TEACHING VIDEO GAME TRANSLATION: FIRST STEPS, SYSTEMS AND HANDS-ON EXPERIENCE

ENSINANDO TRADUÇÃO DE VIDEOGAME: PRIMEIROS PASSOS, SISTEMAS E EXPERIÊNCIA PRÁTICA

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ABSTRACT: Despite the significant growth of the game localization industry in the past years, translation undergraduate curricula in Brazil still lacks formal training in game localization, often leaving novice translators no alternative but to search for the required skills informally in game translation communities. Designing a video game localization course in translation undergraduate programs in public universities is a complex task in today’s reality, particularly due to limited access to free and authentic materials. This paper describes a game localization teaching experience at the undergraduate level with special focus on how to handle the linguistic assets of the online race game SuperTuxKart, while trying to shed some light on potential translation requirements of entertainment software and its incorporation into translation programs.

KEYWORDS: video game localization; video game translation; translator training; translation undergraduate program; SuperTuxKart.

RESUMO: A despeito do significativo crescimento da indústria de localização de games nos últimos anos, os currículos dos cursos de graduação em tradução ainda carecem de formação específica na localização de games, geralmente não oferecendo ao tradutor em formação alternativas outras senão a de adquirir informalmente, ou em comunidades online de gamers, os conhecimentos sobre a tradução desse tipo de material. Planejar um curso de localização de games para cursos de graduação em tradução torna-se uma tarefa complexa na realidade atual, particularmente devido ao acesso limitado a materiais livres e autênticos. Diante do exposto, este trabalho descreve uma experiência de ensino de localização de games em nível de graduação, com especial atenção às formas de manipulação dos ativos linguísticos do jogo online de corrida SuperTuxKart, com vistas a demonstrar as possíveis demandas tradutórias relacionadas a softwares de entretenimento e sua inserção na sala de aula de formação de tradutores.

PALAVRAS-CHAVE: localization de videogame; tradução de videogame; formação de tradutores; graduação em tradução; SuperTuxKart.
1 Introduction

Localization is an umbrella term that refers to the processes whereby digital content and products developed in one locale are adapted for sale and use in one or more other locales (DUNNE, 2015, p.550). Originally associated with software engineering, the adaptation of software products for other locales did not merely entail a few changes to compiled, tested, and debugged versions of programs that had already been released to domestic markets. Instead, localization of a given program required that a separate set of source code be maintained and that different executable files be compiled, tested and debugged for each target locale.

Since growing into a big business in this sense, localization has involved not only the software industry but also e-commerce, the Web and video game localization. In this era, more and more companies are trying to sell their products in foreign markets. Translating and localizing these products and their related webpages for instance, make it possible to reach international audiences quickly and easily. In the case of video games, localization enables developers not only to reach foreign markets, but also to tailor the game experience to match the audience for which it is intended. As Bowker (2005, p.13) argues, “users are three times more likely to buy when addressed in their own language”. This statement holds true with video game localization into Brazilian Portuguese, a language spoken by over 200 million people making up a potential market that encompasses 62% market share in Latin America, which would make it the fifth largest game market in the world.

Seeking to understand the relationship between the use of technological tools applied to translation and their effect on translation teaching approaches, this paper describes how to manipulate linguistic assets, from English into Brazilian Portuguese, of the online kart race game SuperTuxKart, featuring Tux (The Linux mascot) and friends.

The purpose of our approach is to foresee possible translation challenges when working with entertainment software in translation training courses. In other words, this paper is a didactic proposal, of qualitative or naturalistic bias, especially based on typical research problems for Translation Studies as described by Williams and Chesterman (2002). These authors argue that research needs to be carried out on the role of translation technology in translator-training programs, as well as on the content of translation technology modules. They also highlight the importance of inquiring how a translation technology module could include translation memory systems, website and software localization and how such a course can be delivered (WILLIAMS AND CHESTERMAN, 2002, p. 26).

Drawing on this idea, this work presents forms of editing textual strings in a video game, fostering the translation training in the area of video game localization. Although Bernal-Merino (2008a) argues that there is a terminological problem with the current term for the translation of video games, “game localization” will be used in this paper since it appears to be an acknowledged fact that translation is a part of the process of adapting an entertainment software product to a new culture and language. That said, this study can be considered one of the first steps towards the future design of a translation course entirely dedicated to localization of video games, which requires the adoption of methodological procedures encompassing both linguistic and mechanical features.

As for the authors of this paper, it is worth noting that they both work in Brazilian
undergraduate Translation programs, which have only two courses dedicated to translation technologies. Considering the growing number of on- and offline translation tools, the courses are divided as in the following manner. Generally speaking, one introductory course presents the concepts and definitions regarding computer assisted translation tools, mainly seeking to distinguish machine translation from translation memory systems, making students experience the differences between automatic translations provided over the internet and their own productions with the aid of a translation memory system. The main systems taught are Wordfast Classic, Wordfast Professional, memoq and SDL Trados Studio with their teaching covering all their functionalities and resources, in addition to glossaries and aligners. Classes in both training contexts are not limited to describing the tools’ operation, but students also learn when, how and why to use them, as well as their advantages and disadvantages in view of the various facets of the language industry. As students start to work with translation memory systems, they are expected to use these tools in other translation practice courses of the program, which generally include scientific and technical translation courses, building their translation memory in the process. The second course is usually dedicated to the study and training of online translation memories and programs, among them are Wordfast Anywhere, Google Toolkit and Wordbee. The reflective critical approach is used in the assessment of how much a translator may reuse segments from translations by other translators (STUPIELLO AND ESQUEDA, 2016). At this point, students have already populated their own translation memories, so they also learn how to keep them accurate and updated, facilitating the assessment of the content of other translation memories they might find online. The course further introduces different localization projects of websites and utility software, as well as how to handle HTML and executable files, respectively. Only a few lessons are dedicated to video game localization and, as mentioned, this paper may be a starting point in the creation of a separate course on it.

Considering the thriving game localization market and the opportunities it may offer to novice and professional translators, many of whom grew up playing video games themselves, this paper first presents a brief overview of the Brazilian game market to offer a glance at game localization in Brazil. Subsequently, this paper addresses specific training needs the authors believe are important to be met by translation programs, since academia is arguably the most favorable environment not only for training, but also for allowing future translators (and localizers) to reflect on their own production and develop strategies to improve their work.

2 Brazilian game market and localization training needs: a proposal

Brazil’s video game market has experienced significant growth in the past 20 years, with games having become a notable presence in everyday life of many people with mobile devices. In numerical terms, close to 100 million Brazilians, about half the country’s population, play games regularly, as reported by a 2017 research focused on Brazilian gamer profiles. In its fourth edition, the survey is a joint market analysis by a technology agency (SIOUX), a market research company (BLEND NEW RESEARCH) and the School of Advertising and Marketing (ESPM). Its latest edition, carried out with 2,947 respondents based in various regions of the country, concluded that the smartphone stands as the most
popular gaming platform (77.9%), followed by computers (66.4%) and then consoles (49%). The preference for the portable platform may be explained by the mobility it provides, since most research respondents describe themselves as “casual” players and said that they mostly play while in transit (bus, subway, car). Brazilian gamers’ favorite game category is Strategy (50.9%), followed by Adventure (45%). As for consumer behavior, the majority of Brazilian players (68.5%), buy up to three games a year at official retail stores (usually online), citing the warranty as the main reason to choose these type of sellers. Full Brazilian Portuguese localization has been well received by Brazilian gamers, with 40.9% of respondents (in almost 3,000 surveyed) qualifying the work as “good”, according to the same game market survey. The success of localized games in Brazil can be explained by the low number of Brazilian gamers with proficiency in English.

In a 2014 blog post on the essentials of game localization in Brazil for the OneSky Blog, Yip reports that Brazil ranked 38th out of 63 countries in the EF English First Proficiency Index. Localizing games into Brazilian Portuguese is an essential process that allows gamers who do not speak English to play with friends and share their experience (YIP, 2014).

Game localization in Brazil is essential for monetization and, as Souza (2012) explains, the “golden age” for video game localization in the country started in the early 1990s, when Phantasy Star (SEGA, 1987), one of the first console games, was localized into Brazilian Portuguese. The localization of this game is seen as a great achievement to this day, since it faced technical limitations throughout the localization process from Japanese into English and, then, into Brazilian Portuguese. Names of protagonists, for example, were limited to four characters and were maintained in English in the Brazilian version. For the Brazilian audience, the novelty was in the Portuguese translation of menus and subtitles, which allowed players to have a complete understanding of the plot (SOUZA, 2012).

One of the greatest challenges in localization consists in developing clear and concise language within the limits of a user interface. Always aware of their target audience, translators working with localization must “be very creative in order to successfully capture the same message from the original, and, at the same time, not exceed the permitted number of characters”, as Souza explains (2012, p. 298).

From the creation of pinball machines in 1970 to the introduction of Pac-Man by the Japanese company Nintendo in 1980, whose most famous production was Super Mario Bros, spanning to the development, between 1990 and 2000, of Unicode and the game’s different platforms, such as PC, PS2, PS3 and PS4, PSP, Xbox (360), GC, GBA, Nintendo DS (Wii), Wii U, including smartphones, the industry of video games has been attracting users of different ages and nationalities. Besides this, the online arena has made possible for companies to have access to users’ opinions of Massive Multiplayer Online (MMO) games, adding more sophistication to video games that bring together graphic and filmic arts, literature, computer science and audiovisual interaction.

One of the challenges emerging from these different game platforms lies in how to teach translation students the knowledge and skills needed to comprehend the medley of archives that compose these multimodal materials (SILVA, 2014) to be translated and localized into another language, once the main strategy of this industry is to reach different locales with the promise of guaranteed playability and gameplay experience among people from different countries (CHANDLER AND DEMING, 2012). Despite the rapid expansion of
the video game industry and the existence of different translation training programs
worldwide, many of them, whether in graduate or undergraduate levels, have not yet
included game translation in their curricula (O’HAGAN AND MANGIRON, 2013).

Bernal-Merino (2008b) identifies the main factors hindering the introduction of game
translation in translation classrooms. Firstly, the reduced number of trainers who work with
this theme and have the interest and time to explore the available technologies usually
applied for the extraction of executable files from entertainment software. Second, lack of
the required institutional investment in technology. Third, difficulty in establishing industry-
academia partnerships due to the lack of time on both sides and the confidential nature of
the game industry, which makes it difficult to obtain authentic materials due to copyright
issues. According to the author, bringing together all these factors makes the teaching and
learning processes of video game translation and localization a difficult task and trainers
usually work with students only on the theoretical level. When possible, they work with
decontextualized text strings – with files opened in common editors – without the chance
to work with multimodality issues (GAMBIER, 2006). They also work with technical and
 technological aspects, especially in terms of software handling (BERNAL-MERINO, 2008b;
2015), or uncountable narrative possibilities, considering that there is no linear text
sequence in video games, especially in Role Play Game (RPG).

As different approaches are required when translating various kinds of linguistic
content of a game (such as manuals, packaging, “read me” files, official web sites,
dialogues for subtitling, dubbing and voice-over, including the user interface), localization
tools are constantly being developed and perfected to allow translators to manipulate such
contents with a view of the target market. In similar fashion, traditional training models
must be reviewed and redefined in order to comply with the evolving image of localization
expertise. Strong emphasis must be put not only on training in translation and localization,
but also on translation technologies applied to localization projects. One step toward this
goal can be in promoting a game localization teaching experience in undergraduate
translator training, as proposed in the next section.

3 Why choose SuperTuxKart?

The answer to this question is fairly simple, and can be answered with three more
questionings: 1) how can we succeed in obtaining unpublished games, executable files
and all programming language of the files of a game without the industry-academia
 partnership? 2) would it be possible to have a single platform or other technological
equipment and devices for editing and handling all assets of the game regardless of
financial resources and investment from universities? 3) how can we prove Kiraly’s claims
(2000; 2014) that translation classrooms not based on authentic materials and situations of
the real world are demotivating and without purpose?

As far as we know, game developers and publishers do not grant universities their
game technologies and files, not even for didactic purposes, due to their secrecy and
copyright agreements, and also to prevent piracy or plagiarism. Most developers provide
translators with only decontextualized and fragmented Word files or Excel spreadsheets,
with a non-linear content, organized in independent files and without any references to the
game context. (O’HAGAN AND MANGIRON, 2013, p. 248) The pedagogical challenge is
how to teach this translation practice in translation programs without dealing with real materials, which may emulate what the market really demands from a translator.

For Gouadec (2003) and Bernal-Merino (2015), the translator is a key professional who will support the complete process. He or she is a professional who will deal with more than one single platform of cultural and linguistic adaptation of a game, with technical specifications, which will add complexity to hardware and software components with huge glossaries of terms. For Bernal-Merino (2008a; 2015), game translators work with very different sorts of audio and video archives, with installation manuals and help files, with the official site of a game, and its HTML and JavaScript content and marketing language. Game translators also translate game patches that increase game features, forcing them to know the game setting and characters.

Yuste-Frias (2014) equally claims that a video game translator is not only the professional who translates texts to be dubbed or read through subtitles, but the first paratext agent in the translation process, and because of this, the best localizer, who must participate in the final edition of the paratexts of the game (menus, opening information, titles, credits, etc), as well as the patches that will prolong the game life. For the author, paratexts are all elements that involve video games, such as linguistic strings, iconic and sound materials that are parts of the game inside and outside the screens.

Considering that we needed to choose an authentic game to be explored in translation classrooms (KIRALY, 2014, COLINA, 2003, DELISLE, 1998) not only with all multimodality features (YUESTE-FRÍAS, 2014), but also with a free and open-source GNU General Public License to be handled by trainers and trainees. This is especially true due to the restricted budget of most teaching institutions.

After investigating the open-source yearbook at opensource.com¹, a list of open-source software including video games, we have found out that SuperTuxKart is one of the “top five racing games” available on the internet for PC platform with all of its files available, allowing its use for didactic purposes.

According to the official site of the game², SuperTuxKart is a 3D open-source kart racing video game, also known as STK, distributed under the terms of the GNU General Public License, with a variety of characters, tracks, and modes to play. The aim of a game is to provide a game experience for all ages. In Story Mode, the gamer can face the evil Nolok and defeat him in order to make the Mascot Kingdom safe. The gamer can compete against the computer, in several Gran Prix cups or against time in Time Trial mode. It is possible to play SuperTuxKart on one PC or battle in multiplayer arenas.

SuperTuxKart is a cross-platform game, running on Microsoft Windows, OS X, Linux, AmigaOS 4, AROS, MorphOS and other Unix systems. The latest stable version of the game is version 0.9.2 and it was released on July 1, 2016. SuperTuxKart has featured, since its 0.9 version, an all-new graphics engine called Antarctica.

Game localization can reach different levels. Chandler and Deming (2005 apud O’HAGAN AND MANGIRON, 2013, p. 141-142) categorize approaches as “no localization” (when the game is sold in the original language), “box and docs localization” (translation only of the packaging material), “partial localization” (when only in-game text is translated, with no voiceover) and “full localization” (where all assets of the game are translated). According to the authors, full localization “provides the players with a game fully tailored to their language needs and facilitates gameplay and immersion in the game.”

For didactic purposes, from the levels of localization projects described by O’Hagan and Mangiron (2013) as full localization (complete localization of boxes and docs, website, subtitling and dubbing versions, and cultural material) or partial localization (translation of some parts of the video game), it was possible to consider only a partial localization and translation of the game. In the examples showed here only in-game text translation of the main menu of the game will be illustrated. For O’Hagan and Mangiron (2013), more than one semester would be needed to implement full localization teaching along with learning the processes of a game.

4 SuperTuxKart assets and its textual handling for translation purposes

In order to translate the video game SuperTuxKart, students will be exposed to the basic concepts concerning the linguistic assets of the game. In most cases, PC platform video games have a folder called “assets”, “main”, “local” or “data”, which contains the textual strings of the game. In the example to be described here, it is possible to edit linguistic content of the game SuperTuxKart in the folder “data”, whose files are in the .pot extension format, which can be handled through Virtaal, another free and open-source software product used to open different file extensions. All strings are compiled into a “.pot” file. POT files, or Portable Object Template, contain the text (linguistic content) of the game to be extracted from the application. This file includes the original text of the game, in this case the original English file.

Following the translation of the desired strings, the localization tool used by the
translator, in this case by trainers and students, merges the texts from the .pot file with the translations, originating a "po" file. The .po file, which stands for Portable Object, includes the original texts and their translations.

Even though many (commercial) CAT (Computer Aided Translation) tools can read different file formats, seeking to facilitate the work of the translator or localizer (by extracting the translatable text and protecting the rest of the content) most of them cannot read open-source .pot files.

Because .pot and .po files are already designed as free and open-sourced, the entire translation process can be done using equally free and open-source localization tools, such as Poedit, Drupal or Virtaal. For the purpose of this work, we decided to use Virtaal.

According to Vásquez and Wolff (2011, 77), Virtaal was developed by Translate, a South African localization company working on the support for South African languages in software. The initial development of localization tools was necessary to address some shortcomings in the Free and Open Source Software (FOSS) tools that were available at the time. These initial tools, collected as part of the Translate Toolkit soon attracted the interest of localizers all over the world, especially for smaller language communities. The development of localization tools for a wider audience gradually became a bigger part of the work at Translate.org.za. The tools now form the workflow of several localization teams for major FOSS projects, such as OpenOffice.org, LibreOffice, Firefox, Thunderbird and others.

According to Vásquez and Wolff (2011, p. 78):

These were some of the deciding factors for the development of a new CAT tool, Virtaal. It runs on several operating systems and supports editing of several file formats, including Gettext PO, XLIFF, TMX and TBX. Its main aim is to allow anyone, regardless of experience, to translate productively without sacrificing quality. The focus is therefore foremost on simplicity but it still provides many of the features common in CAT tools, often in simpler forms, such as translation memory that needs no configuration. It has a simple layout, emphasizing context in the file above functional features of the CAT tool.

It is worth mentioning that there is no standard format of files in the industry of video games, it all depends on each game developer and publisher. Many games include subtitle files as in a film, making textual handling impossible depending on the developer. Bernal-Merino (2008a; 2015) affirms that the game industry unfortunately has not yet created a common localization tool to be able to translate entertainment software. In the case of SuperTuxKart, its files are compiled in .pot and can be opened and edited in Virtaal, which supports our choices.
4.1 Translating SuperTuxKart: first steps

Both SuperTuxKart and Virtaal must be installed on the computer. As mentioned, after installation, all the files of the game will be available for editing through Virtaal translation tool in the folder titled “data”, as shown in Figure 3:
When opening this folder, the original file of the game in English can be opened or, depending on the working language of the translation classroom, files in other languages can be edited, simply by choosing the files with the linguistic designation represented by, for example, the initials FR for French and IT for Italian.

Once installed, when the translator double clicks on the language file Virtaal immediately scans and opens it. Afterwards the software shows a very simple list with all editable strings of the game. If the object is to translate the word “Loading” of the main menu of the game, the student should search for this word in the file using Virtaal.
Figure 5: Main menu in English.  
Source: SuperTuxKart.

Figure 6 demonstrates the list containing part of the menu of the game, where the box with the sentence “Loading” is enabled for editing:

Figure 6: Screenshot of Virtaal Translation Grid.  
Source: Virtaal.

Figure 7 shows that the word “Loading” was translated into Portuguese as “Carregando”, allowing the Brazilian user to handle the linguistic assets of the game.
If the case is to translate the sentence “Choose a Kart” still in the main menu of the game, the translator can search for the sentence in the file through Virtaal and then translate it.
Translating the SuperTuxKart main menu and checking its translation results in real time in the game allows students to see how satisfactory their translations are, illustrating what translation trainees may face in real localization projects. Using a tool like Virtaal improves the quality of translation by providing the translator the possibility to analyze space limitations while incorporating and simulating the translated linguistic unit on the
screen. Translating a game involves catering to the limited space allocated specifically for user interface elements, guaranteeing playability for gamers.

If the task is to translate the word “novice” in the menu of the game, teachers and students can discuss the worldwide language of gamers, especially in the case of deciding the translation of the difficulty level of games. When translating the word “novice” in the game Call of Duty, for example, which has a military appeal, the translator may refer to army hierarchy. Like any other translation, the decision-making depends on the context and on its setting. (O’HAGAN AND MANGIRON, 2013, p. 171)

![Figure 11: Difficulty level menu of SuperTuxKart: in English. Source: SuperTuxKart.](image1)

![Figure 12: Translating into Portuguese the difficulty level menu. Source: SuperTuxKart.](image2)

It is not necessary to create a .po file with the translation into Portuguese. After translating the parts of the game chosen by the teacher, by clicking on “Save” in the Virtaal main tool bar, the software automatically creates a folder PT-BR.
Figure 13: Creating a PT-BR file.  
Source: The Authors.

Figure 14: Saving a PT-BR file.  
Source: The Authors
When opening the game again, regardless of the target language used by the translator to translate linguistic assets, the software automatically chooses the language of the computer operating system and opens it in that language.

This paper proposes a simple way of handling textual strings of the video game *SuperTuxKart*, aiming at investigating, from a technological perspective, possible pedagogical needs (and challenges) for the translation of video games in translation classrooms. This description can possibly foster future design of more detailed and efficient teaching units of this kind of material. Since it is not possible for universities to be granted authentic games due to secrecy and copyright issues as mentioned before, we have chosen an open-source game available over the Internet that offers its original files.

It is important to highlight that for the design of the present teaching unit, at least in this case study, we decided to give examples only of peritexts translation - titles, menus and introductory texts - that introduce the game. In a future teaching unit to be built, hypertexts, composed of texts linked to images and sounds, inseparable in the localization industry, will be taken into account. Nevertheless, it is also important to remember that, due to the heterogeneous profile of the investigated contexts, where some of the students have computer literacy skills and some do not, we have considered beginning a teaching unit with peritexts in order to search for an increasing level of complexity through a task-based approach (HURTADO-ALBIR, 2007). Considering that, the example mentioned above may adapt itself for teaching purposes from introductory to more advanced levels.

5 Final remarks

Despite the lack of partnership between universities and the industry, and the difficulties highlighted by Bernal-Merino (2008b), such as the reduced number of trainers who work with this theme and the lack of a required institutional investment in technology, the purpose of this paper was to demonstrate, as the title states, some first steps, use of systems and possible hands-on activities involving to the game *SuperTuxKart* for the translation classroom.

The translation and localization process of a game may involve the adaptation of the product to different locales or markets. Efforts must be made in order to establish partnership between universities and the software industry, aiming to follow the unprecedented evolution of video games. This seems to be a very challenging scenario, since few academic papers were found with practical pedagogical proposals. This effort must also be made if trainers want to develop better practices in the field of game localization, which probably go beyond giving students an excel spreadsheet with fragmented strings of texts to be translated, while failing to discuss and practice with them one of their most powerful and expressive resources: the context. According to Hurtado-Albir (2007), translation is a comprehension process of an original text and its respective re-expression into another language, in which the translator is concerned not only with the linguistic content of a text but also about the context where it is produced, its extralinguistic characteristics, its author and future readers.

It is needless to say that using a freeware with creative common license is highly advisable, especially considering legal and ethical issues. The example described here illustrates a small part of how to handle a game for translation purposes, restricted to the
classroom and without any code alteration. We believe that these sorts of investigations may convince the industry that a partnership between Translation Programs is desirable and important if we want to indeed go beyond linguistic components, and to approach all aspects of a game, which include multimodality, non-linear narrative, and the management of translation and localization technologies. All involved participants in a game architecture will certainly benefit when sharing knowledge and exchanging experiences.

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