Interactive Stories Workshops –
Learning the Languages of Literature and Programming

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Abstract:

In this article two advocates for video games and literature, media educator Pauliina Hyytiäinen and library officer Saana Mäensivu, present their project Interactive Stories Workshops, which was created to be an easy and fun way to teach creative writing and programming at Vantaa City Libraries, and simple to recreate in libraries across the globe. The aim from the start was to develop a workshop model that teaches about the digital tools available for creative writing and game programming. We argue that when learning to create games, designing and programming them from scratch, one will also learn important skills, which benefit one's overall skills of literacy. And the games that are the best candidate to teach you about these skills are the ones that focus on stories. Thus, we chose a video game genre that can be described as "stories come alive", also known as visual novels. In these types of games the reader becomes the player, who can affect the flow of the story and change its course. All the digital tools used were open source programs and the materials created during the project will be made available for download at the end of the project in winter 2017.
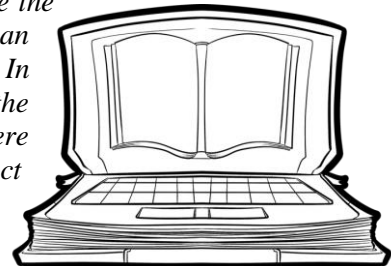
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Introduction

When video games first invaded libraries, there was resistance against this change - and still is. We argue that rather than fight the changes that video games bring, or worry ourselves over what they might do to the literacy skills of the population, we librarians should learn

how to benefit from this change, to use video games and programming as a digital tool to promote literacy and develop a reading culture. Some might say that we are biased in our opinion: both of us have loved video games from a young age, one of us even went to university to study game design and game industry, while the other one became a talented writer of game reviews, but we also share the love for literature and books – and of course, for library. Neither of us sees literature and video games as opposing forces, but rather as media that can benefit each other. These fields also share a lot of similarities. For example, game designers and researchers talk about the concept called *flow*, which is a mental state that happens when the player is greatly immersed in playing a game. The surroundings seem to fade as the player focuses on the game. As active gamers and readers, we can safely say that the pleasure, which is attainable through reading a good book and playing an entertaining video game, is very similar: it's as hard to separate yourself from a good book as it is to cut off your game flow.

Luckily, we are not alone with our opinion: "From a library perspective, games are primarily cultural products that belong in the library both as services and as a part of the collection. Almost everyone consumes stories in some form: one reads books or magazines, another one watches films or series, plays games or listens to stories in opera or audio book form. The role of libraries as a source of stories has been strong for a long time. (…) As the acknowledgement of games as a story form increases, a great information void is created, with a need for new information and material. As some people want their stories in game form, libraries must be able to rise to this challenge." (The Game Educator's Handbook 2015, p. 76)

Video games as a new type of literacy
To take this thinking even further, we argue that video games can be seen as a new type of literacy. James Paul Gee stated in his ground-breaking book *What Video Games Have to Teach Us about Learning and Literacy* (2003) almost 15 years ago, that when people learn to play video games, they are learning a new literacy. He then emphasized that this is not the way the word literacy is normally used. Traditionally, people think of literacy as the ability to read and write. In the modern world, that definition becomes lacking, because language is not the only important communicational system. Today, images, diagrams and many other visual symbols are particularly significant. Thus, as Gee argues, the idea of different types of "visual literacy" becomes an important one. (Gee 2003, pp. 13-14)

Because video games play such an important part in the lives of many, it is only wise that we should know how to read games, how to benefit from the information and the skills we achieve through playing them and how to better understand the ways games influence us. Video games can be seen and read as multimodal texts (texts that mix words and images). The combination of the two modes communicates things that neither of the modes can do separately. (Gee 2003, pp. 13-14) To sum it up: game literacy is familiarity with the different sections and properties of games, the ability to perceive gaming as a diverse cultural phenomenon, the ability to interpret the different signals games give out, and being aware of the role gaming plays in today's society (The Game Educator's Handbook 2015, 12). We argue that when learning to read games, design and program them from scratch, you'll also learn important skills, which benefit your overall skills of literacy. And the games that are the best candidate to teach you about these skills, are the ones that focus on stories. Thus, we chose a video game genre that can be described as "books that have become alive", also known as interactive stories.

Interactive stories: What are they?
Interactive stories mix written texts, pictures and sound, all the while staying true to the basic nature of games: interactivity. One of the simplest ways to describe interactivity in games is to use an example of "if the player presses a game button, something happens". The player's actions have an effect on the game. In interactive stories the reader becomes a player, who can affect the flow of the story and change its course. But what are the stories hidden in video games?

Some game researchers argue that it is possible to find a story in every single game: it might have a simple narrative structure, like in puzzle games, or it might be extremely complex, like in role-playing games, which give player the power to change the story through in-game choices. The story line in a video game can be seen as a mixture of four things (Gee 2003, pp. 81-82):

> 1. The game designers' ("author's") choices
> 2. How you, the player, have caused these choices to unfold in your specific case by the order in which you have found things
> 3. The actions you as one of the central characters in the story carry out (since in good video games there is a good deal of choice as to what to do, when to do it, and in what order to do it)
> 4. Your own imaginative projection about the characters, plot, and world of the story.

The first and fourth of these items are true for books and movies, as well, but items 2 and 3 are true for video games only.

Library: The haven for stories
In Vantaa City Library, we had previously organized programming workshops where the focus has been on programming, not the games itself, nor the stories behind them. Because library is known as the haven for stories, we came up with a new workshop model that would tie the two art forms – literature and video games– more tightly together. We understand that many would be squeamish to hear video games being labeled as an art form, which is understandable, because even a big part of players tends to squirm away from that definition. For more on the subject, we recommend to look up either Aaron Smuts' article "Are video games a form of art?" (2005) or James Paul Gee's earlier mentioned book, where it's strongly stated that video games are indeed a new form of art: "They will not replace books; they will sit beside them, interact with them, and change them and their role in society in various ways, as, indeed, they are already doing strongly with movies." (Gee 2003, 204)

From the ambition to entwine literature and video games more tightly together were born the Interactive Stories Workshops. In these workshops, we teach about the digital and conventional tools available for creative writing: how to design a compelling story for your game, its characters and the choices of the plot – which we call story twines – that carry out the game. Examining closely the possible plot twists and their consequences teaches the students analytic reading skills: it teaches you to think like the player, anticipate her choices.

To make the workshops more appealing, we offered our libraries' customers three different kinds of workshops, with a different theme in each of them: 1. Japanese visual novels with familiar style from anime and manga, 2. Historical stories, and 3. Stories based on your own city. We also offered different workshop approaches for the participants and told them they could choose the amount in which to participate: for those who only wanted to learn about programming and not focus on storytelling, we had ready-made picture databases, from

where they could choose the pictures for their stories. Those who wanted to make more detailed games and stories, we encouraged to make the art for the game themselves and to continue programming even after the workshops with our help and with the workshop materials we had provided.

The interactive stories that we make in the workshops are called *visual novels*, which are a popular video game subgenre, first made popular in Japan. Even now, visual novels are extremely popular in Japan, and usually when there's a new anime series or movie being published, a visual novel is also made of them. Visual novels combine images, music, sound effects and written text, but there are many different styles to make a visual novel, and they can differ quite a lot from each other. They can also use a mix of other game elements, like parts from strategy or simulation games. To get a better picture of visual novels, we urge you to try playing some of them. Sadly, just a small amount of Japanese visual novels is translated into other languages, but there is still huge amount of great games available for buying and downloading in Steam, PlayStation Store etc. There are also huge number of forums for amateur visual novel makers in the Internet where they publish their games and encourage people to play them for free. Visual novels are by no means tied to the Japanese manga & anime industry exclusively, rather, the concept of these games allows people to tell their own stories using many different visual ways.

Learning the language of programming

For the workshops, we wanted to find a program that would make creating interactive stories as easy as possible. Luckily, the project leader, Pauliina, had firsthand experience of a nifty open source program called Ren'Py. Even though the first version of Ren'Py was published in 2004, its user community with its admins is still very much alive and well. The news about Ren'Py's development are made available on several social platforms. On Ren'Py's homepage, where you can download it for free for PC, Mac and Linux computers, it is described as "visual novel engine – used by hundreds of creators from around the world – that helps you use words, images, and sounds to tell interactive stories that run on computers and mobile devices. The easy to learn script language allows anyone to efficiently write large visual novels, while its Python scripting is enough for complex simulation games" (https://www.renpy.org/).
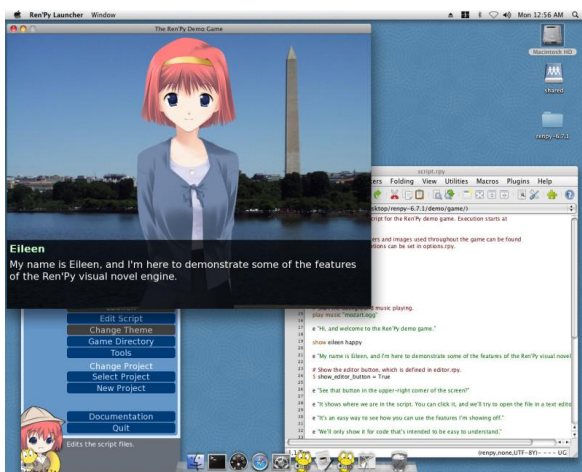

The first picture on the left shows the Ren'py visual novel engine and text editor, where the programming happens. The second picture is taken from Anniina Kafka's game The Boy and the Demon, and the art for the game is made by Malin Ek.

At first, Ren'Py can seem quite intimidating and the amount of online help forums and guides overwhelming. Therefore, it's good to get hand-to-hand guiding from someone with previous

Ren'Py experience. But for the daring and self-reliant people, Ren'Py offers a compact tutorial, which itself is in a visual novel format. It also has variety of cool effects you can add to your game. A very simple text editor, which is used for the scripts of the game, is also included, but no creative writing tools. That is why Ren'Py recommends the use of other programs, like Word, for the writing. Word is indeed a good basic tool for writing the game's story, but its lack of visual tools, that would be useful for creating story maps, is troubling. Good old concept of pen & paper is what we started with, but as the story maps, which portray the interactive story plot's twists and turns, became too long and complex, it became clear we needed a digital program. Luckily, a program like that already existed and it was free-to-download from the Internet. Its name is Twine.

Twine is a free, open-source tool for telling interactive, nonlinear stories. You don't need to write any code to create a simple story with Twine. Twine publishes directly to HTML, so you can post your work nearly anywhere. Twine was originally created by Chris Klimas in 2009 and is now maintained by several different people (https://twinery.org/).
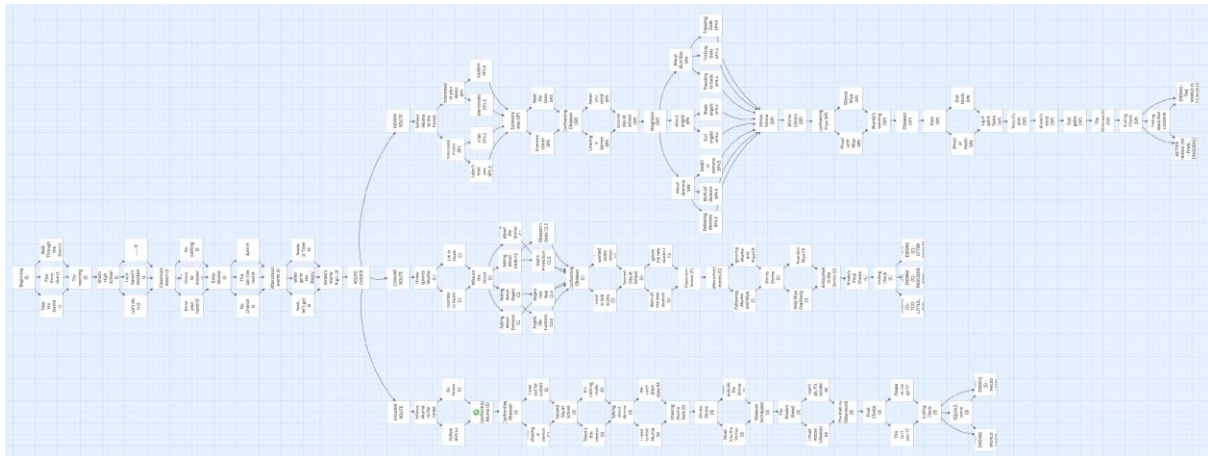
Above is the story map made on Twine by one of our workshop participants, Anniina Kafka. As you can see, the sheer amount of choices which the player can make, transforms the story map into a giant. Imagine if that story map was made on a paper! Ms. Kafka became so enthralled with interactive stories during our workshops that she wanted to continue making them at home. As instructors, we encouraged such enthusiasm, because we knew that the amount of time reserved for the workshops (6 hours combined) would never be enough for the great stories Ms. Kafka wanted to make. We offered to help her with any programming problems and at our workshops we also had time to review her game and give feedback. We are grateful for the permission to use pictures taken from her game development in our article, and we encourage you all to play her visual novel on our game website.

How we built our workshop model

The whole workshop model was designed easy to use in libraries. Because the program – the visual novel engine Ren'Py – is a free, open-source program, it became important for us to make all the material created in the project free for everyone after the workshops. We want to share the fun of creating interactive stories. For this purpose, we decided to hire a professional artist, so that those who have no artistic skills could make their own interactive stories with cool game art. We wanted an artist who would be easy to work with, and who had knowledge about video game art, Japanese manga and anime. Swedish artist Malin Ek was hired and she proved to be an asset in our project. In addition to the 10 visual novel

characters and 10 background images, she also helped us to design the visual look for our project and gaming website. In the project, we worked very closely together, working mostly on Skype and Facebook messenger. She also held Livestream sessions for us, where we could give her feedback instantly while she worked. During our project, we have gotten a lot of positive feedback for the art she made for us. Because some students wanted to make their own art for the game during the workshops, it was also a blessing that we had a proper artist to help us with any questions that rose.

The manga-themed workshops' picture database was entirely made by Malin Ek, but for the history-themed workshops we gathered historical pictures, of which copyright licenses had already expired, or which had been made public and free to use by the museums. Through the whole duration of this project, we have been careful with copyrights, emphasizing that it isn't alright to use any material you find from the Internet without checking the license rights, and that you should give credit where credit is due. The same was true for the music database we gathered for the workshops. If the workshops had been longer, we would have liked to give the participants a chance to make their own music at the library's recording studio. Perhaps it's something that we will do in future workshops.

Because the workshops are held in small groups, they offer a safe place to share and learn together. In our test workshops – one was held for librarians, with the theme "historical stories", and the other was a manga-themed one for a group of junior high school girls who were very interested in Japan's popular culture – we had learned that for two workshop instructors the maximum number of participants they could handle was ten. The amount was a lot smaller than what we had originally planned. We hadn't realized that teaching programming would be so time-consuming and that many small problems would rise. Luckily, most of these problems were simple to fix, because they were the result of misspelling. Again and again it became clear for us, that reading code proves how programming advocates literacy! We also use two different languages during the workshops:

English and Finnish–and of course–the language of programming. Reading code sentences improves the skills of perception among other things: programmer needs to learn how to connect causalities between code phrases, commands and the working game.

Sharing the fun

The sense of community is emphasized when the participants get to publish their games on our library's new gaming website, which is dedicated for gaming, and which was built during this project. The website was mainly made because we needed a platform where to publish the students' games. We also wanted to advertise Vantaa City Library's game events and services for gamers. We used social media, mainly Facebook and Instagram, to advertise our workshops, but we also had posters and flyers.

During our project, we also held different events where we could advertise our workshops. We organized a game event called "Pelipäivä", which was part of the International Games Day celebrations. There we held a short workshop, where the participants could become familiar with interactive stories and sign up for the actual workshop series. We also had made an exhibits of game literature in our libraries.

Other events tied to the workshops were called "Mangapiste", where our customers could try drawing Japanese comics (manga) and participate in different activities connected to manga.

Many young people, who participated in Mangapiste, wanted to talk about their favorite series, and what makes the stories in them so special. Many attendees left library that day carrying a heavy load of borrowed manga books, and some of them had already started to plan how to make their own interactive stories.

As for the historical stories workshops, designed for the older generation of customers, we thought it would be valuable for the participants to have an author visit the workshops. We contacted a well-known Finnish author, Paula Havaste, who is best known for her historical fiction novels. We asked her to visit the workshops and prepare a presentation of her own writing process and the research she does in preparation for a new book. Many workshop participants gave praise in their feedback of how hearing good writing tips from a professional writer helped them with their own writing.

Because some of the libraries where we held our workshops, didn't have a computer class, we had to ship 11 laptops (the amount of computers needed during a workshop) to those libraries. We also had given permission for the students to use their own computers, so we needed a flexible solution of how to make our workshops "movable", hence we bought 20 memory sticks in which we downloaded the Ren'Py-program, the picture databases and the help guides we had gathered and translated into Finnish. Some students wanted to download all the needed materials on their own computer and we allowed that too. It was important for us to be flexible when needed.

Conclusion

Our workshops have been popular among citizens of different age groups and positive feedback has been overwhelming. Many participants said that writing the stories and making them into games was very addictive, they wouldn't have thought it would be that much fun. Some said programming was challenging but also rewarding. Both kids and adults have thrived to learn how to make video games, and they have done this together. Some have come to the workshops because of their love for video games, and/or stories, while some have just wanted to learn a new skill – programming – which is these days being called "Finland's new civic skill" and this skill will soon be taught in comprehensive schools too as a mandatory subject.

Video games can have a great deal to teach us about how reading printed texts actually works when people understand – in situated, embodied, active, and critical ways – what they read (Gee 2003, pp. 100). The idea for our workshop model came from the way of seeing video games and literature not as opposing or competing forces, but as two great ways to tell stories, which can benefit from each other. Digital tools offer us librarians different and powerful ways to teach literacy skills. We live in digital age, but the importance of literacy hasn't disappeared, rather, it has become more important to be able to read different kinds of texts and media now more than ever. Workshops, where one could learn a valuable skill of programming and use it to create stories in new ways, was our way of saying that literacy does indeed matter, but you shouldn't be too strict in the ways of defining literacy. The concept of *multiliteracy* becomes important.

In the future, all the materials we have made during our project will be uploaded on the www.vantaapelittaa.fi -website, where it's free to download and use under Creative Commons license. That way other libraries too can hold their very own Interactive Stories

Workshops. We hope that many libraries take our workshop model as their own and spread the joy of interactive stories!

Acknowledgments

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