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**DEPARTAMENT DE FILOLOGIA ANGLESA I DE GERMANÍSTICA**

**The Process of Video Game Localization: Issues  
and Types**

Treball de Fi de Grau/ BA dissertation

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## **Abstract**

In the last few years the video game industry has experienced a massive increase in popularity. The industry reached an impressive global market value of 116 billion US dollars in 2017, undoubtedly due to that increase in popularity that has led to its globalization. This expansion to a global market, however, has come coupled with a dramatic increase in game development budgets. Those factors bring about the need for companies to make their video games accessible to as many people as possible in order to achieve a high return of investment. One key factor to achieve said end is localization, as a game that offers multiple languages has the possibility to reach a higher number of people, thus producing higher revenue. Video games, however, have unique features that differentiate them from other media – the main one being player interaction– which set video game localization apart from novel or movie translation.

In this paper, then, I will present the issues that video game localization exhibits, explore the different types of localization, and delve into the steps of the process that takes place when localizing a game.

**Keywords:** video games, localization, translation, commentary, games industry

## 1. Introduction

In the last few years the video game industry has experienced a massive increase in popularity. Video games have become mainstream – there are a myriad magazines, both digital and physical with the latest news in the field, detailed critical reviews and analyses for both new releases and old classics. There are even ceremonies like *The Game Awards* dedicated to celebrating the best video games of the year (much like *The Oscars* for cinema or *The Tony Awards* for theatre) and massive events like the *Electronic Entertainment Expo* (also known as *E3*) for publishers to announce and promote new video games.

The industry reached an impressive global market value of 116 billion US dollars in 2017 (GamesIndustry), undoubtedly due to the increase in popularity that led to its globalization. This expansion to a global market, however, has come coupled with a dramatic increase in game development budgets, as a single game – such as Konami's *Metal Gear Solid V* – can cost around 80 million US dollars to develop (Eurogamer). These factors bring about the need for companies to make their video games accessible to as many people as possible in order to achieve a high return of investment.

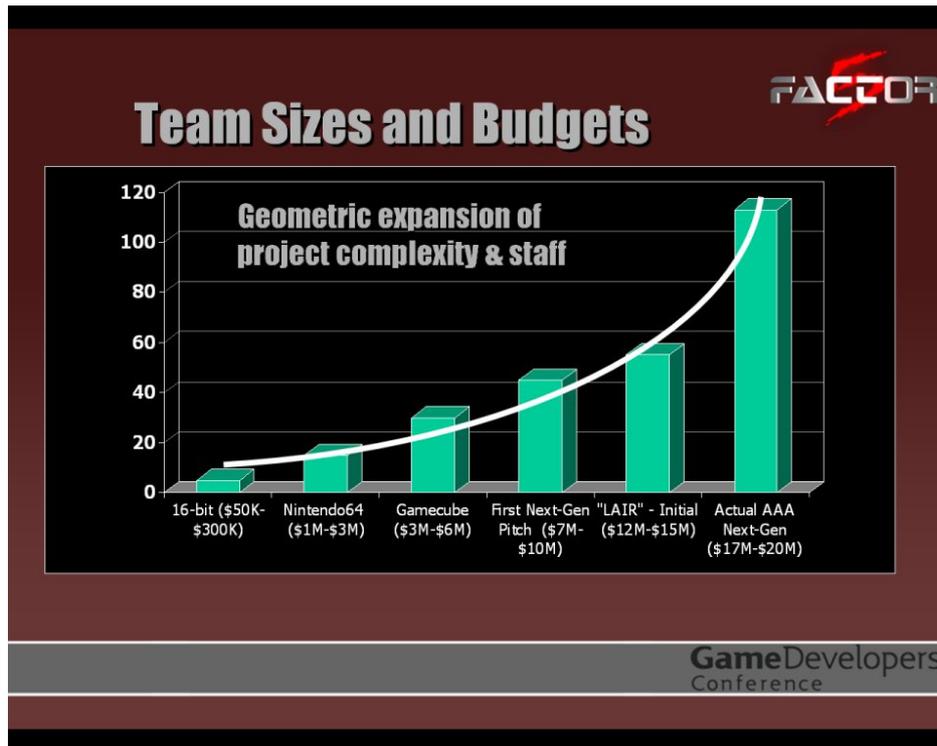


Figure 1. Increase of Game Development Costs (Game Developers Conference 2006).

One key factor to achieve said end is localization, as a game that offers multiple languages has the possibility to reach a higher number of people, thus producing higher revenue. Video games, however, have unique features that differentiate video game localization from novel or movie translation, the main one being player interaction (Bernal-Merino, 2007: 30-31).

In this paper, then, I aim to discuss the intricacies behind the localization of video games, exploring the process and presenting examples from multiple games. I will consider the challenges particular to video game localization, define the term *localization* itself, what it does and does not include, and discuss the different steps of game localization using texts from experts in the field, along with a commentary on the localization of the video game *Apollo Justice: Ace Attorney*.

## 2. Literature Review

### 2.1 Issues in Video Game Localization

According to Bernal-Merino (2007), although video game translation shares some aspects with audio visual media translation, dubbing, subtitling and software localization, it also has some unique characteristics. He presents some issues video game translators may encounter, the first one being time constraints. Game studios often work under tight deadlines, which may leave less time for translators to work on a game.

Task	Language	Resource	Duration	Start Date	End Date
Freeze English VO assets	French	Development Team	1 day	July 5, 2019	July 5, 2019
Freeze English test assets	French	Development Team	1 day	July 26, 2019	July 26, 2019
Organize VO assets for translation	French	Development Team	3 days	July 6, 2019	July 9, 2019
Organize text assets for translation	French	Development Team	3 days	July 27, 2019	July 30, 2019
In-game text translated	French	Translator	2 weeks	July 30, 2019	August 13, 2019
VO script translated	French	Translator	2 weeks	July 9, 2019	July 23, 2019
Actors cast for localized VO	French	Sound Studio	1 week	July 9, 2019	July 15, 2019
Localized VO files recorded and processed	French	Sound Studio	3 weeks	July 23, 2019	August 13, 2019
Text files integrated	French	Development Team	1 week	August 13, 2019	August 20, 2019
Localized VO files integrated	French	Development Team	1 week	August 13, 2019	August 20, 2019
Linguistic testing	French	Linguistic Testers	4 weeks	August 27, 2019	September 23, 2019
Functionality testing	French	Functionality Testers	3 weeks	August 20, 2019	September 17, 2019
Third party approvals	French	Third Party Publisher	6 weeks	September 17, 2019	October 29, 2019
Ship date	French	n/a	1 day	October 29, 2019	October 29, 2019

Figure 2. Example of a Timetable (Chandler 2014: 290)

Another problem is the lack of information – translators might have to work without the actual game, potentially leading to translation errors due to a lack of context. Chandler (2014) also provides some insight into this idea, stating that there is much information conveyed through visuals, audio and even gameplay itself.

Translators should have access to as much of that information as possible – playable versions of the game, design documents, cheats, walkthroughs, voiceover casting notes, a glossary, technical overviews of file formats and tools the translator may need to work with (Chandler 2014: 291) – for it can be key to, for example, have a better understanding of a character’s personality, which will undoubtedly lead to a translation of a higher quality.

There is an immense variety of genres that exist within the video game industry, each of them different from the last. There are First Person Shooter (also called *FPS*) games that offer a linear sequence of almost Hollywoodesque action-packed situations, such as the *Call of Duty* franchise; Role Playing Games (commonly known as *RPGs*) that allow players to immerse themselves in wide fantasy or sci-fi worlds, like the *Elder Scrolls* and *Mass Effect* franchises; Puzzle games that offer mind-bending conundrums, the *Portal* franchise being one of the most well-known – and too many more to list them all. In the end, however, Bernal-Merino (2007) argues that when it comes to translation there are only two types of video games. On the one hand, there are games that are set in an already established universe, like a Harry Potter game. These types of games require translators to research the universe they are set in so as to become familiar with its vocabulary and style – this includes reading books and watching movies set in said universe. Since the audience the game caters to will be well-acquainted with the universe the game takes place in they will undoubtedly notice inaccurate translations or the use (or lack thereof) of certain words or expressions, thus restricting the translators’ freedom. On the other hand, there are games that introduce new universes. These games give translators much more creative freedom, and so they can focus on delivering an enjoyable experience for international players.

The author then lists the types of texts that can be found in the translation of a video game. These are the manual, the packaging, the *readme* file, the official website, the dialogue for dubbing, the dialogue for subtitling, the User Interface (*UI* for short) and the graphic art with words.



Figure 3. Example of Graphics Localization from *Apollo Justice: Ace Attorney*

It is worth mentioning that the current translation industry relies on Computer-Aided Translation (*CAT*) tools due to their capacity to improve productivity. However, when it comes to the field of Graphical User Interface (*GUI*) tools – which would allow translators to generate a visual representation of their work to see what the end result would look like and make any necessary adjustments – the industry is still lacking.

The following issue is text fragmentation. In video games, the story is to some extent dependent on the players, as most events in a game occur only when a player triggers them. As such, translators can make use of tables and spreadsheets to organize multiple, non-linear strips of text. This, however, can be troublesome due to lack of context and chronological order, so translators used to translating novels or other media can experience some problems with that format. Moreover, since video games are made using programming code, the actual text has to be extracted from the cryptic language and presented to translators so that they can efficiently do their job.

In the final section, Bernal-Merino (2007) introduces variables. Most games – especially RPGs – offer some variation in certain aspects regarding the Player Character (*PC*), the most common being player name and gender. Consequently, the translated text must also include variants for such variables – for example, in an English-localized video game in which the player can choose the gender of their character, the game must be able to refer to the PC as either *him* or *her* in order to maintain immersion. The way in which variables are displayed changes depending on the Software Development Kit (*SDK*) used, so translators must be careful selecting the text intended for translation and the text belonging to the game code, as even a small mistake could lead to crashing the program or creating a bug.

## **2.2 Types of Localization**

In her *Game Localization Handbook*, Chandler (2011) makes a distinction between *internationalization* (“creating a product that can be internationally adapted without changing its design”) and *localization* (“the actual process of translating the language assets in a game into other languages”). So, for example, designing the *UI* so

that it can accommodate both Japanese kanjis and the letters of the Latin alphabet would be part of the process of internationalization, while translating the actual contents of the *UI* from Japanese to English or vice versa would be part of the process of localization.

Some factors to take into account when internationalizing a game are: ensuring that the game code supports at least Latin-based and Asian characters, designing a *UI* with enough space to support the translated text, limiting the number of cultural references (as long as they are not relevant to the plot), and including a character editor (if the game allows character creation/customization) with a choice of different ethnicities.

Regarding the actual localization that a video game can feature, Chandler proposes the following types. First, a game can feature no localization – it will not be tailored for international markets, but it will also require less work and money to develop. An example of this is *Dai Gyakuten Saiban*, a title part of the *Ace Attorney* franchise that can only be found in Japanese.

Next, a game can also have only its packaging and manual, also known as its “box and docs”, localized. This is a low-risk option mainly used in small markets in which the game is not expected to sell a lot of copies, as it requires minimal investment while still being slightly more appealing to international players than a version with no localization at all. *Danganronpa V3: Killing Harmony* would be an example of this type of localization, since it is sold here in Spain with only its “box and docs” in Spanish, the game itself being in English.

On the other hand, a game can also feature a full localization – that is, the translation of the text, voiceover, manual and packaging. It is the most expensive and demanding option, as it adds several new issues to bear in mind. For example, some

new animations may need to be developed in order to attain a realistic lip-sync in different languages. However, international players will receive a final product that will feel tailored specifically for them, which will undoubtedly reflect on sales numbers and provide the studio with a good reputation. The titles of the *Call of Duty* franchise feature this type of localization here in Spain, with full text and voice acting in Spanish. Finally, there is also the option of making a partial localization, in which only in-game text is localized leaving the original voiceover. This a good middle ground between a full localization and having no localization at all. *Grand Theft Auto V* is an example of partial Spanish localization, its voice acting being in English with translated subtitles.

It is worth noting that there is no correct answer as to whether it is better to fully localize a video game or to localize as little as possible in order to respect the original work, as localizations can prove to be equally or even more enjoyable than the source material.

Chandler also provides a brief overview of the localization process, although the proper steps will be more thoroughly discussed in the next section of the paper. In the Planning Phase, the developers plan the UI and gameplay design, while also determining which type of localization is appropriate for each language. In the Production Phase, the assets are translated and tested. In the final Post-production Phase, other items such as manuals, packaging and demos are localized. It is also at that time when localized artwork and screenshots are released for marketing purposes.

### **2.3 The Process of Localization**

Richard Honeywood was the former Global Localization Manager for Blizzard Entertainment, and has worked in the localization of extremely successful games such

as *Starcraft II* and *World of Warcraft*. Honeywood (2011) provides an account of the process of video game localization based on his own experience, dividing it in several steps. These steps would be part of what Chandler (2011) calls Production and Post-production Phase.

First, just like novel and movie translators would have read or watched what they need to translate, video game translators need to be acquainted with the game they are going to translate. Ideally, this would mean playing the whole game – keeping note of names and ideas, playing through all the areas and trying all the modes of the game, even delving into the multiplayer component, should there be one – reading background documentation and, if applicable, investigating previous localized titles of the series.

For games of a bigger scope like *Massive Multiplayer Online Role Playing Games* (commonly known as *MMORPGs*, *World of Warcraft* being one of the most famous of them), more time will be needed to fully experience them. However, since it is not uncommon to start the localization process while the game is still in production, translators may have to work with just early builds of the game and design documents.

A glossary and style guide in the target language also need to be created using a style guide in the source language and documents on any previous iterations of the franchise, should there be any. As a brief explanation, the translation company *OneSky* defines a style guide as a document that “sets the standards for content in any language, defining the voice, tone, direction, and style” (Yip, 2015) in order to make a translation as accurate and consistent as possible.

Again, the magnitude of the project will determine the amount of time devoted to this step, ranging from a week for small titles to more than six weeks for the most ambitious ones. For those more demanding titles the work can be divided into smaller

sections – for example, a group of translators can work on assets in the “weapons” category, while another group can work on “consumable items” assets. This way productivity will increase, and if an idea is not included in the end it can be saved in case an asset needs to be renamed later on. The development team can and should give the translation team details to fine-tune the translation, helping for example by describing how a certain character speaks, if they have an accent or even a catchphrase.

With the style guides and glossaries completed it is time to actually start translating. Honeywood recommends having specialized editors and proofreaders that regularly check on the translation, preferably one for every four translators (or every three for Asian languages), and a linguist as the team leader that takes care of any necessary decision-making.

Inevitably, the translation time will vary, as projects have different lengths and every translator has their own pace, but an estimate should be made – around 2000 English words or 4000 Japanese characters per translator per day – so as to be able to plan accordingly until the team is comfortable and gains momentum, at which point schedules can be revised and altered if need be.

If the schedule allows for it, it is advisable that the translators are able to see their translated text in-game so that they can check if anything needs to be tweaked due to lack of screen space or other issues. Moreover, if this review is done before the start of the voice recording phase there will be no need to re-record sections of the modified script, thus saving resources.

After the script has been translated, voice recording can start (assuming the game actually has spoken dialogue, as even some of the most popular titles like the *Pokémon* games only have textual dialogue and lack any kind of voice acting). For titles

of a large scale with tight scheduling recording may need to begin before the script has been fully translated, although as mentioned before some modifications may need to be made afterwards. It is recommended that a translator is present during the recording so as to clarify any doubts that arise or make any necessary on-the-spot changes in case there are issues with timing or other factors.

The voice cast is also a factor to bear in mind when localizing a video game. Honeywood states that it is more important to adapt a character's voice to what would suit the target language than to make the character's localized voice sound as close as their voice in the original version, because people do not tend to compare voices between different languages. He exemplifies that, while Asian languages may prefer higher-pitched female voices, deeper voices might be more appealing to Western audiences.

In this aspect, however, I beg to differ. For one, people do in fact compare character voices – there are countless discussions in forums and videos on YouTube made by fans comparing voice clips of characters from their favorite games in different languages – especially in cases of Japanese-to-English localizations, like in games such as the recent *Persona 5* and *Final Fantasy XV*. An example of this phenomenon can be found in Spike Chunsoft's *Danganronpa V3: Killing Harmony*, a game of the Visual Novel (or *VN*) genre. One of the main characters, Shuichi Saihara, is a timid high-school student that lacks self-confidence, and his Japanese voice reflects that – he has a high-pitched, gentle and somewhat insecure tone. His English voice, however, is more lower-pitched and confident-sounding, and while it may be closer to the actual voice of an English-speaking high-school student, in this case I personally believe that his

Japanese voice adds to his characterization as a shy soft-spoken boy, whereas his English voice detracts from it.

The fifth step proposed by Honeywood (2011) is that of Linguistic Quality Assurance. Quality Assurance (*QA*) “refers to systems put in place to pre-empt and avoid errors or quality problems at any stage of a translation job” (Drugan, 2013: 76). In this stage, then, testers will ensure that the game’s translation is up to industry standards. Honeywood recommends the tester team – the size of which will depend on the scope of the project and the tightness of the schedule – to be composed of both linguists, proficient in the target language, and people minimally competent in playing video games. Depending on the company’s policy testers may or may not correct bugs, but Honeywood argues that translators should be the only ones who make changes, as some features or characterizations might be mistaken as bugs. For example, a character’s dialogue in a game could have deliberate spelling mistakes to make him appear uncultured or illiterate, and testers might incorrectly see that as a bug and “fix” it, creating the need to revert it to its previous state and wasting precious time to fix actual bugs. Instead, a plausible alternative would be for testers to simply make suggestions for translators to assess that can then be either fixed or explained as deliberate decisions. In any case, if there is a disagreement between the QA department and the translators, the lead translator should be the one who ultimately makes the decision. This process of bug-finding and ensuring their correction (making sure that no other bugs appear as side effects) is called *regressing*, and ideally should be performed in several occasions as development advances, with different builds of the game.

Lastly, the master-up and sign-off phase is essentially clean-up work. This step would correspond to Chandler’s Post-production Phase, as the game is mostly

completed. Additionally to the testers, by this point at least one translator should have played through the game to verify that the translation has been correctly implemented. However, there are still translations of promotional content and guide books to be performed, as well as the translation of the game's "box and docs".

Furthermore, Honeywood (2011) provides some tips specifically for MMORPGs, although they can be applied to wide-scope projects of other genres. First, regarding content patches, each one should have its own localization cycle – that is, follow all the aforementioned stages – albeit in a smaller scale.

Second, the development team should clearly state which sections of the content need to be translated in order to avoid redundancy. The speed of both the original source writers and the translation team should also be carefully overseen so that the original writers do not add too much content and allow the translators and QA to catch up.

Lastly, as stated in the description of the second stage, in the process of localizing a vast project translators will inevitably specialize in specific areas – not only that, it is advisable that they do – like "weapon names" or "village names". However, since translating a larger game is a quite lengthy operation, translators should be allowed to change specializations or projects after having worked in the same project for a certain amount time if they so desire in order to maintain a high morale and to sustain creativity and motivation in the work group.

### 3. Commentary on a Localization

	Original	Localization
Name	Gyakuten Saiban 4	Apollo Justice: Ace Attorney
Release Date	April 2007 (Japan)	February 2008 (North America) May 2008 (Europe and Australia)
Languages	Japanese	English, Spanish, Italian, German, French

Table 1. Information about Apollo Justice: Ace Attorney

CAPCOM's *Apollo Justice: Ace Attorney* (*AJ:AA*) is a video game of the VN genre developed for the Nintendo DS console that allows the player to take control of a young rookie attorney, Apollo Justice. It is divided into four chapters, each one a different case to solve and a defendant to prove innocent by investigating crime scenes, cross-examining witnesses and presenting evidence. The video game's original language is Japanese, and it was localized in English, Spanish, Italian, German, and French. The game features a full localization, meaning that all the text and voice assets were localized, as well as its box and docs. I chose to talk about this game because I am quite familiar with it, and I believe it presents some interesting issues to discuss.

First, *AJ:AA* is the fourth game in the series, a fact that becomes obvious looking at its Japanese name, *Gyakuten Saiban 4*. It is interesting to see that the Japanese names for the games keep the numbers while all the other localized versions have a subtitle, the previous entries being called *Gyakuten Saiban/Phoenix Wright: Ace Attorney*, *Gyakuten Saiban 2/Phoenix Wright: Ace Attorney – Justice for All* and *Gyakuten Saiban*

3/*Phoenix Wright: Ace Attorney – Trials and Tribulations*. Perhaps this was done in order not to give players the impression that they need to play the previous entries of the franchise before playing the fourth one (which is highly recommended, although not strictly necessary).

All those previous titles of the franchise, then, must be taken into account when localizing *AJ:AA*. For example, since the player controls a lawyer, there is an item present in all the games of the series called the *Attorney's Badge* in the English version. In the first game this object was translated in Spanish as *Distintivo de Letrado*, and as such, when localizing the following entries of the series, the Spanish name should be kept the same unless a reasonable explanation for the change is provided.

Next, the Japanese version of the game takes place in Japan, while the English-localized version takes place in the US (in Los Angeles, specifically). The second case of the game involves several Japanese elements, such as a ramen cart (a moving stand, similar to a food truck but pulled by a person, where ramen noodles are cooked and served) and a *Yakuza* family. This is not the first time that the series displays elements of the Japanese culture – the fans jokingly call the alternative version of the US where the games take place “Japanifornia” (a merge of “Japan” and “California”) – and Janet Hsu, who was in charge of the English localization of *Phoenix Wright: Ace Attorney – Justice for All*, offers some insight on the justification for having so many Japanese elements in a game that is supposed take place in the US:

When I took over the series' localization direction starting with the second game, one of the first things I had to deal with was what to do with Maya's hometown and all the mysticism surrounding the Fey clan. It was then that I created a little headcanon for myself (which I suppose is actually real canon now for the localized version): while "Gyakuten Saiban" takes place in Japan, the Los Angeles that "Ace Attorney" takes place in is an alternate universe where anti-Japanese sentiments and anti-immigrant laws were not enacted, and Japanese culture was allowed to flourish and blend into the local culture in the same manner as other immigrant cultures. Not counting budget and time restraints, this little headcanon has pretty much dictated what I would keep as Japanese and what to completely localize. For example, anything related to Maya's clan and the Kurain Channeling Technique is pretty much guaranteed to stay Japanese because that's her heritage while Japanese foods that are not commonly known in the West will probably be localized in the interest of keeping the game from needing a 50-page explanatory booklet (Hsu, 2014).

The games, then, officially happen in an alternative version of the US. This explanation allows for a balance between justifying the inclusion of parts of the Japanese culture in the games and localizing certain elements that would result too foreign for international players. It is worth mentioning, however, that this explanation is nowhere to be found within the game itself, neither in *AJ:AA* nor in any other entries of the franchise.

On the topic of the localizations of the game, there is an error in the Spanish version I would like to point out that seems to have escaped the QA team's revision. The game is mostly text-based, but there are very brief instances of voice acting. Namely, when performing certain actions like pressing a witness to get more information or presenting evidence, a text bubble appears and the protagonist shouts triumphantly. Since the game features a Full localization, the voice acting is localized too, so in the German version the characters speak in German, and in the Spanish version they speak in Spanish.

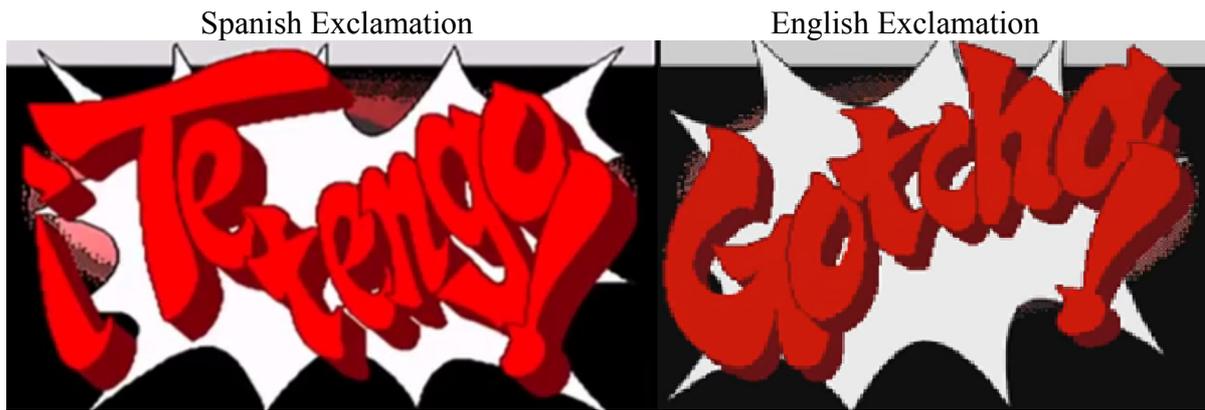


Figure 4. Apollo's exclamations in the Spanish and English versions

One of these exclamations in the English version is *Gotcha!*, which was localized as *¡Te tengo!* in the Spanish one. However, while in the English version of the game Apollo does indeed shout *Gotcha!*, in the Spanish version he shouts *¡Ya lo tengo!*, which ironically contradicts the speech bubble that appears on-screen. My hypothesis regarding this issue is that the localization of the graphics and the translation of the script for the voice actors were done by different translators, each of them translating *Gotcha!* as they deemed appropriate.

To sum up, *AJ:AA* exhibits a few of the issues discussed in the preceding sections of the paper. It is the fourth game in the series, so its localization has to take into account the previous entries in the franchise. The game also has elements of Japanese culture that are part of its narrative, a fact that makes the task of localizing it harder, but the localization team was able to conceive an explanation that justifies the inclusion of such elements in the international versions. Lastly, as exemplified before, even after a rigorous process of examination there can still be some errors that escape the team of translators and QA testers.

#### **4. Conclusion**

As we have seen, video game localization is a very complex and fascinating process. It must take into account what makes video games unique from other media like novels or movies, factors such as player interaction and the localization of graphical elements.

Before even starting with the localization proper, decisions have to be made regarding the scope of the project. The production team has to ponder if the game will have a full or partial localization, as well as to decide which languages the game will be localized in. This is a key factor to ensure international player satisfaction, and as such it is very important in order to ensure that the game is launched in the most beneficial markets and thus produces the highest amount of revenue possible.

The process itself can be long and arduous, especially with tight deadlines so as not to miss key release dates such as Christmas. Taking that fact into account and with so many steps in the process, working on a localization parallel to the development of the original version can save quite a lot of time, but progress can be easily halted due to the need to make corrections to already completed content or due to lack of information given the fact that the game has simply not been finished yet. Because of these factors, organization and cooperation between the different teams that take part in the production and localization of the video game are key to make the process as straightforward and enjoyable as possible.

All in all, as important as localization is for video game companies to gain revenue from their products, it is also necessary for another key reason. Video game localization, at its core, allows game developers to have their work relished around the world, and brings international players the possibility to enjoy wonderful stories and experiences that they would otherwise be unable to play due to the language barrier.

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## **Appendix**

### **Glossary**

- 1.** FPS: First Person Shooter. Genre of games in which players see the world through the eyes of the character they control and that has a focus on gunplay and gun-assisted combat.
- 2.** RPG: Role-Playing Game. Genre of games with a focus on storytelling in which players immerse themselves in a virtual world, usually fantasy or sci-fi themed.
- 3.** UI: User Interface. The text or images that help the player interact with the video game, such as the menus.
- 4.** CAT: Computer-Assisted Tools. Refers to the use of computer programs by translators to aid with the localization of a game.
- 5.** GUI: Graphical User Interface. Type of UI that allows interaction with computer programs through icons instead of text.
- 6.** PC: Player Character. The avatar of the players in the virtual world. In some games they are pre-defined characters, while in others the player is allowed to customize it at will.
- 7.** SDK: Software-Development Kit. Tools that allow for the creation of a program for a computer system or console.
- 8.** Gameplay: The way in which players interact with the game, the mechanics that the game offers to the players.

- 9.** MMORPG: Massive Multiplayer Online Role-Playing Game. Genre of games similar to RPGs but played online with hundreds of other players rather than being single-player.
- 10.** VN: Visual Novel. Genre of games with a focus on storytelling characterized by having little gameplay and much text to read.
- 11.** QA: Quality Assurance. The process of reviewing a product to ensure it has no mistakes or defects.