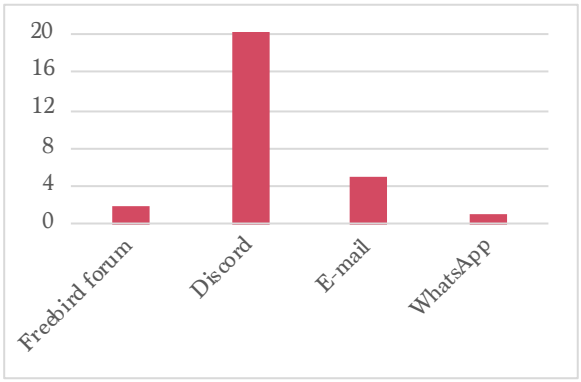

FIGURE 31. COMMUNICATION TOOLS USED

4.5.6 Issues

22% (5/23) reported encountering technical issues, such as out-of-bounds text (two mentions) (see Figure 32), Cyrillic font export issues (one mention), font size too large (one mention), or translated text appearing in English (one mention). Two people indicated that issues were

dealt with promptly on the game developer's side. One respondent mentioned internal issues, more specifically extra revision time due the unnecessary modification of translated lines. Finally, the localization manager reported 3 or 4 occasions where the language teams accidentally altered game code lines, causing the game to crash. Such mistakes were easy to locate, for the game would crash at the precise time when the event corresponding to the altered line was triggered.

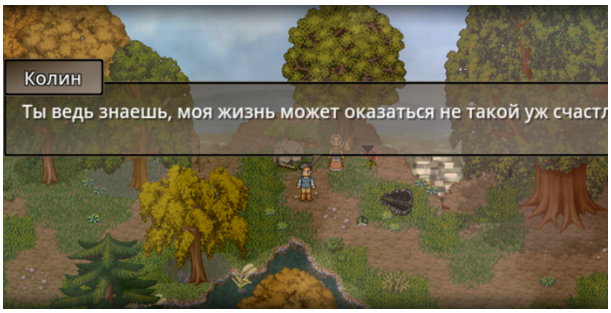

FIGURE 32. OUT-OF-BOUNDS TEXT EXAMPLE

5. Discussion and conclusion

This case study provided a detailed account of the crowdsourced community localization of *Finding Paradise*. As a reminder, the project was described as a "community translation". This emphasizes the *community* aspect of the project and echoes the rise of online gaming communities thanks in part to interactive platforms like Steam, Discord, or Twitch. That being said, the project featured elements specific to crowdsourced translation. Finding the term that best captures the essence of this phenomenon is worth further reflection. Key findings are presented below. They address each of the research subquestions.

- Number of contributors
  - There were 88 contributors (+ localization manager and technical specialist) grouped in 19 language teams (including 1 uncompleted translation and 1 team with an unknown number of contributors).
  - Teams comprised between 1 and 17 contributors.
  - On average, there were 4.94 members per language team (min. 1, max. 17).
  - 24 (27%) contributors from 14 (74%) teams submitted the questionnaire.
- Profiles
  - On average, respondents were aged 22 to 30,[49] with 46% aged 18 to 24, 50% aged 25 to 34, and 4% aged 35 to 44.
  - Most (75%) were male.
  - Most (67%) held a college degree.
  - Some (21%) had academic training in translation.
  - Most (62%) had work experience in translation.[50]
  - Most (71%) were students (33%) or full-time workers (38%).
- Motivation
  - Most (71%) played the entire game before starting the project.
  - Nearly all (96%) considered personal interest important or very important.
  - Nearly none (8%) considered financial compensation important.
  - Intrinsic motivation factors were much more important than extrinsic ones.
- Tasks
  - Nearly all (96%) carried out translation tasks.

[49] Because exact ages were not asked, only an estimate can be given. 22 corresponds to the lowest possible average, and 30 to the highest possible average.

[50] While this does not necessarily mean that such experience was derived from a professional context, it does suggest that most respondents had practical skills in translation.

    - Most (70%) were multitaskers (i.e., they were involved in translation and either revision or testing, or both).
    - On average, each translator translated about 40% of the text (rough estimate).
    - On average, each reviser revised about 75% of the text (rough estimate).
    - On average, each tester spent about 18 hours testing the game (rough estimate).
- Localization process
    - The localization manager had a key role: among other things, he prepared the translatable files before the project started, prepared test builds during the project, and prepared the final build at the end of the project. He communicated with the translation teams on a regular basis.

The average (mean) age of the respondents was consistent with that of the fansubbers from Luczaj et al.'s study (2014), but there were more male contributors and college degree holders among *Finding Paradise* community translators. Many respondents had background in translation and combined game and linguistic expertise, delegitimating the idea of fans being untrained amateurs or crowdsourced translation attracting mostly non-professionals.[51] As Jiménez-Crespo observed, profiles vary considerably across initiatives (2017, p. 223). However, case studies focusing on other crowdsourced localizations of indie games may help identify possible trends.

The fact that intrinsic motivation factors (personal interest, being part of a community, or making the game available to other people) largely prevailed over extrinsic ones (CV experience or financial compensation) mirrored previous findings (Jiménez-Crespo, 2017, p. 220). Additionally, extrinsic motivation factors (more specifically CV experience) were considered more important by contributors with work experience in translation than to other respondents (but still much less important than intrinsic ones). This echoed McDonough Dolmaya's findings about the motivation of Wikipedia volunteer translators (2012, p. 181). Finally, the findings about the motivation of the participants corresponded to the *Finding Paradise* developer's rationale for opting for a (crowdsourced) community translation model, i.e., ensuring that participants were passionate about the project (Kan Gao, personal communication, May 19, 2021): love for the game, enjoying translation as a hobby or

[51] O'Brien notes that crowdsourced translators are often not professional translators, but refers to large-scale initiatives such as Facebook or Wikipedia (O'Brien, 2011). In a survey aimed at Wikipedia volunteer translators, 75% indeed reported never working as paid professional translators (McDonough Dolmaya, 2012, p. 174). This hints at the likely influence of the type of initiative on the proportion of professional translators involved. At the same time, it should be reminded that *Finding Paradise* community translation contributors were asked about their "work experience", but not if that work was paid.

volunteer activity, or making the game available in their respective, sometimes minoritized languages were as many reported reasons for getting involved. This latter point echoes O'Brien's noting that the crowdsourced model model can "give[] access to information and products to language communities who might otherwise have been denied access" (2011, p. 20).[52]

Finding Paradise was developed with RPG Maker XP game engine, a development program released in 2005. The game was not internationalized/localization-friendly and required the localization manager to learn how to code and write custom scripts in the program to solve some of the technical issues that arose. The localization manager, who had extensive experience in the field, indicated that modern indie localization projects that involve games developed with modern engines, such as Unreal Engine or Unity, were simpler in that less global steps were required (personal communication, June 1, 2021). In any event, the localization manager's role was crucial to the success of the project. In such cases, the project manager is not

> [...] just shepherding files between the various parties, [but rather] a facilitator, the person who builds the team, keeps it on task, and brings into the community the resources required for each phase of the project. (Kelly et al., 2011, p. 79)

Consequently, indie game developers considering this localization model should pay especial attention to project management and ensure that the coordinator has enough expertise, i.e., technical skills related to text extraction and file preparation, as well as the ability to provide clear guidelines and assist localization teams should they encounter issues. Moreover, proper internationalization (i.e., localization-friendly game development) could help avoid technical challenges in the file preparation phase, such as language compatibility issues. Given the importance of localization management, crowdsourced localizations may benefit from a hybrid approach combining both an open call and contributors with specific skillsets selected on an ad-hoc basis. However, remunerating key tasks like project management should be subject to caution, as this could downplay the importance of other tasks, such as translation and testing.[53] More generally, the crowdsourced translation model may negatively impact the translation profession (lower payments, loss of status, etc.) and lead to a questioning of the point of university-based education and training in translation (McDonough Dolmaya, 2011, p. 103; Zwischenberger, 2021, pp. 12, 14). Successful indie games that generate important

[52] Presently it might even be the only way to give visibility to minoritized languages (Mangiron, 2018, p. 131), with even big game companies not bothering with some of the languages available in *Finding Paradise*.

[53] In the case of *Finding Paradise*, all contributors participated on a voluntary basis, and no one was remunerated on contractual grounds.

revenues could consider remunerating crowdsourced contributors by redistributing some of the profits made with foreign-language sales.

With 18 completed community translations as of June 2021 (some were not listed on Steam because of the limited language options of the platform), the crowdsourced translation model proved to be adapted to the localization of *Finding Paradise*, and perhaps indie video games in general. It showed that, with proper coordination and the joint efforts of dedicated fans (some of whom had previous experience in translation), it was possible to successfully localize an indie game with a substantial number of words (about 40,000). While the present case study was participant-oriented, a product-oriented study could focus on the quality of the translations. Inconsistency issues may arise from the collaboration between translators speaking regional variations of the same language, such as Latin American (LatAm) Spanish and Castilian (European Spanish). Additionally, the script contained many idioms, and not all contributors may have had sufficient English proficiency to properly translate them. Future work could analyze the quality of crowdsourced indie game localizations, player reception, and how translation quality is impacted by factors such as the participants' linguistic expertise, language team size, or fans speaking regional variations of the same language. Finally, this model could offer a welcome solution to the lack of game localization training materials, due to the confidential nature of the industry (Mangiron, 2018, p. 133).

6. Bibliography

Anastasiou, D., & Gupta, R. (2011). Comparison of crowdsourcing translation with Machine Translation. *Journal of Information Science*, *37*(6), 637–659. https://doi.org/10.1177/0165551511418760

Armstrong, G. (2019). Media and Mediality. In *Routledge Encyclopedia of Translation Studies* (Third edition, pp. 310–315). Routledge.

Batchelor, J. (2020, December 22). *GamesIndustry.biz presents… The Year in Numbers 2020*. GamesIndustry.Biz. Retrieved July 30, 2021, from https://www.gamesindustry.biz/articles/2020-12-21-gamesindustry-biz-presents-the-year-in-numbers-2020

Bennett, K. (2019). Lingua franca, translation. In *Routledge encyclopedia of translation studies* (Third edition, pp. 290–294). Routledge.

Bernal-Merino, M. Á. (2011). Breve historia de la localización de videojuegos. *Trans. Revista de Traductología*, *15*, 11–17. https://doi.org/10.24310/TRANS.2011.v0i15.3191

Bernal-Merino, M. Á. (2014). *Translation and Localisation in Video Games* (0 ed.). Routledge. https://doi.org/10.4324/9781315752334

Berthouzoz, M. (2019). *Localization choices in indie games: A study on the influencing factors* [Université de Genève]. http://archive-ouverte.unige.ch/unige:123932. http://archive-ouverte.unige.ch/unige:123932

Bowker, L., & Fisher, D. (2010). Computer-aided translation. In *Handbook of translation studies* (pp. 60–65). John Benjamins Pub. Co.

Bulbapedia. (2021a, June 30). *List of games by release date—Bulbapedia, the community-driven Pokémon encyclopedia* [Wiki]. Bulbapedia. Retrieved July 28, 2021, from https://bulbapedia.bulbagarden.net/w/index.php?title=List_of_games_by_release_date&oldid=3370415

Bulbapedia. (2021b, July 18). *M01—Bulbapedia, the community-driven Pokémon encyclopedia*. Bulbapedia. Retrieved July 28, 2021, from https://bulbapedia.bulbagarden.net/w/index.php?title=M01&oldid=3378572#Dub_edits

Chandler, H. M., & Deming, S. O. (2011). *The Game Localization Handbook*. Jones & Bartlett Publishers. (Original work published 2005)

Cisco, C. (2015, March 19). The Power of Play: Q&A with Indie Game Developer Kan Gao. *ScreenCraft*. Retrieved March 3, 2021, from https://screencraft.org/2015/03/18/on-interactive-storytelling-an-interview-with-kan-gao/

Connected Translation with Smartcat. (n.d.). Retrieved June 17, 2021, from https://www.smartcat.com/connected-translation

Consalvo, M. (2012). Bringing an Independent Japanese Role-playing game to North America. In *The Participatory Cultures Handbook* (pp. 59–69).

Dias, K. (2013). *Unlocking the Black Box of Translation Memory Files | TM-Town*. TM-Town. Retrieved July 12, 2021, from https://www.tm-town.com/blog/unlocking-black-box-translation-memory-files

Díaz Montón, D. (2011). La traducción amateur de videojuegos al español. *Trans. Revista de traductología*, *15*, 69–82. https://doi.org/10.24310/TRANS.2011.v0i15.3196

Díaz-Cintas, J., & Muñoz Sánchez, P. (2006). Fansubs: Audiovisual Translation in an Amateur Environment. *The Journal of Specialised Translation*, *6*, 37–52.

Egenfeldt-Nielsen, S., Tosca, S. P., & Smith, J. H. (2016). *Understanding Video Games* (Third Edition). Routledge.

Encyclopædiæ Pokémonis. (n.d.). *Encyclopædiæ Pokémonis*. Retrieved July 28, 2021, from https://www.encyclopaediae-pokemonis.org/

Estellés-Arolas, E., & González-Ladrón-de-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information Science*, *38*(2), 189–200. https://doi.org/10.1177/0165551512437638

Fernández Costales, A. (2012). Collaborative Translation Revisited: Exploring the Rationale and the Motivation for Volunteer Translation. *FORUM. Revue Internationale d'interprétation et de Traduction / International Journal of Interpretation and Translation*, *10*(1), 115–142. https://doi.org/10.1075/forum.10.1.06fer

Fernández Costales, A. (2013). Crowdsourcing and Collaborative Translation: Mass Phenomena or Silent Threat to Translation Studies? *Hermeneus - Revista de La Facultad de Traducción e Interpretación de Soria*, *15*, 85–110.

Forcada, M. L. (2017). Making sense of neural machine translation. *Translation Spaces*, *6*(2), 291–309. https://doi.org/10.1075/ts.6.2.06for

Galyonkin, S. (n.d.). *Games released in previous months.* SteamSpy - All the Data about Steam Games. Retrieved July 13, 2021, from https://steamspy.com/year/

Gao, K. (2017). *Finding Paradise* (1.2c) [MacOS]. Freebird Games.

Garda, M. B., & Grabarczyk, P. (2016). Is Every Indie Game Independent? Towards the Concept of Independent Game. *Game Studies*, *16*(1). Retrieved March 1, 2021, from http://gamestudies.org/1601/articles/gardagrabarczyk

Hancock, H. (2002, April 2). *Better Game Design Through Cutscenes.* Gamasutra. Retrieved July 22, 2021, from https://www.gamasutra.com/view/feature/131410/better_game_design_through_.php

Hebenstreit, G. (2019). Coming to terms with social translation: A terminological approach. *Translation Studies*, *12*(2), 139–155. https://doi.org/10.1080/14781700.2019.1681290

Howe, J. (2006). *Crowdsourcing: A Definition.* Crowdsourcing. Retrieved February 1, 2021, from https://crowdsourcing.typepad.com/cs/2006/06/crowdsourcing_a.html

ifpi. (2021). *Global Music Report 2021.*

IGF. (n.d.). *IGF Competition Rules.* Independent Games Festival (IGF). Retrieved March 4, 2021, from https://igf.com/igf-competition-rules

Iwata, S. (2013). *Pokémon X & Pokémon Y : Simultaneous Worldwide Release-A First for the Series* [Interview]. Retrieved July 15, 2021, from https://iwataasks.nintendo.com/interviews/#/3ds/pokemonxy/0/0

Jiménez-Crespo, M. A. (2017). *Crowdsourcing and online collaborative translations: Expanding the limits of translation studies.* John Benjamins Publishing Company.

Kai, C. (2013, October 26). The Tales Team Simply Doesn't Have Enough Staff To Localize Every Game. *Siliconera*. Retrieved July 28, 2021, from

https://www.siliconera.com/tales-team-simply-doesnt-enough-staff-localize-every-game/

Kelly, N., Ray, R., & DePalma, D. A. (2011). From crawling to sprinting: Community translation goes mainstream. *Linguistica Antverpiensia, New Series – Themes in Translation Studies*, *0*(10), Article 10. Retrieved June 14, 2021, from https://lans-tts.uantwerpen.be/index.php/LANS-TTS/article/view/278

Koster, R. (2018, January 24). The cost of games. *VentureBeat*. Retrieved August 2, 2021, from https://venturebeat.com/2018/01/23/the-cost-of-games/

Langdridge, D., & Hagger-Johnson, G. (2013). *Introduction to research methods and data analysis in psychology*. Pearson.

Lien, T. (2013, October 4). *How indie games went mainstream*. Polygon. Retrieved March 3, 2021, from https://www.polygon.com/2013/10/4/4768148/the-next-generation-of-indies

Lipkin, N. (2013). Examining Indie's Independence: The Meaning of "Indie" Games, the Politics of Production, and Mainstream Co-optation. *Loading... The Journal of the Canadian Game Studies Association*, *7*(11), 8–24.

Luczaj, K., Holy-Luczaj, M., & Cwiek-Rogalska, K. (2014). *Fansubbers. The case of the Czech Republic and Poland*. *5*(2), 24.

Mandelin, C. (2018, May 11). *Legends of Localization: Bad Game Translation Hall of Fame*. Legends of Localization. Retrieved March 4, 2021, from https://legendsoflocalization.com/bad-game-translation-hall-of-fame/

Mangiron, C. (2017). Research in game localisation: An overview. *The Journal of Internationalization and Localization*, *4*(2), 74–99. https://doi.org/10.1075/jial.00003.man

Mangiron, C. (2018). Game on! Burning issues in game localisation. *Journal of Audiovisual Translation*, *1*(1), 122–138. https://doi.org/10.47476/jat.v1i1.48

Matecat. (n.d.). *Supported file formats*. Retrieved July 28, 2021, from https://guides.matecat.com/hs-fs/hubfs/Updated%20formats.jpg

McDonough Dolmaya, J. (2011). The ethics of crowdsourcing. *Linguistica Antverpiensia*, *10*, 97–110. https://lans-tts.uantwerpen.be/index.php/LANS-TTS/article/view/279/177

McDonough Dolmaya, J. (2012). Analyzing the Crowdsourcing Model and Its Impact on Public Perceptions of Translation. *The Translator*, *18*(2), 167–191. https://doi.org/10.1080/13556509.2012.10799507

memoQ. (2017). *LocLand: The Land of Game Localization.* https://files.memoq.com/hubfs/eBooks/memoq_locland.pdf

Mittell, J. (2012). Wikis and Participatory Fandom. In *The Participatory Cultures Handbook* (pp. 35–42).

Movie Picture Association. (2020). *2020 THEME Report.*

Muñoz Sánchez, P. (2007). *Manual de traducción de videojuegos—El fascinante mundo del romhacking.* 160.

Muñoz Sánchez, P. (2009). Video Game Localisation for Fans by Fans: The Case of Romhacking. *The Journal of Internationalization and Localization*, *1*, 168–185. https://doi.org/10.1075/jial.1.07mun

Newman, M. Z. (2009). Indie Culture: In Pursuit of the Authentic Autonomous Alternative. *Cinema Journal*, *48*(3), 16–34. https://doi.org/10.1353/cj.0.0112

Newzoo. (2020). *2020 Global Games Market Report (Free Version).* Retrieved July 22, 2021, from https://newzoo.com/insights/trend-reports/newzoo-global-games-market-report-2020-light-version/

Newzoo. (2021). *Newzoo's Gamer Segmentation.* Retrieved July 31, 2021, from https://resources.newzoo.com/hubfs/Newzoo_Gamer_Segmentation.pdf

Nintendo World Report. (2004, July 12). *The PGC Tales of Symphonia Interview.* Nintendo World Report. Retrieved February 16, 2021, from https://www.nintendoworldreport.com/interview/2198/the-pgc-tales-of-symphonia-interview

NIWA. (n.d.). *NIWA - Nintendo Independent Wiki Alliance.* Retrieved July 28, 2021, from https://niwanetwork.org/

Nord, C. (2018). *Translating as a purposeful activity: Functionalist approaches explained* (Second edition). Routledge, Taylor & Francis Group. (Original work published 1997)

O'Brien, S. (2011). Collaborative translation. In Y. Gambier & L. van Doorslaer (Eds.), *Handbook of Translation Studies* (Vol. 2, pp. 17–20). John Benjamins Pub. Co.

O'Hagan, M. (2009). Evolution of User-generated Translation: Fansubs, Translation Hacking and Crowdsourcing. *The Journal of Internationalization and Localization*, *1*, 94–121. https://doi.org/10.1075/jial.1.04hag

O'Hagan, M. (2012). From Fan Translation to Crowdsourcing: Consequences of Web 2.0 User Empowerment in Audiovisual Translation. In *Audiovisual Translation and Media Accessibility at the Crossroads* (pp. 23–41). BRILL.

O'Hagan, M., & Chandler, H. (2016). Game localization research and translation studies: Loss and gain under an interdisciplinary lens. In Y. Gambier & L. van Doorslaer (Eds.), *Border Crossings: Translation Studies and other disciplines* (Vol. 126). John Benjamins Publishing Company. https://doi.org/10.1075/btl.126

O'Hagan, M., & Mangiron, C. (Eds.). (2013). *Game localization: Translating for the global digital entertainment industry*. John Benjamins Publishing Company.

Parkin, S. (2008, December 26). *You Say Tomato: A Pro on Fan-Translating Nintendo's Mother 3.* Gamasutra. Retrieved July 22, 2021, from https://www.gamasutra.com/view/feature/132284/you_say_tomato_a_pro_on_.php

Pérez Latorre, Ó. (2016). Indie or Mainstream? Tensions and Nuances between the Alternative and the Mainstream in Indie Games. *Anàlisi*, *54*, 15. https://doi.org/10.7238/a.v0i54.2818

Poole, S. (2020, December 16). The renaissance and evolution of indie games. *VentureBeat.* Retrieved July 24, 2021, from https://venturebeat.com/2020/12/16/the-renaissance-and-evolution-of-indie-games/

Rayfulrand. (2017a, December 14). *Official Community Translation* [OP]. Finding Paradise. Retrieved March 18, 2021, from https://steamcommunity.com/app/337340/discussions/0/2549465882917075691/#2

Rayfulrand. (2017b, December 15). *Official Community Translation* [#12]. Finding Paradise. Retrieved March 18, 2021, from https://steamcommunity.com/app/337340/discussions/0/2549465882917075691/#c2549465882919924485

Reiss, K., & Vermeer, H. J. (2014). *Towards a General Theory of Translational Action: Skopos Theory Explained* (C. Nord, Trans.; 0 ed.). Routledge. https://doi.org/10.4324/9781315759715 (Original work published 1984)

RHDN. (n.d.). *Final Fantasy V*. ROMhacking.Net. Retrieved July 28, 2021, from http://www.romhacking.net/translations/353/

Rose, M. (2013, November 19). *How indies made an impact on a generation of game consoles.* Gamasutra. Retrieved March 17, 2021, from https://www.gamasutra.com/view/feature/205136/how_indies_made_an_impact_on_a_.php

Roturier, J. (2020). XML for translation technology. In *The Routledge handbook of translation and technology* (pp. 45–60). Routledge, Taylor & Francis Group.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, *25*(1), 54–67. https://doi.org/10.1006/ceps.1999.1020

Saldanha, G., & O'Brien, S. (2013). *Research methodologies in translation studies.* St. Jerome Publishing.

Schubert, K. (2010). Technical translation. In Y. Gambier & L. van Doorslaer (Eds.), *Handbook of Translation Studies* (Vol. 1, pp. 350–355). John Benjamins Pub. Co.

Simard, M. (2020). Building and using parallel text for translation. In *The Routledge handbook of translation and technology* (pp. 78–90). Routledge, Taylor & Francis Group.

Smartcat. (2019a). *Brian Cho, HansemEUG: "Smartcat's learning curve is really low."* Retrieved June 26, 2021, from https://www.youtube.com/watch?v=ywfcTGNz_1A

Smartcat. (2019b). *Popular CAT tools.* Retrieved July 28, 2021, from https://www.smartcat.com/blog/content/images/2019/06/popular-CAT-tools.png

Smartcat. (2021). *Concordance search.* Retrieved July 28, 2021, from https://help.smartcat.com/hc/article_attachments/360008126079/mceclip0.png

Sola, B. (2020, April 26). *Fan Game Localization, Its Pros, Cons, And Hidden Costs—A Case Study | LocalizeDirect.* Retrieved March 17, 2021, from https://www.localizedirect.com/posts/fan-game-translation

Square Enix. (n.d.). *FINAL FANTASY VII REMAKE Localization Team Interview! Part 1.* FINAL FANTASY PORTAL SITE | SQUARE ENIX. Retrieved July 28, 2021, from https://eu.finalfantasy.com/topics/218

Steam. (n.d.). *Steamworks Partner Program.* Steam. Retrieved July 28, 2021, from https://partner.steamgames.com/steamdirect

tartagueul_81. (2012, May 30). *Un lecteur de jeuxvideo.com a traduit To the Moon en français.* Jeuxvideo.com. Retrieved August 1, 2021, from https://www.jeuxvideo.com/commentaire/message/4861452

TCRF. (22 July 21). *Paper Mario: The Thousand-Year Door/Regional Differences—The Cutting Room Floor.* Wiki. Retrieved July 28, 2021, from https://tcrf.net/index.php?title=Paper_Mario:_The_Thousand-Year_Door/Regional_Differences&oldid=1024762

Techopedia. (n.d.). *Golden Master (GM).* Techopedia.Com. Retrieved June 26, 2021, from http://www.techopedia.com/definition/5434/golden-master-gm

Thayer, A., & Kolko, B. E. (2004). *Localization of Digital Games: The Process of Blending for the Global Games Market.* 37.

The MOTHER 3 Fan Translation. (n.d.). *About.* Retrieved July 28, 2021, from http://mother3.fobby.net/blog/about/

Thomsen, M. (2014, July 17). *Born to Sell: How Indie Games Went Mainstream At E3.* Forbes. Retrieved July 24, 2021, from https://www.forbes.com/sites/michaelthomsen/2014/06/17/born-to-sell-how-indie-games-went-mainstream-at-e3/

Toffler, A. (1980). *The Third Wave.* Morrow.

Toftedahl, M., Backlund, P., & Engström, H. (2018). Localization from an Indie Game Production Perspective – Why, When and How? *DiGRA '18*, 18.

UNLOCTEAM. (2018, January). *Finding-Paradise-13.* Retrieved July 30, 2021, from https://unlocteam.com/wp-content/uploads/2018/01/Finding-Paradise-13.png

Venuti, L. (2008). *The translator's invisibility: A history of translation* (2nd ed). Routledge. (Original work published 1995)

Villar Gómez, J. R. (2017). Indie game localization: Case study. Localization of Fragments of Him. In *New Technologies Applied to Translation Studies: Strategies, Tools and Resources* (pp. 113–118).

Web, n.10.b. (n.d.). In *OED Online*. Oxford University Press. Retrieved June 9, 2021, from https://www.oed.com/view/Entry/226695

Zwischenberger, C. (2021). Online collaborative translation: Its ethical, social, and conceptual conditions and consequences. *Perspectives*, 1–18. https://doi.org/10.1080/0907676X.2021.1872662

7. Appendices

7.1 Appendix A: Open call

Official Community Translation

Dear fans,

The game is released now, and you have possibility to join the translation of the **Finding Paradise**. This time we've decided to organize the translation, so all languages will be equal in possibilities to translate.

We recommend you to finish the game before starting translation, or at least watch the let's play, so you will know the context better.

We will use several additional tools that will ease the process for you and for us to implement your language into the game:

Discord. This free chat service already has recommended itself not only as one of the best chat for gamers, it has become a great place for coordination and collaboration. We recommend you to install desktop or mobile version, but you can also use browser version as well. Link to download: https://discordapp.com/

SmartCAT. This is modern free-to-use online CAT-tool (Computer Assisted Translation), which helps to increase translation effectiveness and provides lots of great features to ease the process and manage the translation. It's good for teamwork and lone translators. You can register there by yourself as freelancer (https://smartcat.ai) or wait till we register you.

Please join our Discord server https://discord.gg/qfDhhvu. There you will find all instructions regarding registration, information about the process, tips, solutions. Also this is a possibility to meet many translators from your or other languages.

If you are going to use only Google Translate or harm the translation — please pass by. Or Neil will put a roadkill under your pillow:)

7.2 Appendix B: Message to the game developer

Dear Kan,

To begin with, I would like to thank you for offering us such memorable, atmospheric gaming experiences. Like thousands of people around the world, I have immensely enjoyed playing and replaying both *To The Moon* and *Finding Paradise* over the years.

As a Master's student in Translation Technologies at the University of Geneva, Switzerland, I am currently writing a thesis about the localization of indie games and wanted to include a chapter about the community translation of *Finding Paradise*, which I thought was a very interesting initiative that yielded fantastic results. To this end, I am reaching out to enquire if:

1. It would be possible to invite the *Finding Paradise* community translation contributors to participate in a brief survey (20~30 questions) about their roles and collaborative methods used during the project;
2. You and/or the project manager could answer ~10 questions from a developer's/management perspective. Questions can be accessed at https://formulaire.unige.ch/outils/limesurveyfac/traduction-interpretation/index.php/744762. Alternatively, we may schedule a short interview via Discord voice chat.

To contact the various translation team members, I was wondering if you could transfer my invitation message (found attached), which contains the survey link for the participants, or indicate a channel only they can access.

I can readily provide more details by e-mail or on Discord (Cape#4122 on Freebird Games and Finding Paradise Translation servers) if necessary.

In the meantime, I wish you all the best with wrapping up *Impostor Factory* and would be very excited to contribute to a potential French community translation if that's a thing!

Greetings from Switzerland,

Thomas Capellini

Master's degree student – Faculty of Translation and Interpreting

University of Geneva

thomas.capellini@etu.unige.ch

7.3 Appendix C: Message to the localization manager

Subject: Academic research survey about *Finding Paradise*'s community translation

Dear Andrii,

As a Master's student in Translation Technologies at the University of Geneva, Switzerland and long-term fan of Kan's atmospheric games, I am currently writing a thesis about the localization of indie games and wanted to include a chapter about the community translation of *Finding Paradise*. Since you managed the project, I am reaching out to enquire if:

1. It would be possible to invite the community translation contributors to participate in a brief survey (~15 minutes) about their roles and collaborative methods used during the project;
2. You could answer a couple questions from a project management perspective. Questions can be accessed at https://formulaire.unige.ch/outils/limesurveyfac/traduction-interpretation/index.php/744762. (The survey was designed for both the game developer and the translation project manager, so you may leave out any irrelevant questions.)

To contact the various translation team members, I was wondering if you could transfer my invitation message (uploaded below, can also copy/paste), which contains the survey link for the participants, or indicate a channel only they can access.

I can readily provide more details by e-mail (thomas.capellini@etu.unige.ch) or DM/call here on Discord. Please note that I also contacted Kan 1 week ago, however I imagine he's currently focused on wrapping up *Impostor Factory* and hasn't had the time to write back yet.

I wish you a great week and look forward to hearing back from you!

Sincerely,

Thomas Capellini

Master's degree student – Faculty of Translation and Interpreting

University of Geneva

thomas.capellini@etu.unige.ch

7.4 Appendix D: Survey invitation

Academic research survey about *Finding Paradise*'s community translation

Dear fans,

As a Master's student in Translation Technologies at the University of Geneva (Switzerland) and long-term fan of Kan's atmospheric games, I am currently writing a thesis about the localization of indie games and wanted to include a chapter about the community translation of *Finding Paradise*. To this end, I am inviting anyone who actively contributed to the project (be it translation, proofreading, testing, etc.) to participate in a brief survey where you will be asked about your experience.

The survey is open until Friday, June 11, 2021 at 11.59 PM (GMT +1) and should take about 15 minutes to complete. You can access it through the following link:

https://formulaire.unige.ch/outils/limesurveyfac/traduction-interpretation/index.php/954489

If you have any questions, feel free to ask here or through DM/e-mail.

Thanks in advance for your contribution!

Sincerely,

Thomas Capellini

Master's degree student – Faculty of Translation and Interpreting

University of Geneva

thomas.capellini@etu.unige.ch

7.5 Appendix E: Survey reminder

Dear @Translator and @Proofreader,

Thanks so much to all the people who already took the survey, I'm truly grateful for the time you took to share your experience.

This is to remind those who might have not noticed the previous message that you can still take the survey about FP's community translation until Friday next week (June 11) by clicking on this link:

https://formulaire.unige.ch/outils/limesurveyfac/traduction-interpretation/index.php/954489

Partial answers are acceptable too, and again feel free to hit me up if there's anything you'd like to ask.

Thank you and see you around!

Thomas

7.6 Appendix F: Questionnaire 1 (fan translators)

This survey is being conducted by Thomas Capellini as part of his Master's thesis in Translation at the University of Geneva, Switzerland.

Its purpose is to provide insight into the collaborative methods used by fan translators in the context of indie game localization. It is intended for people who contributed to the community translation of *Finding Paradise*.

Your participation is completely voluntary and you can withdraw at any time without justification or prejudice. You can also save your answers and come back to the survey at a later time. Participation is open until Friday, June 11, 2021 at 11.59 PM (GMT +1). The survey should take 15-20 minutes to complete at most.

This survey has been elaborated in accordance with the ethical guidelines provided by Faculty of Translation and Interpreting of the University of Geneva (more information can be found here). It is being conducted using LimeSurvey and the data collected will be stored under the responsibility of the thesis director Lucía Morado Vázquez on servers owned by the University of Geneva. If you indicated your e-mail address or Discord username at the end of the survey, this information will be deleted by August 31, 2021 at 11.59 PM (GMT +1) and only anonymized data will be kept. You may request the deletion of your data before this date.

By clicking on "Next", you understand and agree with the information above and allow the researcher to use and publish data collected, including statistical data, for academic purposes only. The research report will contain no reference to invididuals. However, due to the nature of the data collected, some data may be recognizable.

Group A

First, some basic questions about yourself.

A1. How old are you?
Please choose only one of the following:

- 17 or under
- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 or over

A2. What is your gender?
Please choose only one of the following:

- Male
- Female
- Other

A3. What is your highest level of education achieved?
Please choose only one of the following:

- No formal education
- Elementary
- High school
- Bachelor's or equivalent
- Master's or equivalent
- Doctoral or equivalent
- Other

A4. Do you have academic training in translation?
Please choose only one of the following:

- Yes
- No

A5. Please briefly describe your academic training.
Only answer this question if the following conditions are met:
Answer was “Yes” at question A4

Please write your answer here:

A6. Do you have any work experience in translation?
Please choose only one of the following:

- Yes
- No

A7. Please briefly describe your work experience.
Only answer this question if the following conditions are met:
Answer was “Yes” at question A6

Please write your answer here:

A8. What is your current employment status?
Please choose only one of the following:

- Unemployed
- Part-time (less than 40 hours per week)
- Full-time (40 hours per week or more)
- Student
- Other

A9. What language did you help translate the game into?
Please choose only one of the following:

- Catalan
- Czech
- Danish
- French
- German
- Hungarian
- Italian
- Japanese
- Korean
- Polish
- Portuguese - Brazil
- Russian
- Simplified Chinese
- Spanish - Latin America
- Spanish - Spain
- Turkish
- Ukrainian
- Vietnamese
- Other

Group B

Now, a few questions about how you got into the project.

B1. How did you learn about the project?
Please choose all that apply:

- I saw the official announcement post
- I was contacted directly by the developer
- Word of mouth
- Other:

B2. Did you play the game before joining the project?
Please choose only one of the following:

- Yes, entirely
- Yes, but only part of it
- No, but I watched a Let's Play
- No

B3. What compensation were you given for participating in the project?
Please choose all that apply:

- None
- Cash
- Gift card
- Free game copy
- Name in credits
- Other:

B4. In your opinion, how important were the following factors for your motivation?
Please choose the appropriate response for each item:

	Very important	Important	Not very important	Not important at all
Personal interest				
Recognition				
Being part of a community				
CV experience				
Financial compensation				

B5. If other motivation factors were important to you, please mention them here.
Please write your answer here:

Group C

This is the more technical part.

Follow-up questions will appear once you indicate the tasks youv'e performed.

C1. What tasks did you perform?

Please choose all that apply:

- Translation
- Revision
- Testing
- Graphical edits
- Other:

C2. How much did you translate? *(please provide a number of words, lines, segments, or any other quantifiable unit)*

Only answer this question if the following conditions are met:

Answer was “Translation” at question C1

Please write your answer here:

C3. How much did you review? *(please provide a number of words, lines, segments, or any other quantifiable unit)*

Only answer this question if the following conditions are met:

Answer was “Revision” at question C1

Please write your answer here:

C4. What computer-assisted translation (CAT) tools did you use?
Only answer this question if the following conditions are met:
-------- Scenario 1 --------
Answer was “Translation” at question C1
-------- or Scenario 2 --------
Answer was “Revision” at question C1

Please choose all that apply:

- SmartCAT
- I didn't use any CAT tool
- Other:

C5. What machine translation (MT) engines did you use?
Only answer this question if the following conditions are met:
-------- Scenario 1 --------
Answer was “Translation” at question C1
-------- or Scenario 2 --------
Answer was “Revision” at question C1

Please choose all that apply:

- Google Translate
- Microsoft Translator
- Yandex.Translate
- DeepL
- I didn't use any MT engine
- Other:

C6. Did you use shared translation memories?
Only answer this question if the following conditions are met:
-------- Scenario 1 --------
Answer was “Translation” at question C1
-------- or Scenario 2 --------
Answer was “Revision” at question C1

Please choose all that apply:

- Yes
- No
- I don't know

C7. Did you use shared glossaries?
Only answer this question if the following conditions are met:
-------- Scenario 1 --------
Answer was “Translation” at question C1
-------- or Scenario 2 --------
Answer was “Revision” at question C1

Please choose all that apply:

- Yes
- No
- I don't know

C8. How much time did you spend testing? *(please provide an estimate)*
Only answer this question if the following conditions are met:
Answer was “Testing” at question C1

Please write your answer here:

C9. What parts of the game did you test?
Only answer this question if the following conditions are met:
Answer was “Testing” at question C1

Please choose only one of the following:

- Any part I wanted
- Some parts that were assigned to me
- I tested the entire game
- Other

C10. What kind of graphical assets did you modify? *(please provide a short description)*
Only answer this question if the following conditions are met:
Answer was “Graphical edits” at question C1

Please write your answer here:

C11. For illustration purposes, you can upload a graphical asset that you modified.
Only answer this question if the following conditions are met:
Answer was “Graphical edits” at question C1

Please upload at most one file

C12. Which software did you use to perform graphical edits?
Only answer this question if the following conditions are met:
Answer was “Graphical edits” at question C1

Please write your answer here:

C13. How did you personally communicate with others? *(please specify what type of communication)*

Please choose all that apply and provide a comment:

- Freebird forum
- Steam
- Discord
- E-mail
- Other:

C14. Did you use any other software?

Please choose only one of the following:

- Yes
- No

C15. Please provide the name and reason for using that software.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question C14

Please write your answer here:

C16. Did you encounter any technical issues?

Please choose only one of the following:

- Yes
- No

C17. Please provide an example of a technical issue you encountered and how you were able to solve it.

Only answer this question if the following conditions are met:

Answer was 'Yes' at question C16

Please write your answer here:

Group D

Almost done!

D1. If you have any additional comments, please share them here.

Please write your answer here:

D2. Would you be available for a short follow-up interview if more information is needed *(e.g. details on some of your answers)*?

Please choose only one of the following:

- Yes
- No

D3. Would you like to be informed of the results of this study?

Please choose only one of the following:

- Yes
- No

D4. Please indicate your e-mail address or Discord username. *(Note: this information will only be used by the researcher to contact you for the aforementioned purposes and will NOT be shared with any third parties. It will be deleted according to the information specified at the beginning of this survey.)*

Only answer this question if the following conditions are met:

-------- Scenario 1 --------

Answer was 'Yes' at question D2

-------- or Scenario 2 --------

Answer was 'Yes' at question D3

Please write your answer here:

Thank you very much for your participation!

7.7 Appendix G: Questionnaire 2 (game developer, localization manager)

This survey is being conducted by Thomas Capellini as part of his Master's thesis in Translation at the University of Geneva.

It complements the main survey that will be sent to the *Finding Paradise* community translation contributors. It is intended for the game developer and/or the person who managed the translation project.

Your participation is completely voluntary and you can withdraw at any time without justification or prejudice. You can also save your answers and come back to the survey at a later time. Participation is open until Friday, June 11, 2021 at 11.59 PM (GMT +1). The survey should take about 10 minutes to complete.

This survey has been elaborated in accordance with the ethical guidelines provided by Faculty of Translation and Interpreting of the University of Geneva (more information can be found here). It is being conducted using LimeSurvey and the data collected will be stored under the responsibility of the thesis director Lucía Morado Vázquez on servers owned by the University of Geneva. If you indicated your e-mail address or Discord username at the end of the survey, this information will be deleted by August 31, 2021 at 11.59 PM (GMT +1) and only anonymized data will be kept. You may request the deletion of your data before this date.

By clicking on "Next", you understand and agree with the information above and allow the researcher to use and publish data collected, including statistical data, for academic purposes only. The research report will contain no reference to invididuals. However, due to the nature of the data collected, some data may be recognizable.

Group A

A1. Why did you decide to have *Finding Paradise* translated by the community?
Please write your answer here:

A2. At what point was this decision made?
Please choose *only one* of the following:

- Before the game development started
- During the game development phase
- After the initial release of the game
- Other

A3. Please indicate how many contributors there were in each translation team.
Please provide a comment:

- Czech
- French
- German
- Hungarian
- Italian
- Korean
- Polish
- Portuguese – Brazil
- Russian
- Simplified Chinese
- Spanish – Latin America
- Spanish – Spain
- Turkish
- Ukrainian
- Other (please specify)

A4. Were there other people involved? *(if yes, please specify their role)*
Please write your answer here:

A5. Did you provide any guidelines? *(if yes, please provide some details)* Please write your answer here:
A6. What type of files did you provide? Please write your answer here:
A7. What type of deliverables did the translation teams send back to you? Please write your answer here:

Group B

In the main survey, one question allows respondents to upload a graphical asset that they modified, for illustration purposes. Do you allow me to show the uploaded asset in my research report? *(if not, this question will be removed)*

Please choose *only one* of the following:

- Yes
- No

If you have any additional comments, please share them here.

Please write your answer here:

Would you like to arrange a short follow-up interview in order to share more details?

Please choose *only one* of the following:

- Yes
- No

Would you like to be informed of the results of this study?

Please choose *only one* of the following:

- Yes
- No

Please indicate how you would like to be contacted.

Please write your answer here:

Thank you very much for your participation!

7.8 Appendix H: Unused interview consent form

Interview Consent Form

Research project title: *Finding Translators: the crowdsourced translation of Finding Paradise*

Research investigator: Thomas Capellini

Thank you for agreeing to be interviewed as part of the above research project. Ethical procedures for academic research undertaken from Swiss institutions require that interviewees explicitly agree to being interviewed and how the information contained in their interview will be used. Before starting the interview, please make sure to understand and approve the following:

- The interview will be recorded and an anonymized transcript will be produced
- You will be sent the transcript and given the opportunity to correct any factual errors
- The transcript of the interview will be analyzed by Thomas Capellini
- Access to the interview transcript will be limited to Thomas Capellini
- Any summary interview content, or direct quotations from the interview, that are made available through academic publication will be anonymized so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed
- The actual recording will be destroyed by September 2021
- Any variation of the conditions above will only occur with your further explicit approval

Your participation is completely voluntary and you may opt out of the interview at any time and without justification or prejudice.

The interview should last about 15 minutes.

If you have any questions, please feel free to contact me by e-mail (thomas.capellini@etu.unige.ch) or on Discord (Cape#4122) at any time.

This research follows the ethical guidelines provided by the Faculty of Translation and Interpreting of the University of Geneva. More information can be found at https://www.unige.ch/fti/files/9515/4503/4057/Gestion__donnees_de_recherche_Commission__ethique_FTI.pdf. The interview is being conducted using Discord and the recording and transcript will be stored on the researcher's personal computer (protected by password) until deletion.