

# Localization from an Indie Game Production Perspective – Why, When and How?

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## ABSTRACT

This paper investigates the process of game localization from an indie development perspective. The global nature of the digitally distributed game industry gives opportunities for game studios of all sizes to develop and distribute games on a global market. This poses a challenge for small independent developers with limited resources in funding and personnel, seeking to get as wide spread of their game as possible. To reach the players in other regions of the world localization needs to be done, taking language and other regional differences into consideration. In an AAA or big-budget game production, these questions are handled by separate entities focusing solely on the localization process – but how do small independent game developers handle this? Indie game developers in Sweden, China and India have been interviewed to investigate the research question of how indie game developers handle localization in the development process. The results point to a widespread use of community- and fan translation, and that only basic localization is done i.e. culturalization aspects are not considered. The results also show that the reason for localizing can be both business decisions but also to spread a specific message using games.

## Keywords

Game production, Game development, Indie games, Game localization, Interviews, Sweden, China, India

## INTRODUCTION

Indie game developers; hardworking teams struggling to pursue their dream project or well-funded studios working on the latest iteration of a popular series? Describing indie is not easy and the views of what the independence that “indie” implies are many. From the “Steam based” view, where indie is a genre among other more traditional ones such as RPG or Action, to the perspective portrayed in Indie Game – The Movie (Pajot & Swirsky, 2012) depicting struggling artists. One thing that is sure is that the advent of digital distribution has changed the way games are both produced and distributed and consumed (Payne &

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Steirer, 2014). With a tight connection to its intended target audience, developers of all sizes and experiences are trying to find and engage their consumers almost from day one of the development.

The digital distribution systems do another thing as well – they put emphasis on the “globalness” of the game industry (Consalvo, 2016; Newzoo, 2017). A game produced in a small rural village in one end of the world can be marketed and sold to a consumer in a metropolitan area in another. This adds to the complexity of small scale game development, where a developer not only has to focus on creating an intricate software product, often with an entertainment factor in mind but also adhere to make alterations to accommodate for different languages, cultures and technical infrastructures (O'Hagan & Mangiron, 2013; Thayer & Kolko, 2004).

This paper explores how small game development studios are handling the global nature of the game industry from a game production process point of view. When, how and why do indie game developers, in this case small developers with limited resources in terms of manpower and funds, localize their games. To the best of our knowledge, this angle of localization has not been researched previously. Hence the research question is: How do indie game developers handle localization in their development process? The research is conducted through an interview based method, where interviews have been carried out with indie developers in Sweden, India and China.

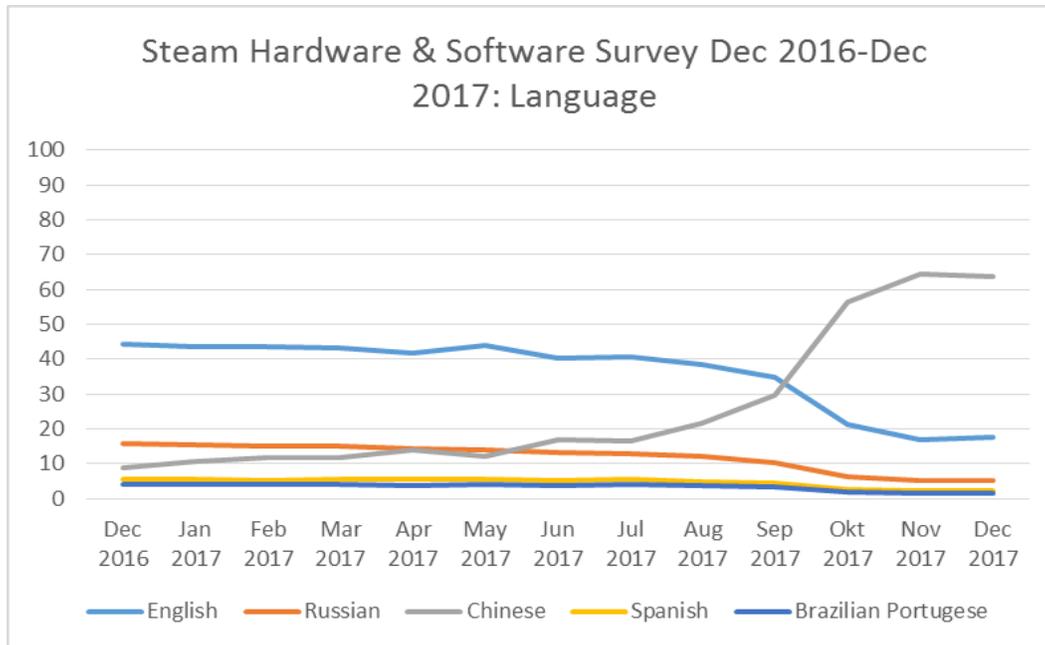
## **THE GLOBAL GAME INDUSTRY AND DIGITAL DISTRIBUTION**

With the advent of digital distribution systems the indie scene started to thrive. Reaching players without having to go through all parts of a traditional, AAA-based game industry value chain including both publishers and distributors (Egenfeldt-Nielsen, Smith, & Tosca, 2008), several success stories were told during the early 2010's. In hindsight, some might say that the peak was reached at the time of Indie Game – The Movie (Pajot & Swirsky, 2012) a documentary film about the development of a number of the most prominent indie games at the time.

The documentary portrays a period when there was an open market for independent games, where services such as Steam and Xbox Live Arcade were largely unpopulated by games from independent developers. Since then, this has changed and the change happened at a rapid pace. While the digital app stores have continued to be filled with new games, the possibilities have also been growing. The transition to a more flexible and diverse market structure has made it possible for other, smaller or more niche games to be developed, where a broader audience can enjoy games of their likings. Even though the market space has become more crowded since the advent of digital distribution channels, the market for games has also expanded. More players are playing more games on more platforms in more regions of the world. One example is China, a market that in only a couple of years has gone from a market with potential for growth and opportunities to be the top grossing game market in the world (Newzoo, 2017).

Even though the Chinese market is often seen as closed and inaccessible for western developers, Steam is a big and as of yet unregulated distribution channel in China. Statistics from Steam Hardware & Software Survey (Valve, 2018) (Figure 1) shows that Simplified Chinese now is the biggest language on the platform, with 63.9 % of the total in December 2017. This can be seen in comparison to the same statistics one year ago, in December 2016 Simplified Chinese accounted for 8.97 % of the total. Looking at the second biggest language – English – which in December 2016 had 44,32% of the total and in December

2017 the amount has decreased to 17.78 %. Even though the change might be because of a few popular titles such as PlayerUnknown's Battlegrounds (PUBG) it still shows a trend regarding the growing install base of Steam in China, implying there are opportunities for indies to aim for that region.



**Figure 1:** Data from the monthly Steam Hardware and Software Survey (Valve, 2018). Vertical axis is the percentage of total language use in Steam. Horizontal axis shows month and year.

To accommodate for these growing opportunities even small, independent game companies need to take localization into consideration when developing games. On the digitally distributed game market even small developers are immediately acting on a global arena. The traditional linear value chain (Egenfeldt-Nielsen et al., 2008) where the game developer produce the game for a publisher, which in turn makes agreements with a distributor, acting with retailers and in the end finally reaching the consumer, is no longer linear. There might be a similar set of actors, but the connection between them and the work carried out by each and every one of them might differ. An updated description of the value chain in a digitally distributed media business is proposed by market analyst firm PwC (2013). PwC claims that it is difficult to explain the digital market of today with the previous linear model and have identified a more flexible relationship between the actors involved, reflecting the emergent nature of digital distribution. PwC states that “[...] *digital content is not bound by the constraints of traditional media. An individual content producer can take their product direct to the consumer, via iTunes, YouTube, or similar*” (PwC, 2013, p. 4).

## GAME DEVELOPMENT PROCESSES

The game development process on a general level has been studied previously, one example is the process described Gross, Sumner, and Thürey (2010). They have adapted and updated a model from Fullerton (2004) focusing on what phases the development process consists of and what specific tasks are carried out in each phase. The process is consisting of four major phases; concept, pre-production, production and QA. All phases

are based on an iterative work model and this iterative nature of the development process is what Gross et al. (2010) emphasize. Evaluation, revision and testing are done continuously through all phases of the process and more structure is added to the project for each phase.

Zackariasson, Styhre, and Wilson (2006) have identified the workflow within a game development organization as an interconnected structure where teams of various competences are working closely together to develop a game. In general, the organization consists of an art team, programming team, audio team and design team all communicating with each other on both manager and worker levels. The idea of that the mix of competences is making the product successful is also identified by Murphy-Hill, Zimmermann, and Nagappan (2014) who have studied game production and its differences from software production. Murphy-Hill et al.'s (2014) results suggest that game development have substantial differences compared to traditional software development and that the understanding of the end-user and the end-user's needs are two of these differences.

### **Indie Game Development Definitions**

Seen both as a genre, but also as a development style the many faces of indie games are somewhat complex and difficult to define. The distinction from AAA development with its big budgets and well-staffed teams is one way, but that view is not complete. Garda and Grabarczyk (2016) describes the “independent” meaning of indie in terms of three types of independence:

- **Financial independence** – Meaning that the developer is financing the game development with own funding, not being dependent on third-party means. The financial independence also means that no financial support of any kind is taken, including receiving hardware or software for development, office space or provides services such as legal expertise.
- **Creative independence** – Refers to if the game content is constituted by the developer themselves or by the influence from another source.
- **Publishing independence** – If the developer also is the publisher, it is fulfilling the criteria of being publishing independent. Financial and publishing independence are often overlapping, making it hard to separate the two.

An “independent game” can then according to Garda and Grabarczyk (2016) be explained by a disjunction of the three independence types. In their system it would mean that to be classified as independent at least one of the types must be fulfilled. Parker (2013) has also studied indie games and its definition, and addresses the production and distribution of games. One of the areas within production that Parker emphasizes is the socio-cultural aspects of indie game production, where the community around a small indie team is an important factor in defining indie game development.

The areas of community and labor in indie game production have been studied by Guevara-Villalobos (2011) with the overall aim to study the alternative infrastructure that indie game developers use to tackle the challenges when developing games. The study provides insight in the communities, where formal and informal networking is used to exchange expertise. The sharing of actual work is another aspect, where code and other assets are shared within the community. Common meeting points is identified by Guevara-Villalobos (2011) as

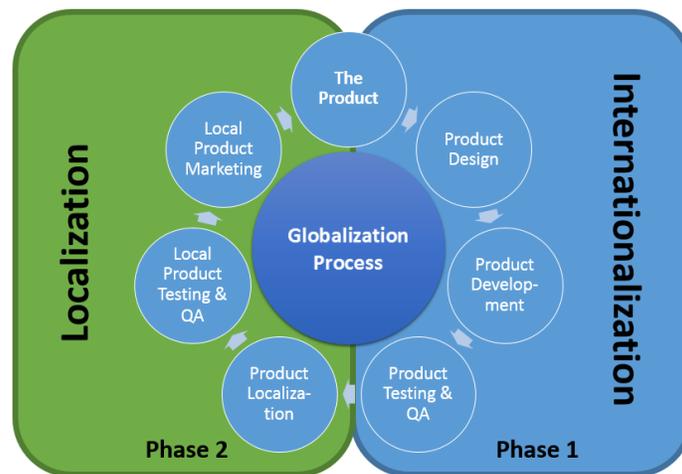
both online forums, but also physical meetings through developer conventions and “game jams”.

## SOFTWARE LOCALIZATION

The need of localizing a software product grew with the advent of office software such as word processors in the late 1970s. O'Hagan and Mangiron (2013) describe this as a major shift in mindset, where the software industry began to not only localize one specific product but inflict a change to the development practices towards a localization friendly development cycle. The Localization Industry Standards Association (LISA) defines localization as “the process of modifying products or services to account for differences in a distinct market” (Fry & Lommel, 2003, p. 13) and points to three categories that the process of localization needs to address:

- **Linguistic issues**, relating to the translation of the language in the product and also the prerequisites needed to be able to incorporate the translated text into the product.
- **Content and cultural issues**, including presentation of information through icons, graphics or color.
- **Technical issues**, including the technicalities behind doing these kind of alterations to a product without having to re-design or re-build it from scratch.

The global product development cycle (Figure 2) is developed by LISA and consists of two phases (Fry & Lommel, 2003). The first phase, *Internationalization*, is where the software is developed with the second phase, *Localization*, in mind. These processes are described with the acronym GILT (Globalization, Internationalization, Localization and Translation). The overall idea of localization is to make a product feel more familiar or local for the consumer. The language might be the subject that comes first to mind when talking about localization, but there are a number of components that can go through this change.



**Figure 2:** The global product development cycle, after Fry and Lommel (2003, p. 15)

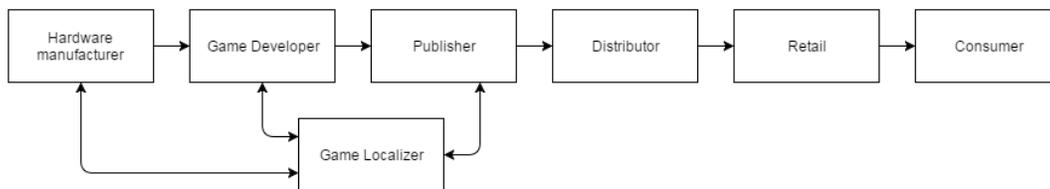
Globalization is the total process described in the GILT process model and internationalization is the phase where the software, or in this case the game, is developed in order to make localization possible. In general the internationalization part involves

preparations to make the product ready for localization; the second phase where translation and adaptation work related to the product is taking place.

## Game Localization

A description of the area of game localization from the translation side of the localization process is proposed by Hevian (2007). Hevian means that game localization can be seen as a subset of software localization, but where games is an area where other knowledge and competences are needed in order to adhere to the special aspects of games. The multitude of competences needed to successfully localize a game is also addressed by O'Hagan and Mangiron (2013) and Consalvo (2016). O'Hagan and Mangiron propose a term called transcreation instead of translation when adapting games from one region to another. The reasoning is partly based on the connection between story and game mechanics in games. In many games it is crucial that the player can relate to specific cultural references in the story simply to understand what the current challenge or scene in the game is about. This means that the translator has to understand not only the linguistic and cultural adaptation, but also what parts are connected to the game play.

According to O'Hagan and Mangiron (2013) game localization as a process can be classified by two criteria; who performs the localization and when is the localized version released. Regarding who performs the localization O'Hagan and Mangiron divides it into whether it is localized in-house or as an external outsourced service. Egenfeldt-Nielsen et al's (2008) game industry value chain has been altered by O'Hagan and Mangiron (2013) from a localization point of view to include a game localization part (Figure 3). The game localizer is here a separate entity which has a relation to the game developer, the publisher and to some extent also the hardware manufacturer.



**Figure 3:** The Game Industry Value Chain (Egenfeldt-Nielsen et al. 2008) adapted by O'Hagan and Mangiron (2013) to include a “Game Localizer”-function.

Since the complexities of localizing games and the involvement of multiple competences as identified by Hevian (2007), O'Hagan and Mangiron (2013) and Consalvo (2016) the different levels of game localization is also something to consider from a production point of view. This is described by Thayer and Kolko (2004) who have identified three levels of localization:

- **Basic localization**, where the graphics remain unchanged and only the text is translated
- **Complex localization**, where graphics including interface and icons is translated in addition to the text
- **Blending**, where the story itself is rewritten and the graphics are changed to be more adapted to the different market

Related to localization, Consalvo (2006, 2009, 2016) has studied globalization questions, where games travel from east to west focusing on Japanese games to the US market.

Consalvo identifies that in the early days of the industry many players did not recognize a Japanese game as coming from Japan. Instead, they were perceived as only “new and interesting games to play”. Consalvo (2016) cites Chandler (2005) who states that up to 50 percent of a game’s revenue can come from foreign markets. Thus, having a small local market the revenue from the global markets can be even more important. One example is Sweden, with a successful game development industry with several globally successful companies and brands (i.e. Minecraft/Mojang, Candy Crush Saga/King, Battlefield/Dice etc.). The domestic market for these companies is small, as shown in a report from the Swedish Games Industry. The report claims that 99% of the income within the Swedish game development industry is from export – meaning that the domestic Swedish market is very small in terms of total revenue from the perspective of the industry as a whole (Dataspelsbranschen, 2015).

## **RESEARCH QUESTIONS AND METHOD**

This research aims to deepen the understanding of how indie game developers are handling the global nature of the digital game industry. In this paper, the term “indie game developer” is based on the definition of indie as proposed by Garda and Grabarczyk (2016) where financial, creative and publishing independence are the areas defining the independence. The main research question this paper addresses is: How do indie game developers handle localization in the development process?

To understand this broad area, four of sub-questions are addressed:

- Why is the game localized?
- When in the development process does the localization work occur?
- Who are involved in the localization process?
- What level of localization is done?

The research is informed by interviews with indie game developers in Sweden (4 developers/game studios), China (1 developer/game studio) and India (1 developer/game studio). The choice of companies was based on a convenience sample, where previous contacts already had been established. The companies were enquired to participate in an interview study regarding their game development process and localization strategies. The interview was then arranged with persons that the companies chose to be most suited to participate, i.e. persons with work positions related to the development process and/or the (eventual) localization process. In some of the interviews, two persons from the company was participating to cover the area. The interviews were conducted during the time period June 2017 through January 2018. All interviews have been conducted in person, on site at the companies. The interviews were carried out using a semi-structured form, concentrating on 4 topics:

- **About the company**
  - Purpose: to get an overview of the company
- **About the games**
  - Purpose: to get an overview of the projects the company is/have been working with
- **About the development process**

- Purpose: to get an understanding of how the company is working with the games during development
- **About the localization process**
  - Purpose: to get an understanding of how the company has been working with localization during the development process

All interviews have been recorded and transcribed. After the transcription, the interviews were coded in relation to the four sub-questions. Through this coding, relevant themes and quotes could be identified to answer the research questions. In the cases where the interviews have been conducted in Swedish, an English translation has been made of the quotes included in the data analysis section.

The research has followed the ethics guidelines from the Swedish Research Council (2017) and permission to use the data from the interview sessions has been given to the researcher by all informants, including the right to quote. Permission to use and publish material related to the interviews, such as statistics regarding the games has also been granted. The informants have been given the opportunity to check any factual and quotation errors before the submission of the paper.

## RESULTS

The developers are of different sizes (Table 1) and this factor is largely dependent on the number of simultaneous projects running. Chinese Developer A, with its 30 employees has several projects running at the same time (also approximately 10-15 employees are focusing on its publishing, localization and administration) whereas the Swedish and Indian developers have only one main project running. The game companies interviewed all fall under the independent flag; all factors proposed by Garda and Grabarczyk (2016) including creative, financial and publishing independence are fulfilled in all of the examples. One developer, Swedish Developer A, has previously worked with publishers but has later opted to concentrate solely on self-published games due to reasons mainly regarding their creative independence.

	Founded	Employees	Profile of company	Platforms
<b>Swedish Developer A</b>	2014	4	Story driven single player experiences	PC (Steam, VR), Console (Xbox), Mobile (IOS, Android)
<b>Swedish Developer B</b>	2015	4	Experimental and shareable games	PC (Steam), Mobile (IOS, Android)
<b>Swedish Developer C</b>	2014	7	Mobile casual and hardcore games	Mobile (IOS, Android)
<b>Swedish Developer D</b>	2017	5	First person horror games	PC (Steam)
<b>Chinese Developer A</b>	2009	30	Developer of mobile casual games, publisher of PC games	PC (Steam), Mobile (IOS, Android)
<b>Indian Developer A</b>	2013	2	Games for change	PC (Steam), Mobile (Android, IOS)

**Table 1:** Overview of the game development companies in the study.

As several studies have shown, game development is a process involving multiple competences both in general (Murphy-Hill et al., 2014; Zackariasson et al., 2006) and in the specific task of game localization (Consalvo, 2016; Hevian, 2007; O'Hagan & Mangiron, 2013). This is especially apparent in a setting with limited resources, a situation found in the companies interviewed, mirrored by the employees many official roles. The official roles of the informants are often in different fields relating to both managerial tasks and development tasks. Regarding this interview study, Table 2 shows the informants' official roles within their respective game development company.

	<b>Informants' official roles in the development team</b>
<b>Swedish Developer A</b>	<b>Informant 1:</b> CEO/Game designer/Narrative designer
<b>Swedish Developer B</b>	<b>Informant 1:</b> CEO/Producer/Graphic designer <b>Informant 2:</b> Sound designer/QA manager/Localization manager
<b>Swedish Developer C</b>	<b>Informant 1:</b> Game designer/Narrative designer/Programmer/Localization manager
<b>Swedish Developer D</b>	<b>Informant 1:</b> CEO/Producer/Game designer/Narrative designer/Graphic artist
<b>Chinese Developer A</b>	<b>Informant 1:</b> COO (Chief Operating Officer)
<b>Indian Developer A</b>	<b>Informant 1:</b> Game designer/Narrative designer/Programmer/Graphic artist <b>Informant 2:</b> Project manager

**Table 2:** Roles of the informants in the interviews.

### **Why is the game localized?**

The main reasons for localizing a game can be different, but all informants express that the localization is carried out to get a wider spread and to attract a wider audience. The reasons of why a bigger spread is attractive can differ, depending on the project goals. It is notable that all the indie developers in the study seem to focus on spreading their game rather than to earn as much money as possible. While this can be the main purpose of spreading the game, none of the developers talked about actual monetary reasons in the interviews. Indian Developer A has a game with the main purpose of spreading a message, a game with a very specific theme that addresses a societal issue. To get the game as widely spread as possible, the game was localized into several of the local Indian languages, starting with Bengali.

*We chose Bengali because that [game name] as a project is working mainly in West Bengal. And we are working in deep rural Bengal and the [inaudible] area. That is an area that is high on trafficking. Instead of Hindi I chose Bengali because I wanted to put it in schools of rural Bengal. Because Hindi would be a much bigger and wider audience and would need much more marketing. For me, the Bengali audience is more accessible because of our existing work there. That is why I choose Bengali.*

**– Indian Developer A, Informant 2.**

The choice of localizing the game into Bengali helped the game to get attraction not only in India but also in the surrounding regions where Bengali is a big language. The game topped the charts on Google Play in Bangladesh and the developers noticed by the player

reviews that the game was popular in Bangladesh because of the Bengali localization, a language which few games are localized into.

The Chinese Developer A also expressed that the main reason for localizing and translating their first game from Chinese into English was due to regional constraints. Released in 2009, the Chinese smartphone market was almost non-existent and to get a player base at all the developers looked to the west:

*At that time we did not have smartphone market in China. So there was only IOS and no Android phones. So the first game we published is [Game name] in 2009. So, yeah... I don't think we could choose China at that time. They did not sell it [smartphones] officially at that time in China.*

**– Chinese Developer A, Informant 1**

In this case, both the Indian and the Chinese developers had very specific reasons to localize their games to other languages. Since the Indian game is a game that can be played at no cost, there are no monetization schemes at all, the sole reason for localizing was to spread the message of the game, while the Chinese had a more business related reason with a non-existent local game market. The reason to localize was expressed by the four Swedish developers as largely a business decision to broaden their player base and to build a bigger community. This decision though, seems to come after a realization of the global nature of digital games where feedback from the player community have a role in the understanding. All of the four Swedish developers have released their games in different forms of “early access” versions, such as early alpha, beta or prototype versions on platforms such as Itch.io, Steam Greenlight or Google Play Early Access. This has led to a realization that the player base is global, and that in many regions the players prefer to play the game in their local language.

It is through these early encounters with the community all four of the Swedish developers in the study realized that it would be a wise decision to support localization for different languages than just English. Based on data from the early access or prototype phase informed decisions were made regarding which regions and which languages to prioritize and support. But, even though data from an early access release can inform the developers to target a specific region it might not always be fruitful in terms of sales:

*We can check the numbers later, but it was on Gamejolt with one the prototypes, that we saw very much [downloads] from Romania. The highest numbers for the prototype, I think. I believe in the first free short prototype we did, I think it [Romania] was on fourth place in number of visitors... But they're not fourth in the amount of sales we've had.*

**– Swedish Developer B, Informant 2**

Checking the numbers revealed that only a handful of the sales have come from Romania.

### **When in the development process does the localization work occur?**

As stated previously, the Swedish developers in the study realized that localization would be a good decision upon the contact with the community when early versions of their games were released. Swedish Developer C released their latest game as early access on Google Play, meaning that players could download the game in its early stage and send feedback to the developers regarding the game and its content. The most recent game project was

more ambitious than their previous games, and due to a better understanding of their target audience Swedish Developer C could attract more players thus getting more feedback:

*I think it was six months into early access we put added localization support. Because in the previous games we did not localize at all. But we've always heard it's important to start with early! I think that was when we did an overhaul of the game, because we went through one of those too. The first idea we started with was a bit too complicated so we almost started from scratch. Then we focused on translating the game as well. At that time, we had already got Russian players [in the early access phase], players who wanted the game in their language.*

**– Swedish Developer C, Informant 1**

Swedish Game Developer A shares similar experiences regarding the time frame. One of their first projects was a PC and console title released using an external publisher. They did not have any support for localization in the first stages of the development, and had to add it at a later stage upon request from the publisher:

*We did not plan for localization at all when we started. It started as a student project, and we thought naïvely enough that most people know English and that our target audience is probably mostly in America and Northern Europe anyway. But when we came so far that we started to engage in publishing negotiations then there was a demand from their [the publisher's] side. They had more requirements but that [localization] was one of the important things from their part. And since then, we have always tried to bring it because we have seen it affect sales.*

**– Swedish Developer A, Informant 1**

This is an example of where the publisher dictates the conditions, and also have a localization strategy for the game in mind. The testimony from Swedish Developer A regarding the language preference of the players is also a factor to notice. In hindsight, they see their attitude towards the language preference of their player base as naïve, and have learnt to include support for localization as a vital part of subsequent projects.

The Indian Developer has also had a similar process regarding the support for localization in the development process. Due to limited resources as the development is carried out by a one man team, support for localization was not added until after the first versions of the game were released. The game was released in English and after about six months the Bengali localization was added, meaning that the game was patched post-release to accommodate for future localization. This process was due to prioritizing other parts of the development and to get the game out on the app store as quickly as possible.

*From a technical point of view it is not that hard, but I personally made a choice while making the first game [name]. I didn't see through that it should be translated into many languages. So many parts of it was hard coded in English. It was not linked to a database. [...] I had to work on that afterwards. It was a double kind of work. [...] but because of the rush of the production I chose to use the shortcut. Because it takes a while to make it database oriented. But we were actually rushing to release the game so I cut corners.*

**– Indian Developer A, Informant 1**

After the game was released and localization support was added the team decided to provide the game in 13 local Indian languages, mainly based on the success of the Bengali translation. Thus, none of the companies seemed to have internationalization as a part of their development strategy.

### **Who are involved in the localization process?**

All of the developers express that their resources are limited in terms of time, available personnel and money. This has in many cases led to ways of shoestring budget localizations. Swedish Developer B, C and D explain that they are using community based translation for their games. Two of them, Swedish Developer B and D have outsourced their translation using the freelance service website Fiverr.com.

*We're using freelance translators. And then I've been managing that. Implementation and contacting and finding translators and such. And we have found all translators through the Fiverr service.*

**– Swedish Developer B, Informant 1**

To use a traditional localization service has been ruled out due to the cost of their services, and instead of investing money in consultancy services, the time of available personnel is prioritized to manage the freelancers. Swedish Developer C has opted to ask their community and player base directly for localization help. If a player sends an inquiry to the developer to add support for a certain language Swedish Developer C has the strategy to ask for help. This has led to a system where the game is fan translated during the development and the developers are co-creating the game with their fans from a localization perspective.

*Our players are translating the game. Completely. We do not use any third party companies. No, we made a social media post about that we want to translate the game, because during the early access phase some of the players gave feedback saying that they wanted it in their native language. And then we wrote back to them: "Come and help us!" Then we got a lot of people, and of course, some have left, but then we have gotten new ones.*

**– Swedish Developer C, Informant 1**

This is highly relatable to the process of transcreation that O'Hagan and Mangiron (2013) describes, where it is important to have an understanding of the game mechanics and the story of the game.

As presented earlier, Swedish Developer A was using a publisher handling all localization in their first project, but since they felt their independence was limited using a publisher that is not a model they are using anymore. Instead, they have contacts with a PR bureau handling some of the tasks not directly related to game development.

Indian Team A is using a localization company to handle the translation into the languages they lack competency in. Chinese Developer A has their own localization department, but they are focusing mostly on translating between Chinese and English and vice versa. If there is demand from the players in a certain region they do accommodate to that though:

*I think we did [game name] in other languages. It was quite successful, our first game. It's a free to play, free to download. A party game where you roll out a toilet paper. It was very popular and*

*I see, we see that it was popular in Germany and Japan so we also localized it. But it's like, we see it's popular in a country and then we localize in that language.*

*– Chinese Developer A, Informant 1*

### **What level of localization is done?**

All of the interviewed developers are only using basic localization (Thayer & Kolko, 2004) i.e. only localizing text assets. Even though the Chinese Developer has, in comparison to the others in the study, a large team, and also has an in-house localization department the focus is solely on translating the text in the game:

*Yes, but we are a small company so we can't put effort in that. So we just [focus on] China. The art is also... I think there are many jokes in the art too. Only the Chinese can understand these. It cost a lot of effort to also localize the art, not only the words.*

*– Chinese Developer A, Informant 1*

The focus on localizing text assets only is a financial question, but also in some cases a part of the game design itself. Both the Indian Developer A and Swedish Developer D have games based on their local surroundings, i.e. games that have the intention to have a local look and feel from a particular region and thus local visual and audio-based cues are a part of the design. Swedish Developer D has chosen to have all voice acting in Swedish due to design decisions that the game shall have a Swedish feel. But, this decision is also somewhat based on available resources in finding voice actors:

*I am a stern believer in going with Swedish [voice over for the game]. We have Swedish mythology, Swedish speech - we're going with Swedish. To find an English voice actor here that does not have an accent is difficult, so we chose to go with Swedish all the way through.*

*– Swedish Developer D, Informant 1*

### **DISCUSSION AND CONCLUSIONS**

This paper has focused on getting a deeper understanding of localization of indie games from a development perspective, an area that to our knowledge has not been researched previously. One conclusion is that all developers in the study have positive experiences from localizing their games. It has helped to spread the games to audiences all over the world, making the impact of the game bigger both in terms of sales and for the sake of social awareness as in the Indian case. But, is also noteworthy that the monetary reasons is not in focus when discussing their projects.

One interesting observation is that the advent and the rise of digital distribution have made it possible to study these kind of phenomena. The available data regarding locality and language of the player community makes it possible to spread both message and culture through games. Due to the fact that the indie developers in this study have opted to use basic localization, the games produced in one part of the world can be played and enjoyed as the creators intended without more complex localization and culturalization efforts. Three of the Swedish developers in the study have chosen to translate their games into Swedish, a language rarely localized into from an AAA perspective. Even though seen mostly as a “fun” project to do, Swedish Developer C also mentioned this as a strategy to attract younger players with no or little English proficiency to their mobile casual games.

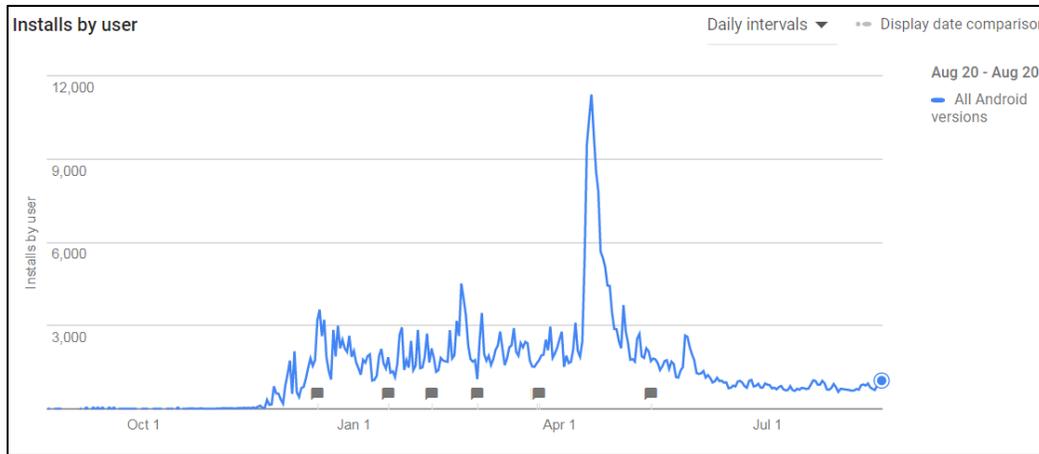
Since all of the developers in this study have focused on basic localization, i.e. only text, the complexity of adding a localization system into an already existing project also is on the basic level. If making a more complex localization, incorporating other assets such as graphics and audio, a more complex system would be needed, and thus more effort would be needed to incorporate localization at a late stage in the development process. This has been made possible to handle due to digital distribution, where data from the game is available to the developers directly through the digital distribution platforms. The data from a game's sale is something that traditionally was handled by the publisher, but now accessible and important for the developers to make informed decisions.

The lack of resources is another factor of interest forcing the developers find new and creative ways of translating their games. Regarding the question who performs the localization O'Hagan and Mangiron (2013) identified two scenarios; in-house or outsourced. In this study, there is a third option combining the two; in-house management but outsourced translation, as described by the informants from Swedish Developer B, C and D where a group of external translators are managed by in-house personnel.

The reasons to localize a game to different regions are many, and the reasons to do it differ. Business decisions is one major factor, to broaden the possible player base for the game in question to earn more money. From the motivations for localizing games two main themes can be seen:

- **Localization for social impact:** The Indian Developer expresses that the localization was a decision made based on the impact they wanted the game to have. The decision to address a societal problem with localized versions of the game added to the impact it made in the regions where Bengali is spoken. Even though this is just one example, the results are clear that the strategy to target a, for games, less common language helped to spread the intended message of the game in question.
- **Localization for market selection and expansion:** Using the data derived from the different kind of early access phases have made informed choices possible for several of the companies in the study. Also, patching and updating the game to incorporate support for more languages, based on feedback from the player base is a strategy that seems to be common in order to broaden the player base. The realization that the player base is global, and speaking many languages, is also interesting to note where the community feedback helped to push towards an internationalized product.

Related to the Localization for social impact category, Figure 4 shows install statistics from the game from the Indian Developer. The spike in downloads occurred at the time the Bengali localized version was released, making the game to top the charts on the Bangladeshi Google Play store.



**Figure 4:** A version of the Indian game with Bengali language support was released in the beginning of April 2017, causing a huge increase in downloads from Bangladesh. Chart from Google Play Console.

Several of the interviewees have expressed that the community is a vital part of the localization process, where players are providing translation for free of charge or to a low freelance fee. Swedish Developer C, has a whole translation team consisting of unpaid members of the player community. Noteworthy, even though the developer have offered in-game perks for translation help instead of payment, that offer has not been picked up by the community translators. To be a part of the process is payment enough, is the feedback the developer got. In relation to this, the transcreation aspect is also interesting. Transcreation is a term proposed by O'Hagan and Mangiron (2013) proposing that competences involving the game and its story and mechanics, as well as familiarity of the local culture and language. The fans of the game are likely to be competent in these areas, maybe with a focus on the understanding of the game. This is also related to both fan translation (Consalvo, 2016) and the indie labor ideas, with its close ties to the community both regarding developers and players (Guevara-Villalobos, 2011; Parker, 2013). This fan translation during development is an area that would be of interest in a future study.

The value chains and development process models where localization are incorporated, such as the one proposed by O'Hagan and Mangiron (2013) are difficult to adapt to a common model based on the data from this interview study, thus more research is needed in the area. The localization process is to a large extent dependent on available resources and prioritizations made during the development process. But since digitally distributed games can be patched to accommodate for localization even post release, as the case of the Indian Developer shows, it is never too late to localize. But, as the Indian case also shows and several of the Swedish developers state, the earlier the localization process is planned for the easier it gets to add support for new languages.

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