

# Choose your character!

The power of Character Design in the development of Interactive  
Digital Narrative learning projects

Professor: Mariana Ciancia  
Student: Hilary Palazzolo | 965464





Politecnico di Milano | School of Design  
MSc in Digital and Interaction Design  
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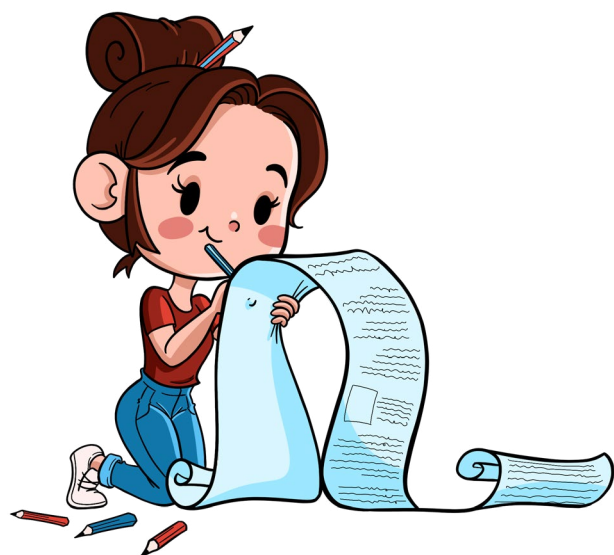
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### **Abstract** *English*

Within the broad field of the Interactive Digital Narrative, we can always see the latest technologies applied in their flow, creating complex branching stories that entertain, teach and communicate to the users its purpose.

This type of project has often been used with very young audiences to make them understand even complex concepts, creating a specific area of IDNs dedicated to education.

IDNs are made of several elements, but could a focused Character Design represent an important step in creating more effective interactive media? If we follow specific rules while designing our characters, would we obtain a deeper engagement and understanding of the topic from the users?

This research focuses on developing and testing a process aimed at designing characters for interactive stories for educational purposes, leveraging Character Design and Character Based Storytelling.

The research begins by tracing the history of Interactive Digital Narratives and their evolution, specifically emphasizing the work done in the educational field. As a next step, we will analyze the principles of Character Design and create a taxonomy of characters for this type of narrative.

What has been discovered will then be applied to an educational Interactive Digital Narrative project, *Quondam: Beyond the folkways*, testing it with the appropriate target audience.

To conclude, we will arrive at the definition of the process that will allow us to design characters for educational projects more appropriately and in line with our purpose, with a look toward possible future applications.

### **Abstract** *Italian*

All'interno del vasto campo dell'Interactive Digital Narrative, è possibile vedere applicate le ultime tecnologie all'interno del flusso della storia, creando così storie articolate che intrattengono, insegnano e comunicano all'utente le motivazioni dietro il progetto. Questa tipologia di progetti sono spesso stati utilizzati con un pubblico molto giovane per far comprendere anche concetti complessi, creando un'area specifica delle IDN dedicata all'educazione. Le IDN sono formate da numerosi elementi, ma potrebbe un mirato Character Design applicato a queste, risultare in un passo importante nella creazione di media interattivi?

Se seguiamo regole specifiche mentre progettiamo i nostri personaggi, potremmo ottenere una partecipazione più profonda e una comprensione migliore da parte degli utenti?

Questa ricerca si concentra nella creazione di un processo volto alla progettazione di personaggi per storie interattive a scopo educativo, sfruttando il Character Design e il Character Based Storytelling.

La ricerca inizia ripercorrendo la storia delle Interactive Digital Narrative e la loro evoluzione, ponendo l'accento nello specifico sul lavoro effettuato in ambito educativo. Successivamente verranno analizzati i principi del Character Design e verrà creata una tassonomia dei personaggi per questa tipologia di storie.

Quanto scoperto, verrà infine applicato ad un progetto educativo di Interactive Digital Narrative, *Quondam: Beyond the folkways*, testandolo con il target opportuno. Per concludere si arriverà alla definizione del processo che permetterà di progettare i personaggi per questa tipologia di progetti in maniera più appropriata e consona al nostro scopo, con uno sguardo verso le possibili applicazioni future.

# **Chapter 1**

## **Introduction**

## Introduction

### “Choose your Character!”

A sentence that we all have heard in our lives in video games, where we were asked to choose between a character or another, and instinctively we selected the one that we felt more similar to us, or the visual aspect of it just drove our choice.

This little choice affected our entire experience with the media we were interacting with.

Characters have always been a powerful tool for designers. They are the heart of the stories that we read, watch, and discover. We convey messages, moods, and states of mind through them, and the user can bond with them forever, letting the character become a piece of its life.

This motivated me to start this journey through my research thesis, and it is also deeply connected with my artistic background. Since I can remember, I have always drawn, especially characters, and built around them the most incredible and absurd stories, and I've always had dreamt of creating the most iconic characters for everyone and seeing them become important to other people.

So, I started thinking about it with a critical approach and applying it in the field of the Interactive Digital Narrative. If characters are essential story elements and recognized by the audience, they can also be a tool to communicate even the most detailed message to the user.

So, in the light of such premises, the **research question** of my thesis is: “ In the design of an Interactive Digital Narrative Learning project, can Character Design be one of the main elements in enhancing the audience engagement?”

This thesis aims to define a **specific framework** to design characters that could help us in our purpose and aims of projects, helping us choose the most appropriate characters that fit the work.



# Chapter 1

This thesis is articulated in 4 main parts, that follow the Double Diamond Design Process.

The **first part** will deal with the history and evolution of the Interactive Digital Narrative, to understand and have a clearer picture of this wide field. This part, there will also deepen the principles of storytelling and agency, which are fundamental in this kind of narration, focusing also on the Character-Based Storytelling. Then, will be addressed the Learning IDN field, by analyzing the methodology applied in these kinds of works and analyzing case studies.

In the **second part**, starting with a general introduction to Character Design, there will be a deepening in the designing of characters for learning purposes, dealing with the principles of character design for a complete overview. To conclude this part, the insights regarding characters will be made explicit from the research and the analysis of the case study, which will be the basis of the final framework.

The **third part** will address the project *Quondam: beyond the folkways*. Firstly, the chapter will explain the project in its completeness and then there will be documented the redesign of the characters of the story, to see if what hypnotized before works in a learning IDN project.

The tests performed will be documented and explained in detail.

The **last part** will focus on the future applications of these kinds of characters and the design opportunities of it. Most importantly, there will be defined the operational framework for designing the most appropriate characters for our IDN project.



# **Chapter 2**

## **Methodology**

# Methodology

This thesis aims to investigate the potentiality of the creation of characters, following specific guidelines, to help the audience better understand the message and the purpose behind an Interactive Digital Narrative, resulting in new knowledge. In doing so, I decided to apply the insight from the first part of the analysis to an existing project, *Quondam: Beyond the folkways*, an Interactive Digital Narrative experience designed during the course Complex Artefacts and System Design Studio. This allows me to test and verify the emerged insight to an existing project to develop a framework for the design and development of compelling characters: the outcome of my thesis.

The process I have used is the “**Double Diamond Design Process**”. Which helps designers to identify the best idea, involving divergent and convergent thinking.

During this, I have followed these phases: Discover, Define, Develop, and Deliver.

We can retrace my path through them and an in-depth study of all the tools and the results will be explained deeply in the following chapters, and they can also be consulted in the final appendix.

# Discover



In this phase, I have done the literature review, addressing the following disciplines: IDN, Character Design, and Game Design. This was fundamental to understand these wide fields as deeply as possible and be aware of their principles, gaining also insights for my research.

I have also done a case study analysis of 30 projects, to collect and understand which kind of method artists and designers have followed during their works, some of them can be consulted in the appendix.

# Define



After gaining knowledge about the topics of Character-based Storytelling and Character Design and collecting the aspects that most of the story's characters have, I have created a taxonomy of their characteristics.

Resulting in two main typologies: Static and Dynamic. This distinction helps us deliver a certain kind of value to the final users.

## Chapter 2

### Develop



Once I had this distinction, I asked myself: What if I redesign Quondam's character following these rules?

So, I started doing more research to reinforce this concept and redesign the characters, making them Dynamic.

### Deliver



In the last phase, I performed multiple tests of the new Quondam's characters on the target audience to test the insights collected from the research, obtaining positive results from my intuition regarding the different results that we can have applying the rules of character design.

These results helped me define the final framework for designing characters for projects with educational purposes.

# **Chapter 3**

## **History of IDNs & Educational IDNs**

# History of IDNs & Educational IDNs

## 3.1. Introduction to Chapter 3

This chapter will define what IDN is, the history of this kind of storytelling, and its applications in different fields. The potential of IDN is great and allows for immediate and more effective communication and understanding of what we intend to communicate.

The first examples of IDN can be found in the early '60s. Since then, we have had many interesting applications that will be analyzed in the following chapters.

This type of storytelling has been applied in many fields, addressing wider and wider issues. It has also been applied in many IDN learning projects. These in the future could be decisive for educational purposes, because through them we can obtain a deeper engagement from the audience, resulting in a more effective understanding of the topic. It could make a difference and become a new way to learn in school and other educational contexts even the most complicated topics.

## 3.1.1. Once upon a time...

Telling stories is something natural that people have loved to do since forever; it is a way to express themselves and communicate their ideas and vision.

The media and tools that have been used are numerous. However, there is a perspective that has been often explored and that gives the possibility to the audience to become active in the story that is told, building a new relationship between creator and users.

In all of its forms, storytelling is a fundamental part of all types of media, from books to movies, television, and theatre. The prevalence of storytelling in human culture may be explained by the use of narrative as a cognitive tool for situated understanding (Riedl e Bulitko 2012).

Through time, storytelling has changed and we can choose among many different channels to communicate. However, a way that better integrates all of this is the **Interactive Digital Narrative (IDN)**.

An interactive narrative is a form of digital interactive experience in which users create or influence a storyline through actions, either by assuming the role of a character in a fictional virtual world, making decisions for him, or directly manipulating the fictional world state.

It is most often considered interactive entertainment but can also be used for applications beyond the **entertainment field**, such as **education and training**.

In fact, it is seen as an opportunity that could bring new methods to the learning field.

## Chapter 3

**Figure 1.**

*Black Mirror: Bandersnatch*  
<https://www.netflix.com/title/80988062>, Copyrighted,  
<https://it.wikipedia.org/w/index.php?curid=7759650>

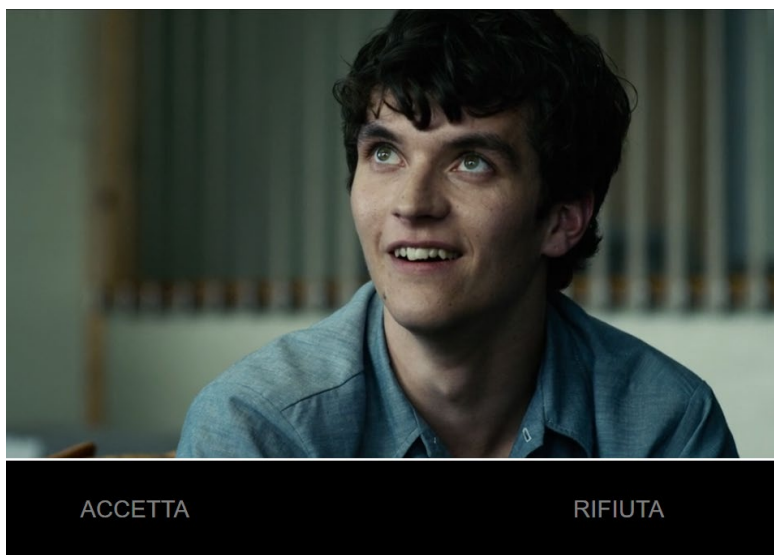
The most common form of the interactive narrative involves the user taking on the role of the protagonist in an unfolding storyline. An example could be *Holodeck* from the popular television series *Star Trek: The Next Generation*.

A fictitious technology that uses holography to immerse humans in a photorealistic virtual reality, often populated by virtual, intelligent, computer-controlled characters. While the *Holodeck* is portrayed as having many serious uses, one of its primary uses is entertainment via the immersion of its users in fictional worlds. The user can also be a disembodied observer—as if watching a movie—but capable of making changes to the world or talking to the characters, a very known example of this kind of story is *Black Mirror: Bandersnatch*, in which the user is invited to make choices

and define the plot of the story.

The goal of the interactive digital narrative is thus to immerse the user in a virtual world such that he or she believes that they are an integral part of the story and that their actions have meaningful consequences. (Riedl e Bulitko 2012)

The distinction between interactive narrative and other forms of digital entertainment is that interactive narrative systems **afford the player to act in ways that fundamentally alter the unfolding storyline's direction and/or outcome.** (Riedl e Bulitko 2012).



1.

## Chapter 3

**Figure 2.**  
*Interactive Digital Narrative  
components map*

The role of digital narrative has significantly impacted the way people interact with the different kinds of digital content.

IDN aggregates artistic and research directions.

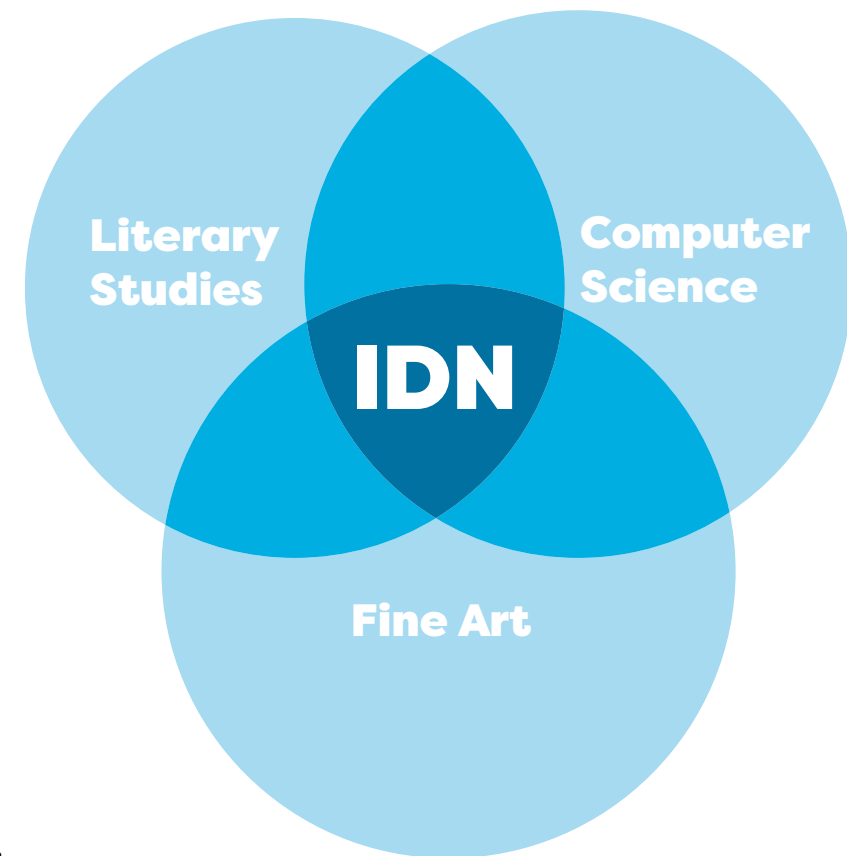
From malleable, screen-based textual representations to the quest for virtual spaces, where users experience coherent narratives side by side with authored narrative elements and synthetic characters.

These characters lead them through the story and could assume different roles, that we'll discover in the next chapters.

IDN is a genuinely interdisciplinary field that includes multiple disciplines, such as **literary studies, computer science, and fine art**. Indeed, we could say that research in IDN ideally combines technical development and advances in artistic expression, as well as the expansion of analytical perspectives. (Koenitz et al., 2015)

The field of Interactive Digital Narrative (IDN) can look back at more than 25 years of research, during which this discipline has enriched itself with new and revolutionary projects that are taken as a point of reference nowadays.

The beginnings of IDN can be traced back to the computer program *Eliza*, created as an experiment in artificial intelligence (AI) in 1966 by Joseph Weizenbaum. It responds to a user's textual input by adopting simple but effective parsing and pattern matching techniques (Koenitz et al., 2015).



### 3.1.2. The Evolution of IDN

As already mentioned before, the history of IDN can look back more than 25 years of research.

The hybrid nature of interactive digital narratives—as narratives and digital procedural entities on software executed on computers—poses considerable challenges for analysis and categorization.

A further complication lies in the rapid evolution of the underlying technologies for the creation and dissemination as computing technology has developed dramatically in a very short time compared to the technologies fundamental for other forms of expression.

Furthermore, the hybrid nature of IDN deeply affects analysis and understanding as technical progress, and theoretical advancements are intrinsically connected. Every perspective on this field needs to consider both components.

We can see this approach in the work of Brenda Laurel, her proposal draws a parallel between producing a dramatic representation and authoring an interactive narrative.

The theatrical stage is related to the computer screen, the script to the computer program, and the dramatic action to the experience of using computer software and hardware.

Eventually, Michael Mateas (2001) expanded on this foundation to better accommodate the **notion of agency**. (Koenitz et al., 2015) Mateas foregrounds the description and practical implementation of agency in the phenomenological sense of affecting significant changes in the virtual world. In doing so, he reinterprets the Aristotelian categories in terms of material and formal cause, aiming at a more prescriptive and structured model for the agency.

**Figure 3.**  
Brenda Laurel, by Monigarr  
- Own work, CC BY-SA 4.0,  
<https://commons.wikimedia.org/w/index.php?curid=49287045>

Interactors experience agency when the dramatic elements made available in the plot and that motivate the characters' actions are commensurate with the material constraints offered by the audio-visual, figurative elements of the system. In other words, the narrative elements offered to the user during an interactive experience should be coherent with the material opportunities for actions offered by the system. (Koenitz et al., 2015)

Brenda Laurel first recognized the **expressive potential** of digital computers as an interactive, representational medium (1991) on equal grounds with electronic media and print.



3.



## Chapter 3

**Figure 4.**  
*Janet Murray lecturing Hamlet on the Holodeck- The Future of Narrative in Cyberspace at the University of Utrecht, by Harmut Koenitz*

Janet Murray (1997) delivers the next important step by describing the essential characteristics: **procedural, participatory, spatial, and encyclopedic affordances**. She also introduced what users experience during the interaction as agency, immersion, and transformation. Together, the procedural (the computer's ability to execute a set of rules) and participatory (the ability to react to user input) affordances describe the phenomenon of interactivity. Murray then defines the phenomenological categories of agency, immersion, and transformation.

She sees agency as the experience of affecting a meaningful and intelligible change in the digital artifact, while immersion describes the ability of a digital artifact to hold our interest. The resulting experience, Murray notes, would be transformative in the sense of a kaleidoscope, which recombines its elements into new forms with every turn. Murray's definitions provide a well-defined

framework for understanding digital media artifacts. (Koenitz et al., 2015)

To sum up, in the early years, there was a necessity to define and understand what were these new kinds of narratives.

The following chart is a roadmap of interesting case studies that represent important milestones for this kind of narrative.



4.

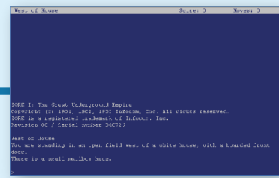
1966



### Joseph Weizenbaum

**ELIZA** is an early natural language processing computer program created to demonstrate the superficiality of communication between humans and machines

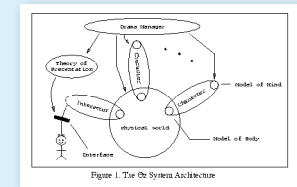
1977



### T. Anderson, M. Blank, B. Daniels & D. Lebling

**Zork** is an interactive fiction computer game. It distinguished itself in its genre as a rich game, in terms of both the quality of the storytelling and its sophistication

1990



### Marc Kantrowitz

**Oz** is a computer system we are developing that allows authors to create and present interactive dramas.

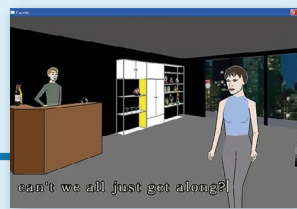
2012



### John Branch

**Snow Fall: The Avalanche at Tunnel Creek**, is a New York Times multimedia feature. It is composed by six-part story interwoven with interactive graphics, animated simulations and aerial video.

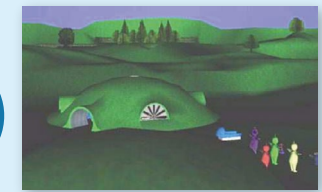
2005



### M. Mateas, A. Stern

**Façade** is an artificial-intelligence-based interactive story. It incorporates interactivity and drama, to provide a robust interactive fiction experience.

1999



### Ruth Aylett

**Virtual Teletubbies**, a behavioural robot architecture was reapplied to the design of virtual agents based on them. One of the first experiments of 3D environment and VR.

2018



### David Slade

**Black Mirror: Bandersnatch** is an interactive film in the science fiction anthology series Black Mirror. Viewers make decisions for the main character.



**Figure 5.** Roadmap of the evolution of IDN projects through history

## Chapter 3

### 3.2. Principles of IDN

The focus of these chapters will be Storytelling and the Agency, which are considered two of the essential principles that are part of an IDN.

Storytelling is one of the fundamental parts of a compelling narration that could assume different points of view and it gives the possibility to enjoy and understand the story: in this case, we will focus on Character-Based Design Storytelling.

Then, the following chapter will be about the principle of Agency, which regards the level of decision that the user can make through an IDN and how much its decisions affect the storyline.

#### 3.2.1. Principles of Storytelling and Character Based Design Storytelling

These paragraphs will detail storytelling and its principles to better understand what this system of communication is and which rules it follows. Then, we will analyze Character-Based Design Storytelling, that focuses more on the character itself and its struggles.

#### 3.2.1.1. Principles of Storytelling

A story is always based on what we want to tell and communicate and can add significant value to our entertainment to the audience.

A story gives the project a context, and it facilitates the understanding and which kind of actions are required to go deep into the narration. It provides greater emotional satisfaction by providing a sense of progress toward a dramatically meaningful rather than abstract goal. (Adams, 2013)

If we use stories, we could attract a wider audience that consequently will add entertainment value to our project.

Many people need a story that motivates them to go further and discover the meaning behind it. Using storytelling can help us to keep people interested in long projects that could require a lot of time to discover.

We can consider the message, the conflict, the character, and the plot as the four elements that are part of storytelling. (Fog, n.d.)

The message that we want to communicate through storytelling must be clear and easy to understand. In fact, the story that we are telling will become proof of the message that we want to share and will help people to internalize it and make it part of them.

The driving element of a good story is the **conflict**.

In fact, we can see it through the changes of the protagonists and their need to modify their life paths. We should not interpret it as something negative because it is necessary to make our goal happen, and this sense of discomfort that the conflict creates will lead our users to the resolution of it.

The characters are essential to let the user identify with them, and in this sense, they could share their problems and conflict, crea-

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ting an emotional bond between them.

Sometimes characters are used as the main focus of the story, using **Character-driven storytelling**, following their development, failure, and achievement through the narration.

Finally, the plot represents the flow of the story and is fundamental because it is the sequence of events that our user will follow. Anyhow, the plot could have different structures in the interactive digital narrative, which are linear and non-linear stories.

In a **linear story**, the player cannot change the plot or the story's ending. However, the player still faces challenges as she goes through the story, and in fact, the challenges form part of the story itself. Thus, a linear story in a game is still an interactive story, but the player's interactions are limited to contributing actions.

While, if you allow the player to influence future events and change the direction of the story, then the story is non-linear.

The two of the most common structures for non-linear stories are branching stories and foldback stories.

A **branching story** allows the player to have a different experience each time he plays the game. The story offers not one plot line but many that split off at different points.

**Foldback stories** represent a compromise between branching stories and linear ones.

In a foldback story, the plot branches several times but eventually folds back to a single, inevitable event before branching again and folding back again to another inevitable event.

Going through the conclusion of this first part, we could say that an interactive story takes place with the user in the middle of the series of events, moving forward through them, and he/she will

make decisions that sometimes could alter the structure and make the user's actions part of the story itself, which makes an interactive story very different from a story presented to a passive audience. (Adams, 2013)

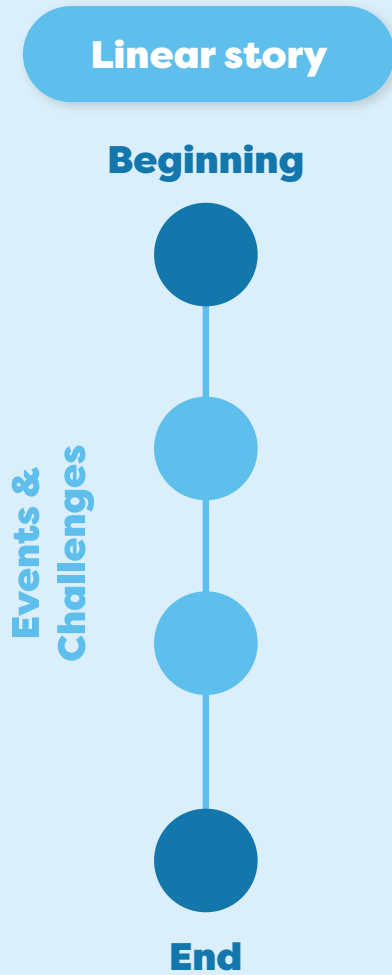
Furthermore, an interactive story includes three kinds of events:

- **Player events**, which are actions performed directly by the player;
- **In-game events** are events initiated by the core mechanics of the game;
- **Narrative events** are events whose content the player cannot change, although he may be able to change whether they occur or not.

With this in mind, we can conclude by considering the following formal definition of an interactive story.

"An interactive story is a story that the player interacts with by contributing actions to it. A story may be interactive even if the player's actions cannot change the direction of the plot." (Adams, 2013)

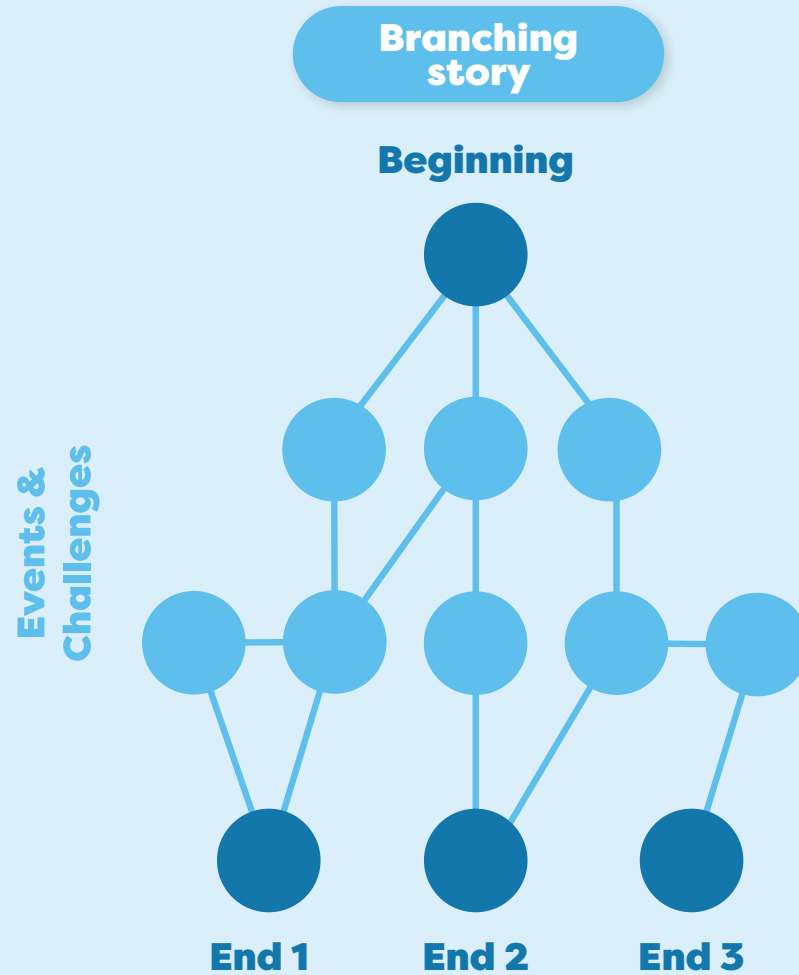
**Figure 6.**  
Story structure of a linear story



- Require less contents
- Storytelling engine is simpler
- Less bugs and errors
- Deny player agency
- Great emotional power

6.

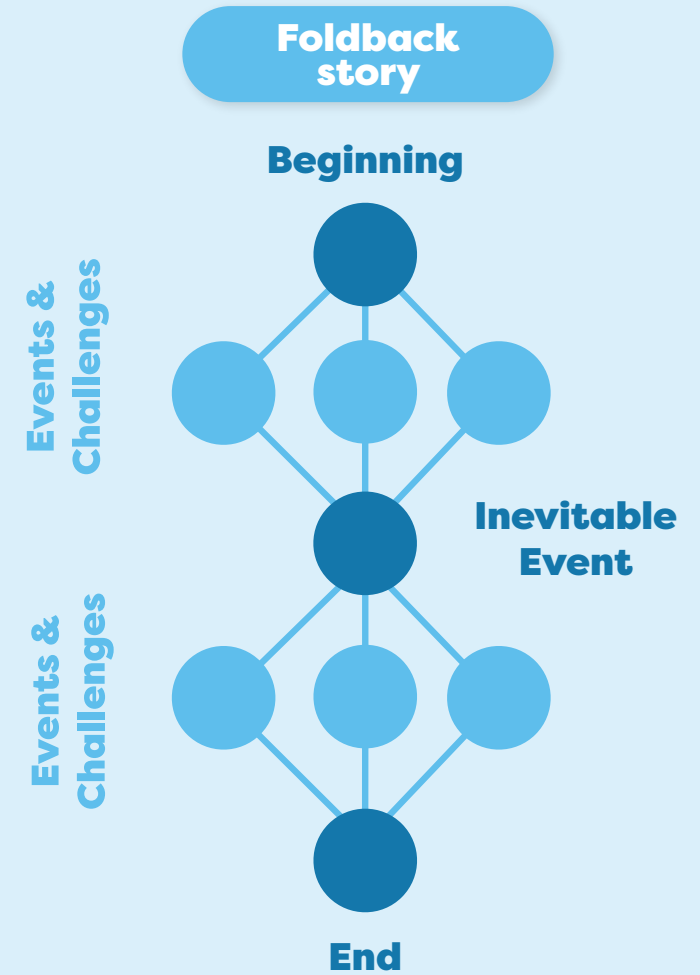
**Figure 7.**  
Story structure of a branching story



- Extremely expensive to implement
- Every critical event has its direct consequences
- Players must play repeatedly to see all content

7.

**Figure 8.**  
Story structure of a foldback story



- Compromise between Linear and Branching stories
- They have just one ending
- Offer players agency but in a more limited amounts

8.

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### 3.2.1.2. Character-based Storytelling

Character-driven stories position the struggles and insights of the main characters as the central guiding feature of the piece. It is the type of story that is driven by emotion as opposed to a high-concept plot.

In this kind of narration, the protagonists don't just have things happen to them. Instead, they actively change due to the events they face, and the author makes sure that you're aware of what these changes are.

We could recognize these kinds of stories through a few basic elements, that are:

- A **developed backstory** that will help readers understand how they got to where they are and why they're reacting in certain ways.
- A **major conflict** that highlights the inner struggle of the character.
- A **clear point of view of the character** to understand what he/she is feeling through the narration.
- The **values of the character** are respected and stay true to his/her backstory.

A similar approach can be found in the **coming-of-age narration**, which is highly centered on the main character and his growth, their emotional changes, and their vision of life.

Generally, we can find movies, novels, or games that adopt this kind of narration, and they typically feature these standard storytelling devices:

- **Character growth:** These projects usually follow a character realizing their future. They focus on the characters' mental, emotional, and personal growth.
- **Dialogue:** Coming-of-age stories focus on the interior lives and emotions of the characters rather than outside actions or events driving the narrative.
- **Social commentary:** Coming-of-age stories address issues that teens or young adults face today, like coming out in *Call me by your Name* (Luca Guadagnino, 2017), teen pregnancy in *Juno* (Jason Reitman, 2007), or self-acceptance in the *Perks of Being a Wallflower* (Stephen Chbosky, 1999).

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9.



10.



**Figure 9.**

*Call me by your Name*, Luca Guadagnino, from [https://it.wikipedia.org/wiki/Chiamami\\_col\\_tuo\\_nome\\_%28film%29](https://it.wikipedia.org/wiki/Chiamami_col_tuo_nome_%28film%29)

**Figure 10.**

*The Perks of Being a Wallflower*, Stephen Chbosky, <https://perks-of-being-a-wallflower.com/>

**Figure 11.**

*Juno*, Jason Reitman, from [https://it.wikipedia.org/wiki/Juno\\_%28film%29](https://it.wikipedia.org/wiki/Juno_%28film%29)



11.

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So, what's evident from this kind of narration is the evolution of the transformational arc of the character.

In order to build a strong character's arc, it's important to emphasize the protagonist, which is also the heart of our story, this means that he or she must be the central focus of everything that is going on.

The protagonist is the person or being who is primarily impacted by the action and conflict of the plot and is also the person or being around whom the primary goals of the plot are formed, and he/she must carry the final goal of the plot. (Marks, 2007)

The transformational arc and the guidelines for character development will be deepened in the next chapter, dedicated to the character design.

**Figure 12.**  
*The heart of a story, Map*





## Chapter 3

### 3.2.2. Principles of Agency

Narratives artifacts also possess some degree of agency.

Users often decide whether to participate or not within a narrative as the first step. Reading, watching, or listening to some form of medium is the first choice that every participant makes. Furthermore, there are built-in idiomatic games such as role-playing games that give players many choices to shape their experiences. There are some decisions involved in creating a character, determining its appearance, and aligning it with the world. Although players still have agency within the game's narrative during the game, they are free to make further choices. As we have already seen in the previous chapter, the branching stories represent one of the most famous examples of agency in narratives. Players can choose how to progress through a story based on various paths and loops defined inside the plot. Players can mold and form how a narrative progresses by making particular decisions at specific points. While it does not give players complete agency, it does allow them to pick how a classic linear structure unfolds in front of them.

**Agency is the degree to which a player is able to cause a significant change in the story world.**

**Low agency** involves either no interactivity, nudging, or busy work. The **high agency** allows the player to significantly change the world or the state of objects within the world with every action. (Eng, D. 2020, August 20).

In the following page, we can see two examples that explain the differences between high and low agency.

**Figure 13.**  
High VS Low agency  
comparison.

## High agency

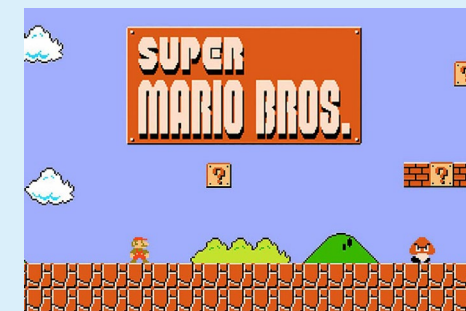


Quantic Dream

**Detroit: Become Human**

This is an high agency videogame because the players have almost the entire control of the actions and what will happen during the gameplay, affecting also the end of the story.

## Low agency



Nintendo

**Super Mario Bros.**

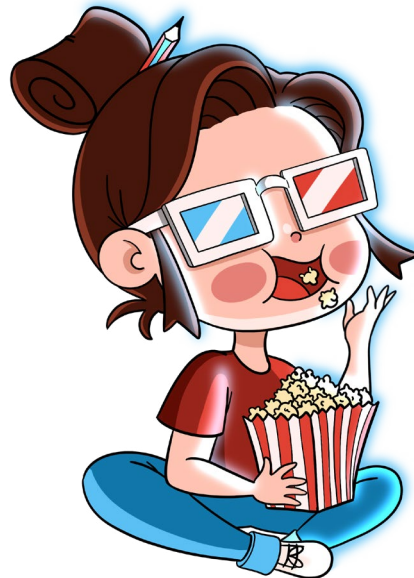
This is a classic arcade game with low agency because the players do not have control of what will happen in the story, they have to follow their mission and complete all the levels.

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As we already mentioned in chapter 3.1.2. regarding the evolution of IDN, Janet Murray sees agency as the experience of affecting a meaningful and intelligible change in the digital artifact, while immersion describes the ability of a digital artifact to hold our interest. (Koenitz et al., 2015)

So, as designers, we have many choices when it comes to designing agency.

Much of the sense of control and meaningful decisions come from the designer, in fact, here is decided the level of trust that we want to give to the users and the level of freedom that they maintain through all the narration.



When we talk about agency, we should refer also to the kind of relationship that the user will build with the project he is interacting with. As explained by Jon Boorstin (1990) in *The Hollywood Eye*, there are three levels of engagement of the audience:

- **Voyeuristic**, Boorstin defines this as the project's 'logic,' or the understanding of its tale and its accompanying aspects. It's also the excitement of trying something new - something adventurous, inventive, energetic, or relevant - and potentially learning from it. The audience's interest is a tool we can employ and the goal is to encourage the audience to discover more about your topic.
- **Vicarious**, this is the project's emotional hold; how it provokes and shifts feelings in different places, and how it all adds together to create an overall emotional experience. The audience is interested in the human condition (even if the characters aren't human), and the events of the story provide potential insights into human behavior or societal dynamics.
- **Visceral**, this addresses instinctive morality, emotional and adrenaline responses. It provides thrills and attractions through sensory experience. Because they rely on subconscious cues augmented by body chemistry, the visceral aspect has power bordering on addictive or traumatic.

The three elements overlap; understanding each layer, in turn, will help to craft stronger and more rewarding stories. Great effects are created by combining the effects of each layer.

Another interesting aspect that could derive from these levels of agency is immersion.

The term immersion usually relates to users, describing being deeply involved in the story.

Is not easy to define immersion but is usually called subjective measurement.

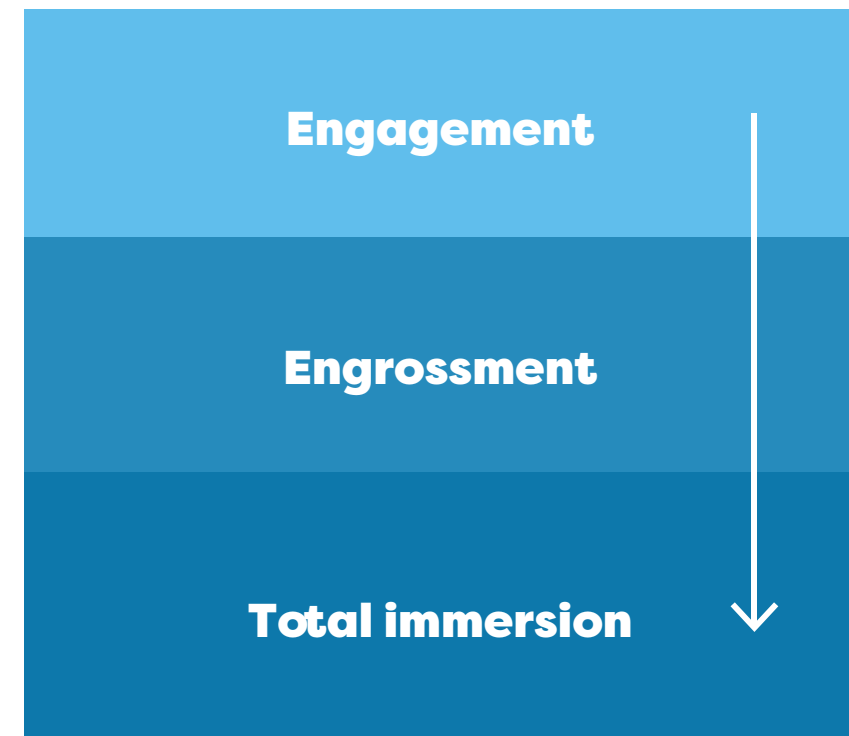
The concepts related to immersion flow and presence mainly explain how the player becomes involved with the story and its media.

The immersion could be interpreted in a certain way as the next level of high agency, and a few researchers from their findings indicated that the immersion possesses the following features:

- Lack of **awareness of time**.
- Loss of **awareness of the real world**
- **Involvement** and **sense of being** in the task environment.

Those become important aspects in terms of the involvement of the users in the growth path of the main character because the audience will feel a sense of belonging in the story and sharing of values.

Also, the immersion has three main levels, starting from the basic level, **Engagement**, to the **Engrossment**, where the user starts to create an emotional bond, and lastly there is the **Total immersion**, where the user is completely involved. (Ruthvik, 2017)



**14.**

### 3.2.3. Reflections on the principles of IDNs

To conclude these paragraphs, we could say that these two principles are part of the three main aspects of an Interactive Digital Narrative and are also the starting point for designing projects that communicate important messages to the users, by leveraging several of the aspects that we have explored before.

As previously pointed out, **Storytelling** is a powerful way of communication, that aid us to attract our target audience and will engage them in an immersive way into our project.

Stories have the power to let people dream and stimulate their creative imagination.

In addition, they can motivate the user to understand the meaning behind them.

In terms of letting the people use stories to learn something, we can also leverage the second principle explained, which is the **Agency**, and so involve them in an active way and let them make decisions along with the story.

Here, we can recall John Boorstin, and as explained before, we should also think about the relationship that we want our users to have with our stories, this, in fact, could greatly change the results we want to achieve.

Lastly, we should mind also the important role that characters, but most importantly the protagonists, have for our users.

They could really become a companion and a point of reference for each generation.

They are the means of communication, that we can use to communicate our message and represent to the audience the link between them and the story they are interacting with.

So, reflecting on this last aspect, the question that we can ask ourselves is “Could the characters be the key to a new method of learning? And perhaps, could they be even more efficient of the traditional way of learning?”

But before going deeper into this, we should understand completely the field of the Learning IDN projects and what methods and tools have been used to create them. This will be explained in detail in the following paragraphs.



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### 3.3. Learning through an IDN

As we have already seen in the first chapters of this section, the IDN could have a learning purpose and, as we will discover, is widely applied in different fields, such as gaming, education, and art. This part will focus first on one of the most famous methods applied for a learning purpose and analyze some case studies that use this approach more deeply.

#### 3.3.1. STAR Method

One of the most effective ways of conveying information and learning is storytelling and narrative. Thus, naturally, narratives have generated great interest and are being incorporated into educational computer games. They are seen as valuable support for learning, allowing players to “make sense of experience, organize knowledge, sparking problem-solving skills and increase motivation” (pag.1, Hodhod, Cairns, and Kudenko, 2011).

The story can provide a context for learning (Kapp, 2012), and interaction allows the player to participate in the construction of the story actively, stimulates curiosity and imagination, and leads to unintentional learning.

Narratives in an educational game are considered especially important for games aimed at children because their attention span is short, and the games must keep them engaged while they are playing and learning (Padilla-Zea et al., 2014). It also shows how games could help teenagers improve their cognitive skills.

A method that has been a milestone in this approach is the

**Storytelling for educational interventions (STAR)** framework (Molnar, Farrell, and Kostkova, 2012).

This framework aims to help people to design educational storytelling experiences and use storytelling as a learning tool.

It focuses on the development of a process based on five steps, that are the characteristics of a successful interactive digital storytelling experience:

- Engaging story plot;
- Conveying different sets of Learning Objectives (LO) and reinforcing the important ones;
- Flexibility in adding or removing the Learning Objectives;
- Create an interactive story;
- Use a High Level of agency.

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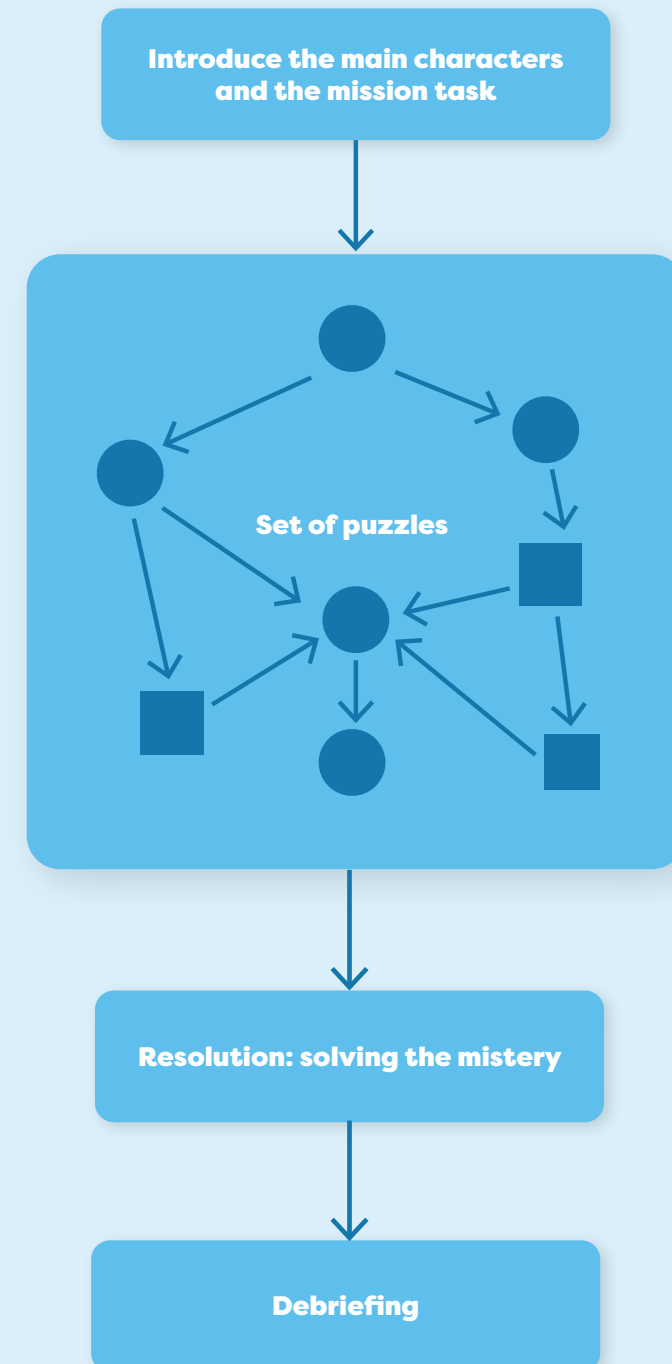
The framework that the user will follow consists of an **introduction, a set of puzzles, a resolution, and a debriefing.**

The introduction will set the scene and define the problem, and it is also where the character will be presented. The set of puzzles consists of clues and red herrings that will either guide the player or move him away from the solution to the main puzzle.

The next part is where the player finds the resolution, and hence the solution to the game/mission puzzle. The last part consists of a debriefing, a layer where the learning objectives are reinforced. Having this last part has facilitated the integration of the evaluation in the game (Molnar and Kostkova, 2013c).

The STAR framework follows a problem-based learning approach, in fact, the player in order to go further in the story must understand and learn something to resolve the puzzle, applying his new knowledge and testing it in the challenge. (Koenitz et al. 2015) In the chart in the following page, we can see how this framework is applied.

**Figure 15.**  
STAR Method workflow



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### 3.3.2. Case Studies

In order to better understand the mechanics that work behind a learning approach applied in an IDN, some case studies have been analyzed and some interesting insight has come out.

The following case study represents just a part of the research conducted and all the other projects analyzed can be found in the appendix at the end of the thesis.

For the analysis, a matrix was designed to evaluate specific aspects of the projects, focusing on the learning approach and moreover on the character.

The principles of the Character Analysis that inspire this matrix, are explained by Janelle Barowski and Angela Morris. They point out that this analysis should begin with the physical description and overall personality of the character. Describe any mannerisms and include all background information. The writer should mention what type of character the character is in this portion as well.

The middle portion of the character analysis should contain the character's role within the story. This portion should include any conflict that involves the character. Describe if the conflict is internal or external within this segment.

The final portion of the character analysis should include the persona and growth of the character over the plot. Analyze how the character is different by the end of the story due to the conflict. Some minor characters may be unchanged, but major characters will usually transform.

Creating a detailed character analysis can provide a clearer understanding of the intentions of the author. Symbolism, foreshadowing, and other literary devices can lie within the characters. (Character Analysis in Literature, n.d.)

Therefore, the matrix is divided into 5 main parts:

- **Data;** a general part of objective data, such as name, author, and year.
- **Category;** here is classified the typology of the project and its aim.
- **Structure;** this part regards the narrative structure, the media used, and the channel.
- **Character;** here has been analyzed the Character typology, the Character growth, and the immersion.
- **User;** the last part evaluates the growth of the user and the agency that he/she has.

As a result of the literature review, the categories for the analysis have been defined according to the basic principle of IDN and its application in different fields.

All case studies analyzed could be consulted in the final appendix.

CATEGORY	STRUCTURE	CHARACTER	USER
<p><b>Typology</b></p> <p>In this part will be defined the typology of the project.  <b>Documentary, Videogames, Exhibition and so on.</b></p>	<p><b>Narrative Structure</b></p> <p>In this part will be defined the structure that the project follows depending also on the choices that the user can make.  <b>Linear Stories, Branching Stories, Foldback Stories.</b></p>	<p><b>Character Typology</b></p> <p>In this part will be defined the typology of character in the project. <b>Avatar</b> (I can create my own character and play with it) or <b>Predefined Character (PC)</b> (I can choose between the option or I have a defined Character).</p>	<p><b>Growth</b></p> <p>This part should describe the personal growth through the project. Analyzing how the character change through the story till the end.  <b>Intellectual, Moral, Personal and Emotional.</b></p>
<p><b>Aim</b></p> <p>In this part will be described the <b>aim of the project</b> and their purpose.</p>	<p><b>Media</b></p> <p>Which kind of media the projects use to communicate?  <b>Digital, Physical or Both.</b></p>	<p><b>Growth</b></p> <p>How is the growth of the characters in the project? In this part, we are assuming that the character analyzed is the protagonist, so the distinction is based on their personal path.  <b>Dynamic Character, Static Characters</b></p>	<p><b>Agency</b></p> <p>What is the level of agency of the user through the character in the project?  <b>Low Level or High Level</b></p>
	<p><b>Channels</b></p> <p>In this part will be described the type of <b>channels that are used to communicate</b> the project and the one the user interact with.</p>	<p><b>Immersion</b></p> <p>In this part will be defined the quality of the immersion of the project, through the characters, how much they can go deep in the story?  <b>Engagement, Engrossment, Total Immersion</b></p>	

**Figure 16.**  
*Matrix of the analysis of the case studies*



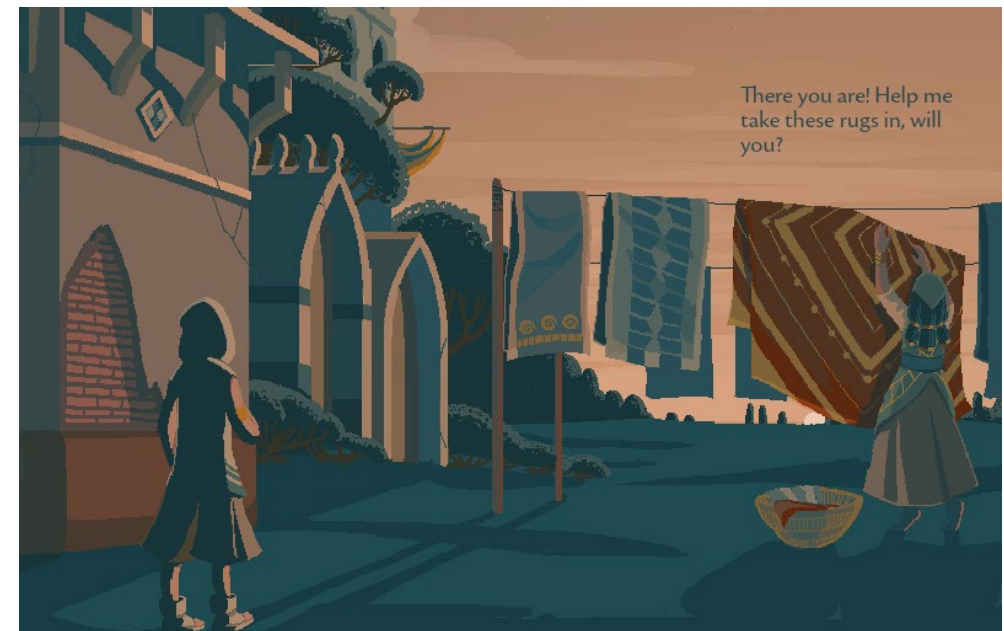
**Figure 17.**  
"A closed world" videogame  
homepage, from <http://gambit.mit.edu/loadgame/aclosedworld.php>

### A closed world, Gambit, 2011.

"A closed world" is a Learning interactive game that uses a linear story to explain queer issues, which is unusual in games. The reasons for this range from a perception of institutional homophobia in game culture to a genuine desire on the part of game designers to "get it right" and create games with compelling queer content, rather than feeling that the element is "tacked on" at the end.

The purpose of this study was to present the design team with the challenge of creating a game with compelling queer content and to observe the ideas and difficulties they considered and encountered along the way so that we could learn more about how to approach those challenges in other design contexts. The project left the game's ultimate message up to the creators; what was important to learn were the challenges the team faced while attempting to include queer content in the game and the strategies they used to tell the story they wanted to tell.

As a result, we have a game that asks us to think about what we consider "normal" and what it takes to live in the world while remaining true to ourselves.



17.

## Chapter 3

### Earth 2050, Kaspersky, 2021.

“Earth 2050” is an IDN that aims to educate people about the future of the planet by making predictions and allowing users to interact by making predictions themselves. It has two main pages that are organized differently.

On desktop computers, the Map loads by default, while smartphones and tablets see the less-demanding Feed. In the center of the screen, there is a Map–Feed toggle. The Map’s circles indicate locations where someone has left a prediction.

If the circle is white, the predictions about the location are only text; if the circle is yellow, the predictions include illustrations.

Many of the illustrations are 360-degree panoramas that, when rotated, reveal more details. They, too, have circles with predictions and additional images on them.

The upper left corner toggle allows you to travel through time to 2030, 2040, and 2050.

Users can use this feature to see how a specific location will change over time.

The Feed contains all of this as well, but it is organized slightly differently. It’s ideal for keeping up with the latest news or viewing predictions on a particular topic.

**Figure 18.**  
“Earth 2050” IDN project, from  
<https://www.trameetech.it/innovazione/earth-2050-futuro-visto-da-eugene-kaspersky/>



**18.**

### "Inequality is", Economic Policy Institute, 2013.

"Inequality is" is an interactive story with a linear plot that seeks to address the fact that income, wages, wealth, and opportunity in the United States have become increasingly unequal.

The "Inequality.is" website clarifies the national conversation about wage and income inequality by using interactive tools and videos to tell the story of how we got to this point of inequality and what can be done to change course and ensure workers get their fair share.

While the users are interacting with this Learning IDN, they will have a low decisional power during the different phases, and also the character used in this project are all static, they are stereotyped, but for the aim of the communication they are effective and the users will understand immediately what the Economic Policy Institute is telling them.

At the end of the interactions, the website will give the user a big picture of the economical situation in the United States and invite the users to reflect on the new point of view they have discovered.



19.

**Figure 20.**  
“Antura and the Letters” edu-  
cational videogame project,  
from <https://www.antura.org/it/>

### **Antura and the letters, TH Köln / Cologne Game Lab, 2018.**

“Antura and the Letters” is a fun interactive engaging game designed to help Arab children learn to read.

Originally, the game was created in response to the EduApp4Syria initiative, which aims to increase literacy among migrants displaced by conflict.

Antura teaches Modern Standard Arabic using a method known as “stealth learning,” with a focus on accessibility for the entire MENA region.

The game teaches skills like aiming and precision without feeling like a lesson. Each game was designed to put players in a “flow state,” which has been shown to improve learning and reduce anxiety. This state is obtained by perfectly balancing player skill and game difficulty. An independent analysis found that the game “engaged children regardless of literacy level, age, or gender.”

They discovered that the game can provide effective literacy learning opportunities to Syrian and other Arabic speaking children as a result of their involvement.



20.

# **Chapter 4**

## **Character Design for IDNs learning projects**

# Character Design for IDN learning projects

## 4.1. Introduction to Chapter 4

Analyzing the different case studies and knowing the core elements that are part of an IDN, we could recall the research question: In the design of an Interactive Digital Narrative Learning project, can be the Character Design one of the main elements in enhancing the audience engagement?"

As we already discussed in chapter 3.3.1, the method STAR focuses for his purpose on 5 important elements for designing effective interactive digital storytelling for learning purposes; and at the beginning, the users will be introduced to the story and the characters.

This part is very important because they start to empathize and understand the dynamic of the story they will follow.

The questions are: **Could this moment of introduction be the key to the learning purpose?**

And once the user has created a bond with his/her character, its growth through the story could be reflected on the user?

In this chapter, we will deal with the rules that a designer should apply in order to create a consistent character for his/her goal.

## 4.2. Key elements of Character Design

Character design is an important aspect of telling stories and evoking an **emotional response** in both stories and games.

Whether it's based on the visual look of the character or the emotional depth of the back story, the character we play and those we interact with help make the **game world believable to us.**

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### 4.2.1. How to become a Hero

Iconic characters are more than just well-drawn figures. They are given personalities and details that make them memorable and enable them to tell stories. The purpose of character design is to achieve this. We can see and understand its development and growth through this, which we could also map thanks to the **transformational arc**. Dara Marks greatly addresses the theme of the transformational arc in her book "Inside Story: The Power of Transformational arc".

As she points out, the basis for the internal development of character found in great stories is that the internal goal for a protagonist is always to become heroic.

This means that the protagonist will be challenged by the conflict in the plot to transcend personal limitations in order to become someone greater in the end than who he or she was when the story began. But the heroic outcome for the protagonist is not a foregone conclusion. There is always the possibility of failure, which brings about the tragic possibility of becoming diminished or destroyed entirely by the circumstances of the conflict.

As already explained in the chapter dedicated to Character-Based Storytelling, it's important to emphasize the protagonist, because it represents the central focus of our story, and is through it that the audience finds its way into the story, and starts to understand the point of view, the challenges and conflicts of the protagonist.

**The protagonist is distinguished from the other characters** because he or she is the focus of the external activities and because he or she is the focus of the internal quest. Therefore, the protagonist is the character who carries the external goal of the

plot and the internal goals in the subplots.

It is extremely important to distinguish the protagonist from the other characters because the story is formed around the protagonist's need to complete or at least encounter his or her transformational challenge. Always bear in mind that secondary characters, whether help or a hindrance, are there to serve the movement of the protagonist along this journey.

To make the audience empathize with the story, we should give them meaning, but first set the theme of the story.

An interesting example of giving meaning and building the theme is from the book "Inside Story" (Marks, 2007), and it is Dead Poets Society, which is a story about finding the courage to choose between living your life in all its pain and all its glory on your own creative, authentic terms, or withering into the inauthentic nothingness of obligation, respectability, and conformity. The theme "seize the day" is internalized in the characterization of the young students, who are challenged to discover and honor the calling of their own true nature. The theme is externalized in the movement of the plot by creating a conflict around which the boys will be forced to stand up for themselves against powerful forces that refuse to value their individuality. (Marks, 2007)

In order to create a story that expresses transformation, a need for that transformation must be established. It is within this context that we can best define the fatal flaw of character.

First, it's important to recap or highlight the fundamental premise on which the fatal flaw is based.

We must remember that **change is essential for growth**, it is a mandatory requirement for life. It can only be headed toward

## Chapter 4

decay and death if something isn't growing and developing. There is no condition of stasis in nature and so, nothing reaches a permanent position where neither growth nor diminishment is in play.

So, in the light of such premises and what we have understood from this recap, the fatal flaw is a struggle within a character to maintain a survival system long after it has outlived its usefulness. Defining the fatal flaw of a character greatly enhances the designer's understanding of what is driving a story, because is what will help the protagonist to grow and improve himself for a greater good, leading the user to learn also something that is meaningful.

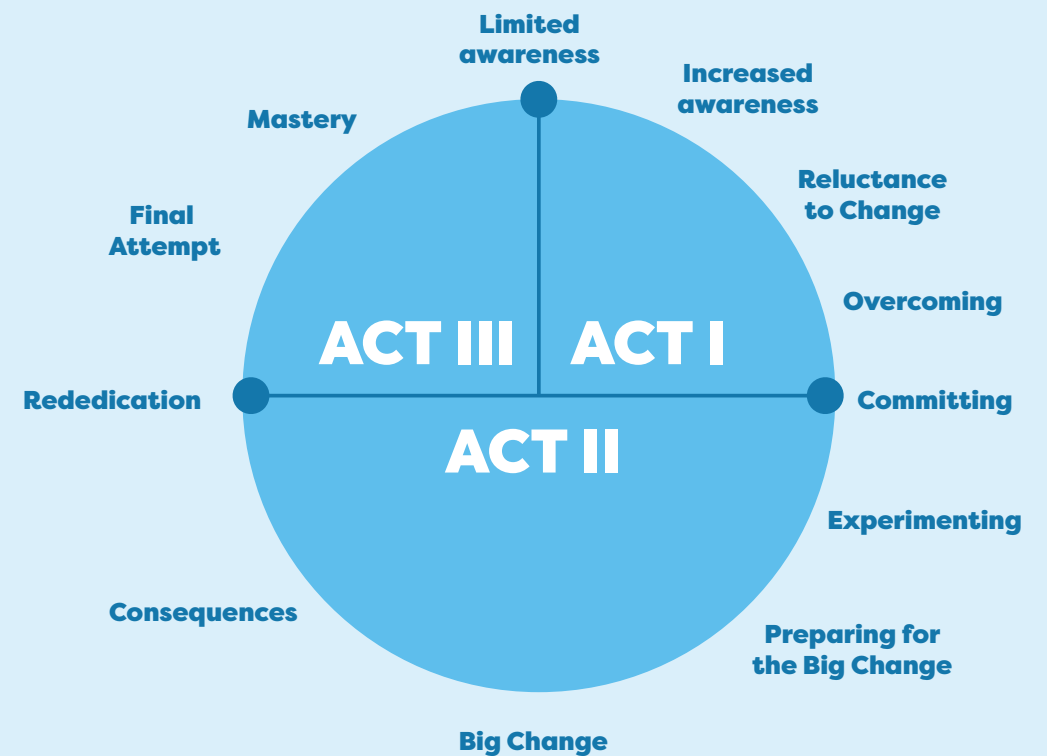
Another important aspect is creating a backstory that helps breathe life into characters by giving them a history before the story even begins.

By creating a backstory that gives a history to the fatal flaw, a writer is able to connect with the character's humanity.

These are the elements that drive the change that we can clearly see in the transformational arc.

After we have understood the Character design from the storytelling point of view, the following paragraph will address the design from the visual aspect.

**Figure 21.**  
*Transformational Arc by Dara Marks*





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### 4.2.2. From a visual point of view

The story is at the heart of all IDN, video games, animated television series, and films. Character is at the heart of all stories. According to character design, these characters should be interesting, aesthetically exciting, and memorable.

Artists in the visual arts and animation can design characters from the ground up. This enables them to make use of every facet of design to establish a distinct personality.

It is all about clarity when it comes to character design. This entails a captivating design and one that is distinct regardless of how we view the character. The three elements of good character design are as follows.

We can identify the key elements of Character Design from the visual point of view as **Silhouette, Color palette, Exaggeration.**

## Silhouette

A character silhouette is what remains after all colors and details have been removed. The contour of the character shape has been filled with solid color.

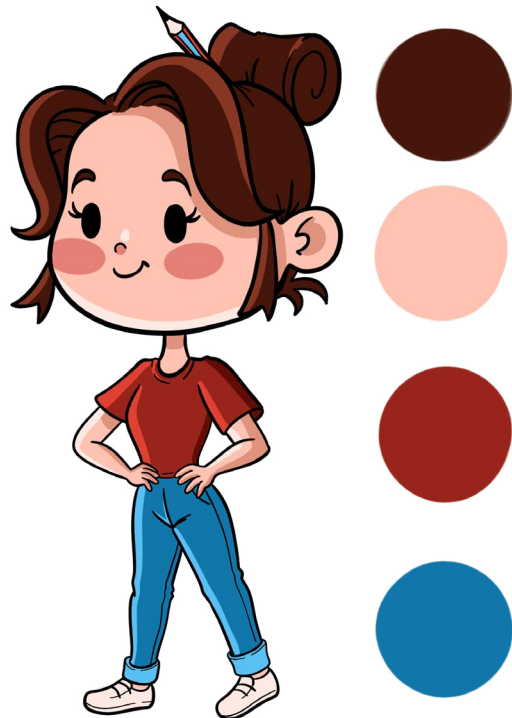
We can use a character's silhouette to identify them, which indicates effective character design. Most of the iconic characters created in history, are easily recognizable just by it. A silhouette of a character must be also very clean.



# Color Palette

The usage of color by a character designer is referred to as a palette.

It is important to make one color the primary color of a character and utilize additional colors to support that color as much as possible, this will help the user to recognize our character as well. Instead of competing with each other, we should use colors that complement each other.



# Exaggeration

Exaggeration is likely the most significant of the three main components of character design in terms of storytelling. Exaggeration is the deliberate use of specific features to provoke emotional and psychological responses from a character's audience. For example, exaggerated features might make the difference between a character art as heroic or scary by an audience.



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### 4.3. Characters' archetypes

There are 8 archetypes of character in the Hero's Journey, identified by Joseph Campbell in *The Hero of a Thousand Faces*, which demonstrated that many of the most popular stories, throughout history and across cultures, shared a specific formula.

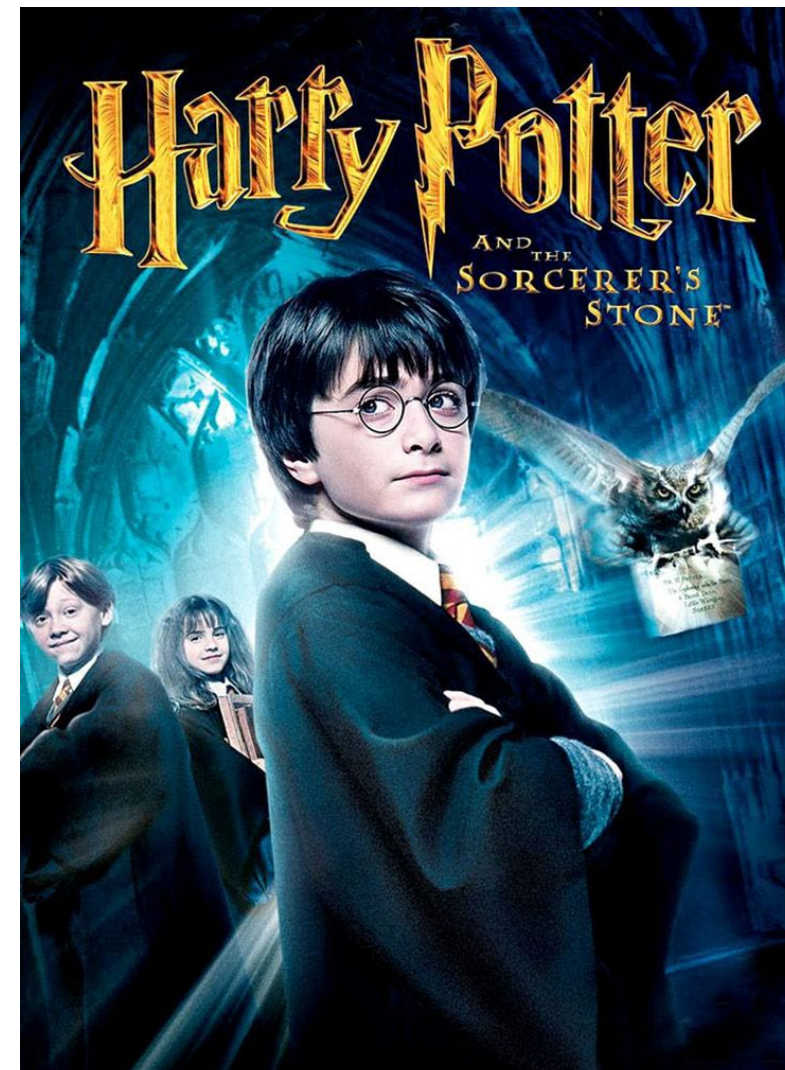
That formula is now commonly referred to as the hero's journey. The hero's journey has character archetypes that represent a repeating cast of characters. An archetype doesn't specify a character's age, race, or gender. In fact, it's best to avoid stereotyping by steering clear of the demographics people associate with them. What archetypes really do is tell us the role a character plays in the story. (Winkle, 2014)

The following classification of archetypes is referring to Vogler's one (Vogler, 1992).

He starts from the work of the anthropologist Joseph Campbell on archetypes and adapts them to the entertainment industry of Hollywood, his classification it's very significant, not just in the field of entertainment, but we can apply it in different projects and have a heterogeneous group of characters for our stories.

The following examples of archetypes would be related to the movie *"Harry potter and the philosopher's stone"*.

**Figure 22.**  
"Harry Pottern and the Sorcerer's Stone" movie poster from <https://harry-potter-compendium.fandom.com/>



22.

## Chapter 4

**Figure 23.**

Harry Potter in "Harry Potter and the Sorcerer's Stone" movie scene from <https://diplay.com/141478/10-harry-potter-and-the-philosophers-stone-behind-the-scenes-se>

### Hero

The hero or heroine is the traditional protagonist of the story with whom we are most familiar. They embody our most aspired values, putting higher duty and the welfare of others ahead of their own, even to the point of extreme self-sacrifice. The hero may gain much personal learning and growth in the transition, but achieving the story's goal may come at a terrible personal cost. Heroes can be willing or unwilling, intentional or unintentional, solitary or leaders, already recognized as heroes or begin as ordinary people.



23.

**Figure 24.**

Albus Silente in "Harry Potter and the Sorcerer's Stone" movie scene from <https://artasettima.it/2019/05/15/albus-silente-per-il-bene-superiore/>

### Mentor

The mentor assists the hero in some way, providing important skills and advice. They may appear at critical junctures to assist the hero in overcoming an obstacle, then vanish (perhaps to mentor another unknown hero). Mentors are typically elderly and wise. Although they may be younger, they are still likely to be older than the hero because they provide support with their superior knowledge and experience. Perhaps they were once a young hero themselves. Giving reminds us of the generosity to which we must strive. Receiving the gift may be viewed as a reward for bravery and self-sacrifice.



24.

## Chapter 4

**Figure 25.**

*Fluffy in "Harry Potter and the Sorcerer's Stone" movie scene from <https://in.pinterest.com/pin/114490015505659148/>*

# Threshold Guardian

The Threshold Guardian creates obstacles for the hero at key points in the story. To defeat the guardian, the hero must fight them, solve problems, give a gift, and so on. The Threshold Guardian is frequently neutral, neither supporting nor opposing the hero.

Although, they may also be allied with the antagonist or a potential ally.

Thresholds appear before the hero begins their journey, before they enter the final "lion's den," and at key scene changes. Crossing thresholds represent points of change and growth in the hero's character.



25.

**Figure 26.**

*Hagrid in "Harry Potter and the Sorcerer's Stone" movie scene from <https://eatesesei-rimastoconharry.com/author/anna-brus/page/10/>*

# Herald

The Herald announces important events verbally, informing us of information we are unaware of or emphasizing the significance of an event.

The herald, in particular, provides the information that propels the hero into action.

The herald does not have to be a professional announcer or even a person; a message on a scrap of paper or a radio broadcast can both serve to spark change.



26.

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**Figure 27.**

Severus Snape in "Harry Potter and the Sorcerer's Stone" movie scene from <https://eateseseirimastoconharry.com/>

### Shapeshifter

The Shapeshifter symbolizes uncertainty and change, reminding us that not everything is as it appears.

They could be a character who switches sides frequently or whose allegiance is uncertain.

They act to keep the hero (and us) on our toes, potentially catalyzing critical action.

A typical Shapeshifter is a person of the opposite sex who serves as the love interest and whose feelings fluctuate throughout the story. Other characters, such as Mentors, Guardians, and Tricksters, may also be shapeshifters.



27.

**Figure 28.**

Voldemort in "Harry Potter and the Sorcerer's Stone" movie scene from <https://medium.com/new-writers-welcome/script-change-classics-with-a-twist-64e-f36a3b64b>

### Shadow

The Shadow is the polar opposite of light and provides the story with the tension of anxiety and fear.

The Shadow frequently opposes the hero and is usually the primary antagonist. They may also be people who present obstacles along the way, but not in the capacity of a guardian.

The hero must fight the Shadow and overcome the obstacles they present.

As in Jung's Archetypes, the shadow represents the darker side of our own nature, and it is unsettling to recognize them as somehow related to ourselves.



28.

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**Figure 29.**  
Fred and George in "Harry  
Pottern and the Sorcerer's  
Stone" movie scene from  
[https://www.pinterest.it/  
pin/707698528936738169/](https://www.pinterest.it/pin/707698528936738169/)

# Trickster

In the story, the Trickster provides entertainment through wit, foolishness, or other means.

They can be wise, like Shakespeare's fool, or criminal in their deception.

They add to the suspense and keep us (and the hero) on our toes. The Trickster may remind us to laugh at ourselves and look for the humorous side of things. They also serve as a reminder not to be naive and to expect the unexpected.



29.

**Figure 30.**  
Ron and Hermione in "Harry  
Pottern and the Sorcerer's  
Stone" movie scens from  
[https://www.pinterest.it/  
pin/19632948345500111/](https://www.pinterest.it/pin/19632948345500111/)

# Ally

After all the heroes require a friend to lean on, someone to share the burden of the journey with, or someone to practice their growing skills with.

An Ally may serve as a Mentor or descend into the role of Shadow or Trickster.

Because of their complexities, Allies are an excellent tool for humanizing your Hero, relieving tension, and expanding on your story's themes through subplots. Through them, we can help our hero grow and learn something for our purposes.



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## Chapter 4

### 4.4. Classification of the characters

Once we have discovered the different archetypes of characters, we can recall their transformational arc, already anticipated in the previous paragraphs.

Through it, we can classify our characters by examining how they change (or don't change) throughout a story. This is one of the main differences that help us to make a specific distinction between them.

The following typology of classification helped me in the mapping of the case studies that I have collected in the research phases and also in the definition of a formula to designing them.

Each of these characters has specific characteristics that we could exploit and use in our projects in order to communicate better our messages.

We can identify 5 main groups that will be analyzed deeper in the following pages.

**Figure 31.**  
*The Adventures of Huckleberry Finn* from <https://the-artifice.com/the-adventures-of-huckleberry-finn-analysing-racial-context-reception/>

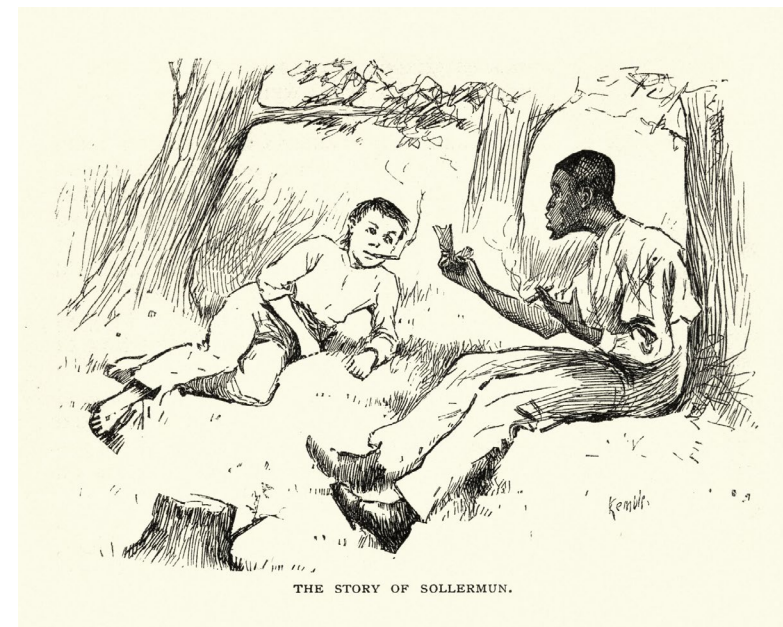
## Dynamic Characters

A dynamic character is one who changes throughout the story.

As a result, a dynamic character serves as the best protagonist.

Eventually, we can see this typology of Character change also visually due to the change that he is going through.

Some examples of these are Huck and Jim, that are both dynamic characters in Mark Twain's *The Adventures of Huckleberry Finn*.



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**Figure 32.**

*Anna Karenina*, Anna Karenina, from <https://medium.com/be-somebody/tolstoy-s-dilemma-67747c0207fd>

### Round Characters

A round character, like a dynamic character, is a major character who demonstrates the fluidity and the ability to change from the moment we meet them.

In contrast, some dynamic protagonists do not change until the story's events force them to. Round characters can be noble, as in *Anna Karenina*'s Konstantin Levin, or morally dubious, as in *Lolita*'s Humbert Humbert.



32.

**Figure 33.**

*Scar, The Lion King*, from [https://www.wikiwand.com/it/Scar\\_%28Il\\_Re\\_Leone%29](https://www.wikiwand.com/it/Scar_%28Il_Re_Leone%29)

### Static Characters

A static character does not change significantly throughout a story.

These characters, also known as flat characters, sometimes play tertiary roles in a narrative, such as various parental figures in children's books.

Their visual aspects also do not change along with the story due to their static nature.

Many villains are static as well: they were evil yesterday, will be evil today, and will be evil tomorrow, an example could be Scar from *The Lion King*.



33.

## Chapter 4

**Figure 34.**

Sir Toby, *Twelfth Night*, from <https://theartsdesk.com/theatre/twelfth-night-liverpool-everyman-0>

**Figure 35.**

Boo Radley, *To Kill a Mockingbird*, from [https://tokillamockingbird.fandom.com/wiki/Boo\\_Radley](https://tokillamockingbird.fandom.com/wiki/Boo_Radley)

# Stock Characters

A stock character is a stereotype with a fixed set of personality traits.

Shakespeare's various fools, as well as some of his comic creations like Sir Andrew and Sir Toby in *Twelfth Night*, are stock characters.

# Symbolic Characters

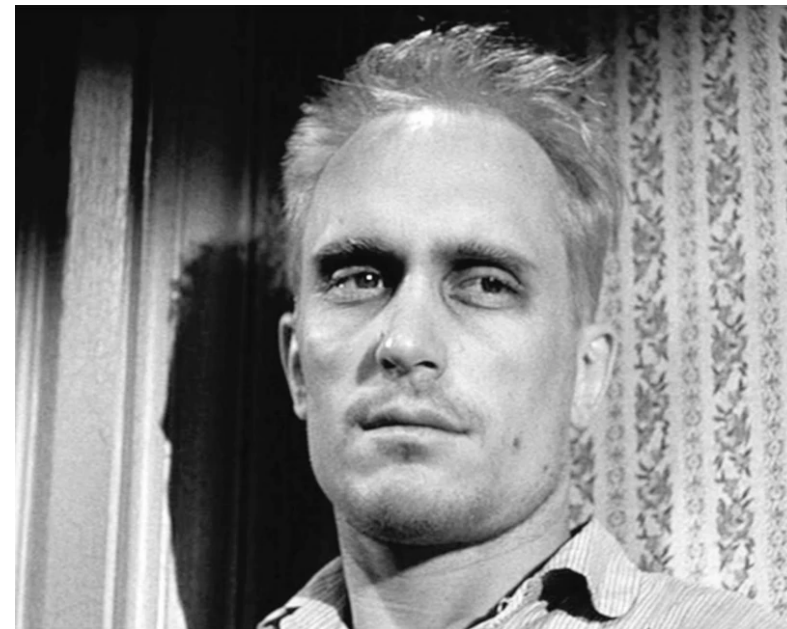
A symbolic character represents a larger concept or theme than they are.

They may be dynamic, but they also exist to subtly guide an audience's mind toward broader concepts. Most are secondary characters, but some stories, such as Dostoevsky's *The Idiot*, have symbolic protagonists.

Boo Radley in *To Kill a Mockingbird* is an example of a symbolic supporting character, representing a much larger legion of outcasts. (Writing 101, n.d.)



34.



35.

### 4.5. Discovering a new point of view

From the first analysis of the case studies, following the rules and the classifications identified from the literature review, there was discovered an interesting insight regarding the designing aspects of the characters for Interactive Digital Narratives.

As already mentioned, one classification obtained from the matrix and based on their development and growth is **dynamic versus static characters**.

Going deeper into these kinds of classifications, we can describe the dynamic one as a character that goes through a significant change throughout the story.

This change marks their role as dynamic characters because we can clearly see, in their transformational arc how and what makes them change in a specific part of it, which is called **Preparing for the big Change**.

So we, as designers, can leverage and use it as a way to communicate the value that we want to share with the users.

Sometimes, we can see them change meaningfully also from a visual point of view, which helps the user to immediately understand that something is different in them.

The peculiarity of this kind of character is that they give us significant results in terms of growth in the users that are interacting with them. In fact, speaking about this aspect, the user could perceive **growth from a personal or emotional point of view**.

This happens because the user, while interacting with the dynamic character, follows its struggles and challenges; creating a process of identification with it and giving the possibility to create a bond between them.

On the other hand, the static character even though is completely

different, could help us in our educational purpose.

Their static nature is translated into a linear path, without any significant change throughout their transformational arc. This typology of characters stays true and faithful to their values and carries them along with the development of the story. Also, there are not any changes in their visual aspects.

The fact that they represent a certain kind of value during all the experience, it's something that we can use for the communication of our final purpose.

In the case of the static characters, in fact, we still have growth from the user perspective but it's very different from the dynamic ones.

The results that we can obtain by using them are **intellectual and moral growth** because the message or the concept that we want to share is deeply encapsulated in them, obtaining learning and educational results.

These two concepts will be explained in the following examples, where will be described the aim behind the projects and the characteristic of their characters.

**Figure 36.**

*Differences between Dynamic VS Static Characters through two different case studies, one related to emotional values and the other one related to intellectual values.*

## Dynamic character



Nomada Studio

### Gris

The game is obviously about grief and loss. The player character is a young girl named Gris. As she explores her world (as a metaphor for processing her grief), it becomes more colorful, and Gris moves with greater speed and grace.

The type of value that this game addresses through its dynamic character is related to the emotional sphere.

## Static character



Video Games Without Borders

### Antura and the letters

The game aims to teach a new language to children. The protagonist of this game will help the users through their learning process, giving them advice and guidelines.

This character will not change during the story. The type of value that this game addresses through its static character is related to the intellectual sphere.

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However, we have to take into account one aspect.

Communication is the main focus and this obviously will affect the design choices of characters within the story.

For example, in *Rainy day* and *Another day of depression in Kowloon*, we have an exception, in fact, despite what they want to communicate as a personal and emotional value, the characters used are both static and do not undergo significant changes during the story.

These characters were designed in this way because what they want to convey has much more weight and allows the user to better understand the protagonists of the stories if they remain static, as they are fighting against depression.

This aspect will be tested and explained further in the following chapter regarding the project *Quondam: Beyond the Folkways*, which will be implemented and modified by paying attention to these rules.

**Figure 37.**  
*Another day of depression in Kowloon, IDN project*  
**Figure 38.**  
*Rainy day, IDN project*



37.



38.

# **Chapter 5**

## **Quondam: the project & redesign**

*First part*

# Quondam: the project & redesign

## 5.1. An IDN learning project

All the intuitions and the insights discovered during this research journey will be applied to a specific Learning Interactive Digital Narrative project, that is *Quondam: Beyond the folkways*, designed during the course *Complex Artifacts and System Design Studio A.A. 2020-2021*, held by Mariana Ciancia and Ilaria Mariani. The chapter will start with its highlights: the story, and its main elements to its integration into the various media used.

After having explained *Quondam: Beyond the folkways* in its complexity, the last part of this chapter will focus on the redesign of the characters, based on the rules and framework designed before, and to conclude, it will be tested with the target user and there will be the analysis of the results.

**Figure 39.**  
*Quondam: beyond the folkways' prototype*



\*Giulia Colombo, Daphne Degiorgis, Sandra Di Leo, Federico Lucifora, Andrea E. Tremari

**Figure 40.**  
Francois Jullien, from [https://it.wikipedia.org/wiki/Fran%C3%A7ois\\_Jullien](https://it.wikipedia.org/wiki/Fran%C3%A7ois_Jullien)

### 5.1.1. The contest and the values

During the course *Complex Artifacts and System Design Studio*, held by Mariana Ciancia and Ilaria Mariani, I had the chance to design, with other teammates\*, my first Interactive Digital Narrative project.

Starting from the SDG 11.4, the project focuses on ICH (“Intangible Cultural Heritage”), made up of traditions, dialects, legends, and myths. All these are rooted and deeply constitutive of the human being and his identity, allowing culture to become an instrument of social cohesion.

These practices protect the particularity of each culture in the global context of globalization, ensuring that diversity is a value to be respected and understood.

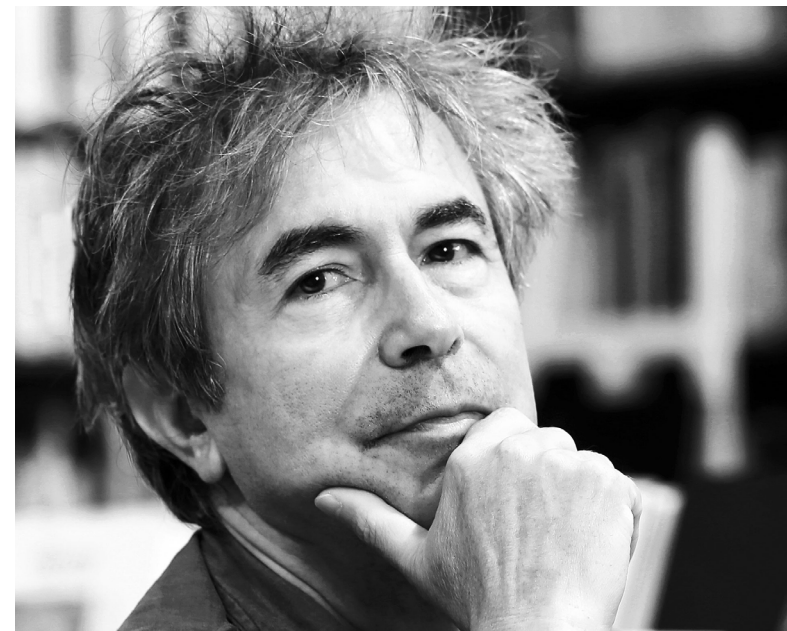
Having analyzed different scenarios in the current context of globalization, the next step was to try to identify a way to preserve the peculiarities of each culture while allowing them to evolve sustainably.

Inspired by Francois Jullien’s philosophy, the focus was to define a set of values to tackle the topic and finally identified hybridization between cultures as the best attitude to allow for a sustainable transmission of cultural heritage.

In particular, the central goal addressed by the project would be to inspire the chosen target to interface with others in an interior space which we call “Tra”, to build a space of cultural exchange.

The main values include:

- Culture as an **instrument of social cohesion**
- Culture to **build individual identity**
- **Diversity** as a value to be respected
- **Hybridization** to let culture evolve



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## Chapter 5

### 5.1.2. The target

The chosen target includes **12 to 14 years old** because they are suitable for the genre of the game and the situations that they will face while discovering the story.

The target can experience life dealing with the following topics: **Friendship, Encounters with the different cultures, Curiosity to discover** new things, **Rebellion**, and the **Management of the relationship** with family members and the imposed rules.

This specific target audience was also chosen because they will be the future citizens of the world, and it is crucial that they understand the importance of intangible culture, how it should be preserved and that knowledge of what is different should not be seen as something bad but rather as something to learn about.

### 5.1.3. The process

The process we followed was the original design methodology created by the professors Mariana Ciancia and Ilaria Mariani, specifically designed for the creation of IDNs, based on character-driven stories (Mariani, Ciancia, 2019), this process helped us to design every facet of the project and communicate the importance of intangible culture has. Starting from the SDG, there was a phase of desk research, and there was defined the target and objectives, designed a project, made a rudimentary prototype, tested it, and finally implemented the definitive version based on the insights gained in the playtest.

Quondam was born as a transmedia project in which digital elements (videos, 3D environments, web pages, playlists) are integrated with physical ones (book, various objects) in order to build a cohesive and interactive narrative.

The story starts from the book, the primary medium, and guides the reader in the exploration of an adventure that shifts through the different channels keeping a high level of challenge and curiosity. The characters involved in the narrative will learn how to get out of their comfort zone (their villages that embody a specific tradition) and to meet the different, getting enriched by this confrontation. This project, due to its different levels of interpretation and approaches, can educate pre-adolescents to enhance their cultural heritage through knowledge and openness to the alterity.

## Chapter 5

**Figure 41.**  
Quondam: Beyond the  
folkways project



41.

**Figure 42.**  
Quondam: Beyond the  
folkways project



42.

## Chapter 5

### 5.1.4. The story

The story begins in the lowest village of Quondam, Mordax, when a young boy named Efrén (Hero) finds a mysterious object. After having shown it to his grandfather Ancho, he discovers the greatest secret of his life, the existence of unknown villages on the island, as well as that of a mysterious community where people live in peace and harmony, the Tra.

Efrén sets off to discover these villages against his grandfather's wishes. Along the way, he gets to know other villagers who join the adventure and discovers their unknown cultures.

In fact, during the quest for Tra, the group experiences contami-



43.

**Figure 43.**  
*Mordax's Village, illustration*

**Figure 44.**  
*Ancho reveal the truth to Efrén, illustration*



44.

nation and collaboration, living a physical and an inner journey. Having reached the highest village, Vitrus, the characters work together to set off on a hot air balloon and finally reach the Tra.

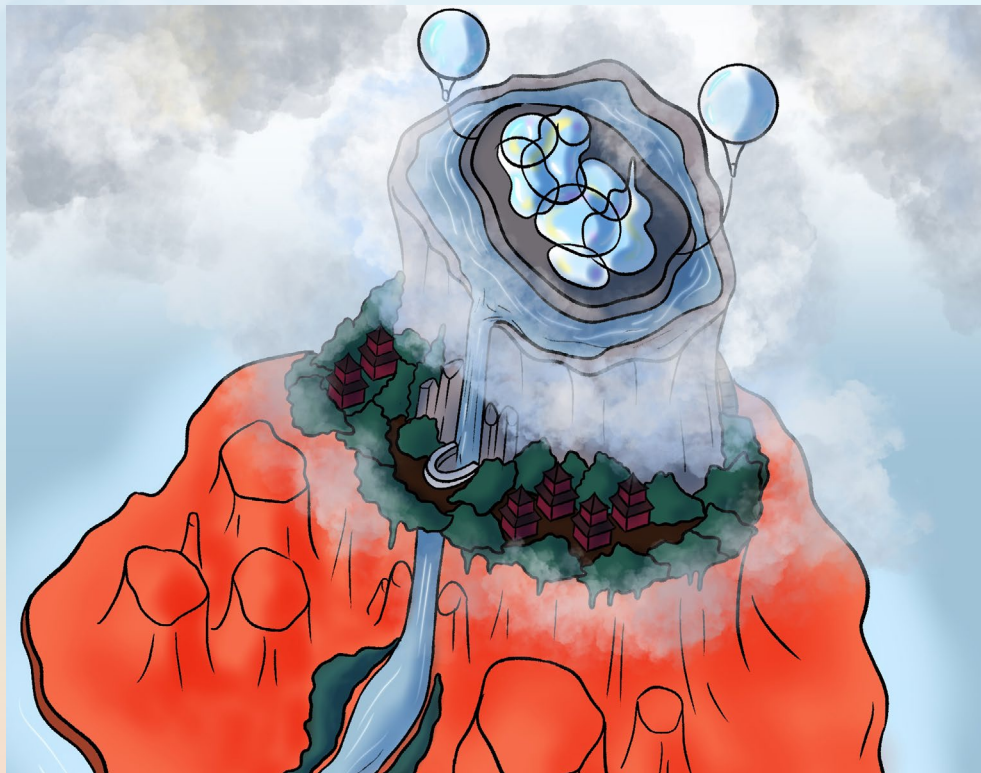
Once there, they find something they were not expecting - a complete standardization that led them to lose their cultural characteristics - and finally, understand the real value of their journey.

In fact, what makes Quondam a journey of awareness is the fact that the key element leading to growth is the encounter with the different cultures that populate the story world.

A symbol for this is that the journey moves across the course of the great waterfall, starting from the bottom of the story world and aiming to reach its higher level. The characters follow the vertical development of Quondam, a metaphor for growth, improvement, and enrichment, which only manages to happen through hybridization.

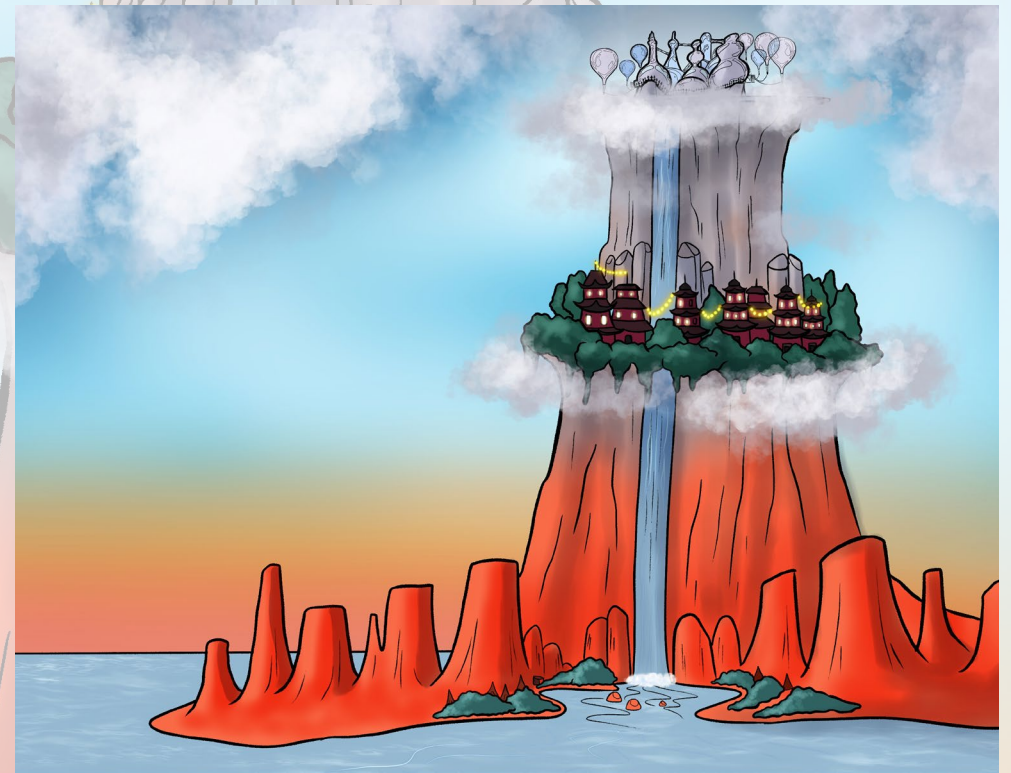
# Chapter 5

**Figure 45.**  
Quondam's island,  
illustration



45.

**Figure 46.**  
Quondam's island,  
illustration



46.

**Figure 47.**  
Quondam's character  
lineup, illustration

## 5.1.5. The characters

In the story, we can find several characters that will lead the young users on the journey in the world of Quondam and awareness. The main characters are six, and they come from different villages that compose the story world.

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## Chapter 5

**Figure 48.**  
Efrén, Character's Rotation,  
Illustration

**Figure 49.**  
Efrén is preparing for the journey,  
Illustration

Starting from Mordax, the village that protects the tradition of cultivating hot peppers and their processing, we can find the hero Efrén, a young 17 boy whose have a great sense of discovery, unusual for a place attached to tradition as his village. Thanks to his personality and the new friends that he'll meet, he will succeed in changing the mind of his old grandfather Ancho, the second main character that comes from Mordax.

48.



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## Chapter 5

**Figure 50.**  
*Ancho, Character's Rotation,  
Illustration*  
**Figure 51.**  
*Ancho's cultivation, Illustration*

Ancho is the herald of the story, and also the oldest mordaxian in Quondam, he is very attached to the traditions of his village, and he has a very turbulent personality. Ancho carried for his entire life a secret regarding the other villages of Quondam and kept asking himself if the other cultures are as dangerous as his parents told him after the war.



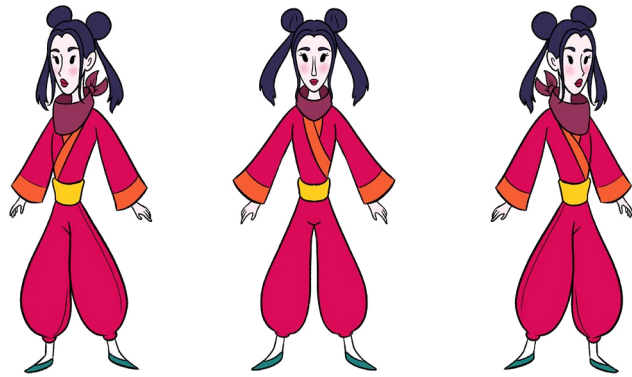
## Chapter 5

**Figure 52.**  
*Yagon, Character's Rotation,  
Illustration*  
**Figure 53.**  
*Shasha, Character's Rotation,  
Illustration*

As already mentioned, Efrén will meet new friends along his journey through the island of Quondam. The other two characters come from the village of Dracòrea and will be allies of the protagonist, Yagon and Shasha.

They are sisters, and they come from a very ancient family of Dragon Dancers. The oldest sister Yagon has always been taught to

52.



53.



**Figure 54.**  
*Yagon and Shasha are training,  
Illustration*

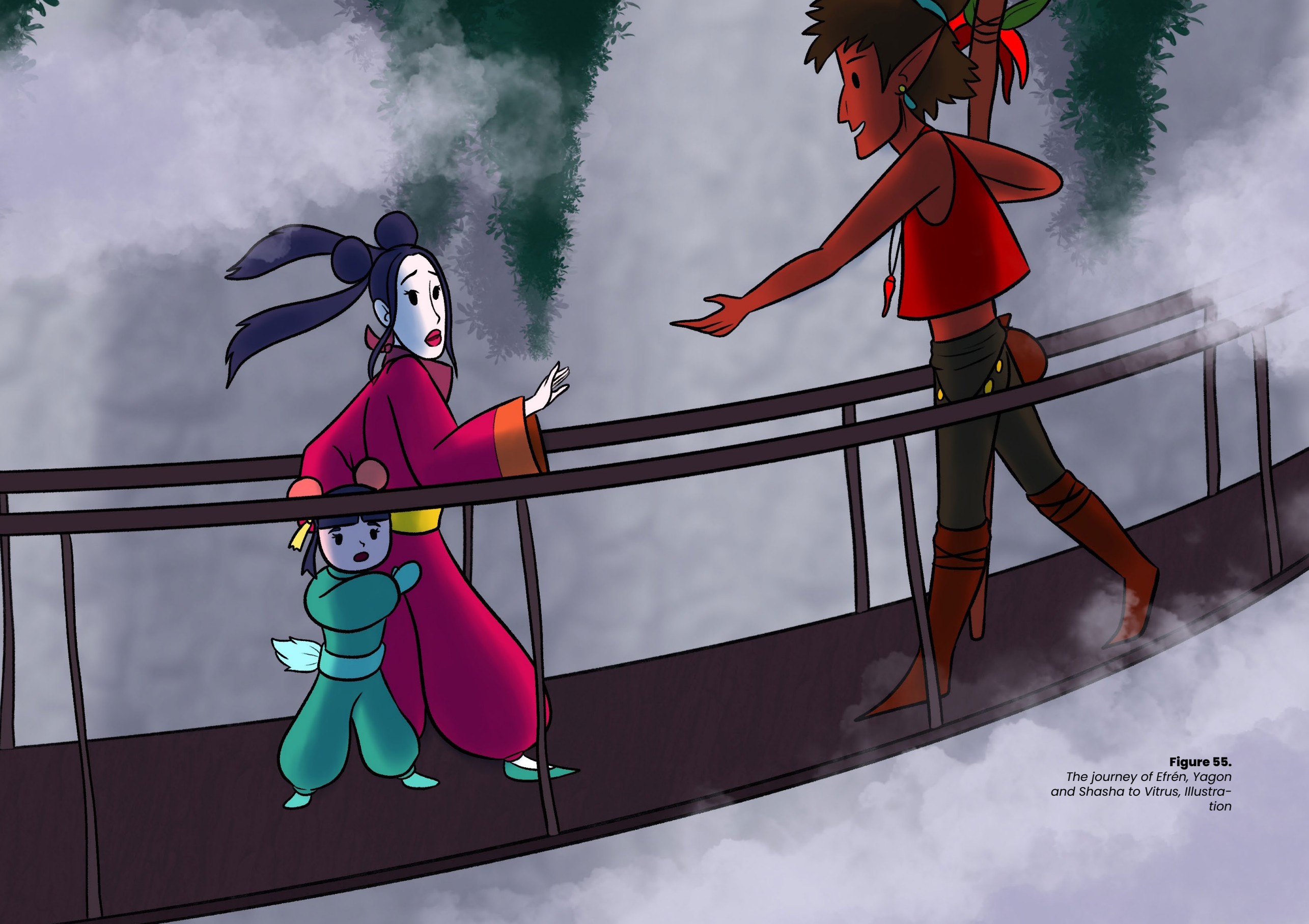
be courageous and honor the village's tradition. In fact, for her entire life, she has followed what has been written for her, but the new adventure that she will live will take her out of her comfort zone.

On the contrary, the little sister Shasha is a child that can hardly keep up with the strictness to which her family is accustomed; in the story to demonstrate her true value, she will start following Efrén on his journey, making also Yagon follow her.



54.





**Figure 55.**  
*The journey of Efrén, Yagon  
and Shasha to Vitrus, Illustration*

## Chapter 5

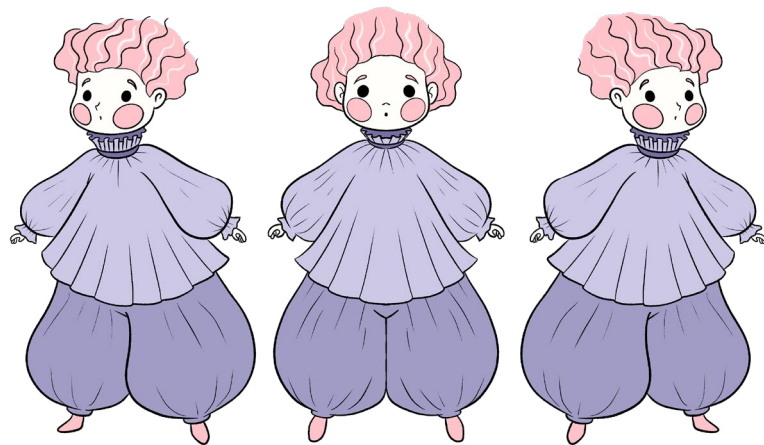
**Figure 56.**  
*Eos, Character's Rotation,*  
*Illustration*

**Figure 57.**  
*Eos reflecting about his life,*  
*Illustration*

Thanks to her clumsiness, Shasha will also find the last ally of the story, Eos.

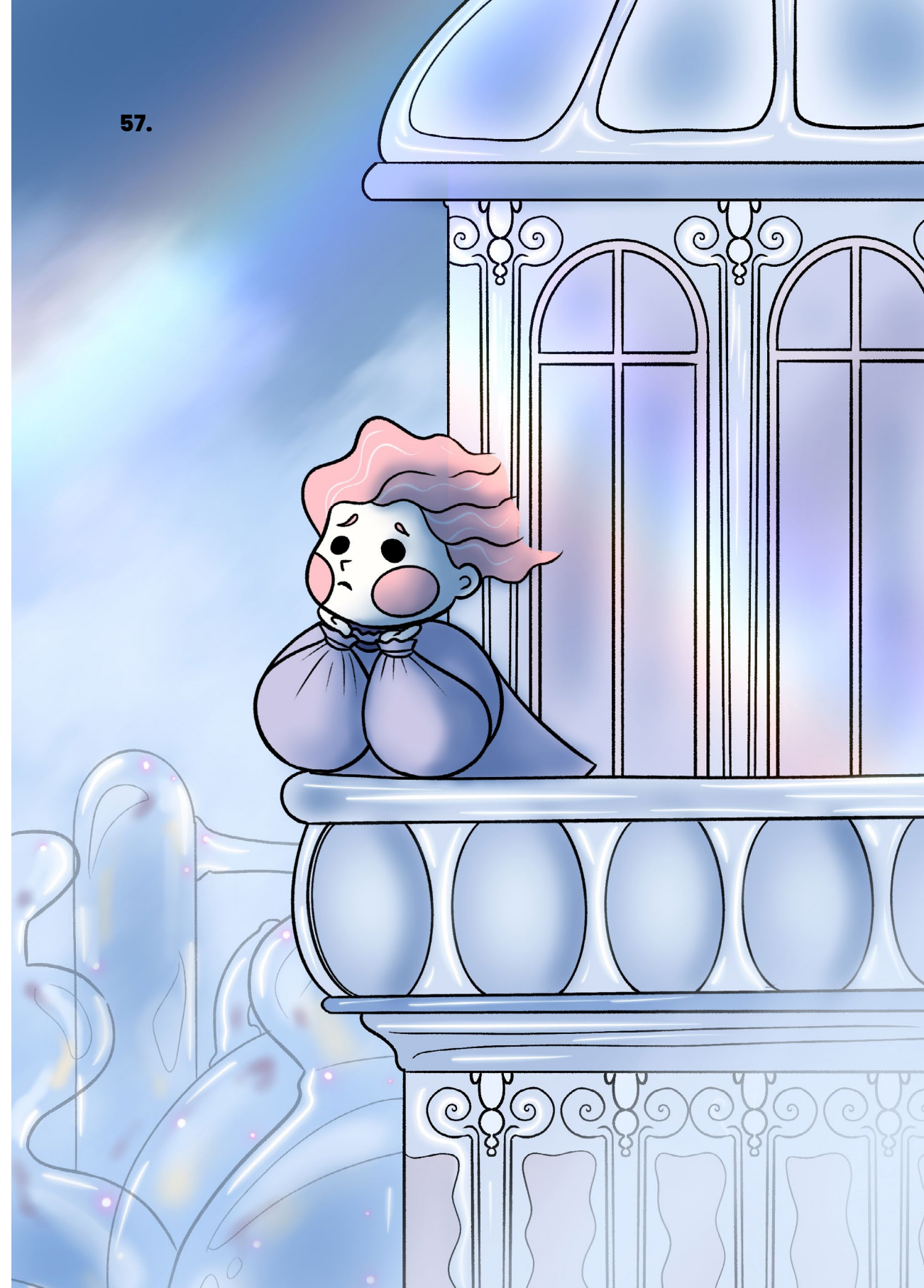
He comes from the higher village of Quondam, Vitrus and here the inhabitants dedicate their lives to the noble art of glassblowing.

Eos is a very warm-hearted temper that leads him to communicate with every person he meets sincerely and genuinely. Eos will follow the group on this amazing and surprising journey to develop emotional independence.



56.

57.



## Chapter 5

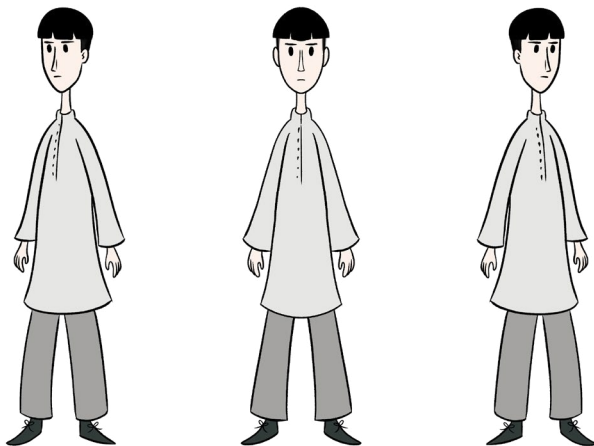
**Figure 58.**  
*Dimidio, Character's Rotation,*  
*Illustration*  
**Figure 59.**  
*Dimidio in his room,*  
*Illustration*

Once the group is completed, Efrèn and his friends will join their skills and peculiarity and they will meet the last character, Dimidio, the shadow of the story.

Dimidio lives in the legendary world of Tra, which is hidden in the clouds. There are no traditions of any kind in this village, and they also refuse everyone different from them.

Dimidio has been taught that to live a happy life, there must be peace, and the removal of differences with others is the key to reaching this goal.

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## Chapter 5

There are also three secondary characters, that help or simply interact with the main ones of the story.

We can find Pasilla in the first chapter of the story, she is the wife of the most stubborn mordaxian, Ancho; and so, also the grandmother of Efrén. She is known for her goodness of heart and her kindness.

The other two secondary characters come from Dracòrea.

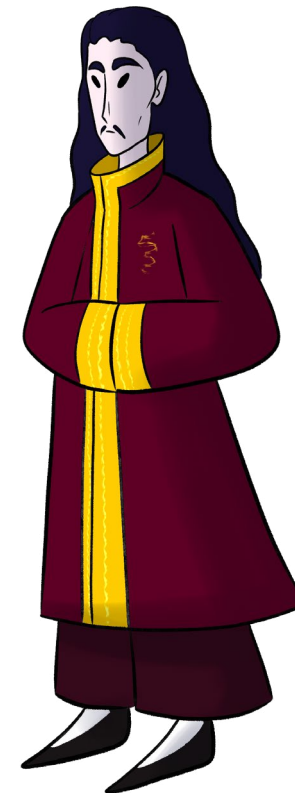
They are the grandmother of Yagon and Shasha, Mei ling, who is very apprehensive and kind, and want only the best for her granddaughters; and the father of the girls, Hiroki, the greatest dragon dance master, very strict and rigid since the death of his beloved wife.

**Figure 60.**  
*Pasilla, Illustration*



60.

**Figure 61.**  
*Hiroki, Illustration*  
**Figure 62.**  
*Mei ling, Illustration*



61.



62.

## Chapter 5

**Figure 63.**  
*The final reunion in Mordax,  
Illustration*

The design of the characters was a very important aspect of the project, not just because they needed to reflect on their peculiarities and the villages where they come from, but most importantly, through their personality and their skills, they had to make the users reflect on them and create an empathic and affective bond.

By creating such a strong bond, young users can better follow the characters' journey in the story and understand a new point of view.

Since the target is young and knows how to use different media, there was decided to let the users discover the story, the characters, and the aim of the project through multiple channels, that are both digital and physical, and that will be described further in the following section.



### 5.1.6. The media structure and interaction

The user will be able to interact for the first time with the project in two alternative ways, one digital with the landing page and one physical in the bookshop. Once he has obtained the box and opened it, he will find himself in front of a QR which, once scanned, will take them to a game in which they can discover which character they are most like, in order to help him to create the first bond with one of the characters. After completing the test, he will be given all the instructions to start. He will be instructed to rely on the book, which will lead him to discover Quondam through different physical and digital media.

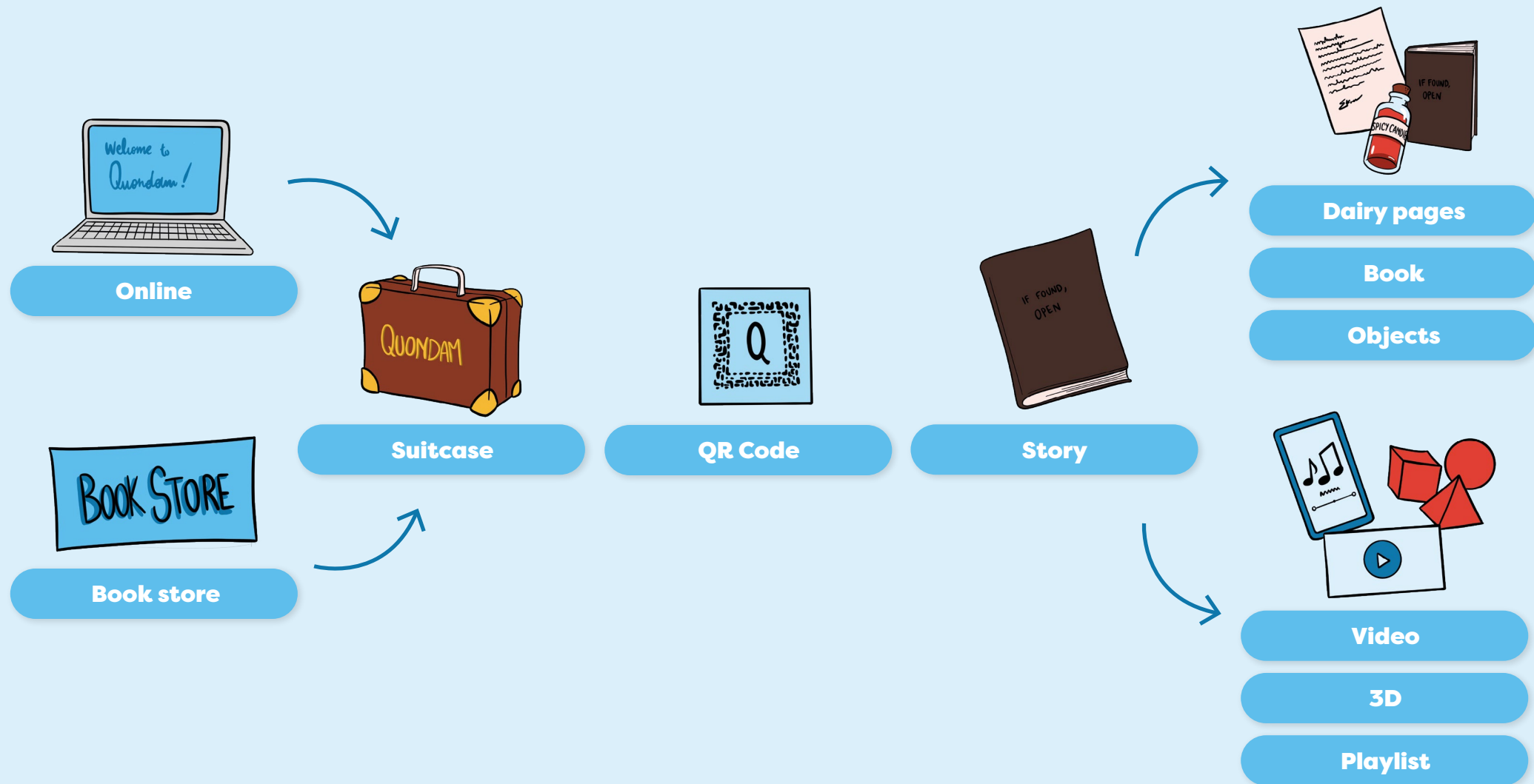
Here we can find various types of instructions. In some cases, we will be guided through QR codes to digital content, in others we will be suggested to interact with the physical elements contained within the box. In both cases, the interactions are integrated within the narration: inside the book, some pages will explicitly communicate to the user what to do. The use of the contents will momentarily be transferred to the suggested media, to then return to the book again. If the interaction moves to digital, the user will be taken to web pages where he can find various kinds of content. On the one hand, we have some videos created with the 2d animation techniques, on the other a series of three-dimensional environments that the user can explore.

Finally, the last type of digital content is a series of music playlists that the user can listen to immerse themselves in the story. If, on the other hand, the user interaction is brought to physical artifacts, these are divided into two types. First, we have a series of objects from the villages that allow the user to better appreciate their culture. We then have a series of journal pages that are used

to show the perspective of different characters in the story on an event. In this last case, there will be blank pages in the book in which it will be written that this is the place for a diary page. In this way, the pages of the diary will complete the “puzzle” of the narrative, fitting into the book.

In order to validate all the experiences and the interaction through the multiple media, there was decided to conduct a test, a focus group with other experts, that gave interesting insight and that will be explained deeply in the next paragraph.

**Figure 64.**  
Map of the interactions  
of Quondam: Beyond the  
folkways project



**Figure 65.**  
*Playtesting with experts,  
briefing*

## 5.2. Playtesting with experts

The user test carried out in class was an important opportunity because it was the one that allowed us to develop our project and discover gaps that had not emerged until then. We carried out this investigation following a precise protocol and organized it by section.

We had the chance to test 6 expert users for one hour. They were 6 girls that also were attending the course *Complex Artifacts and System Design Studio*.

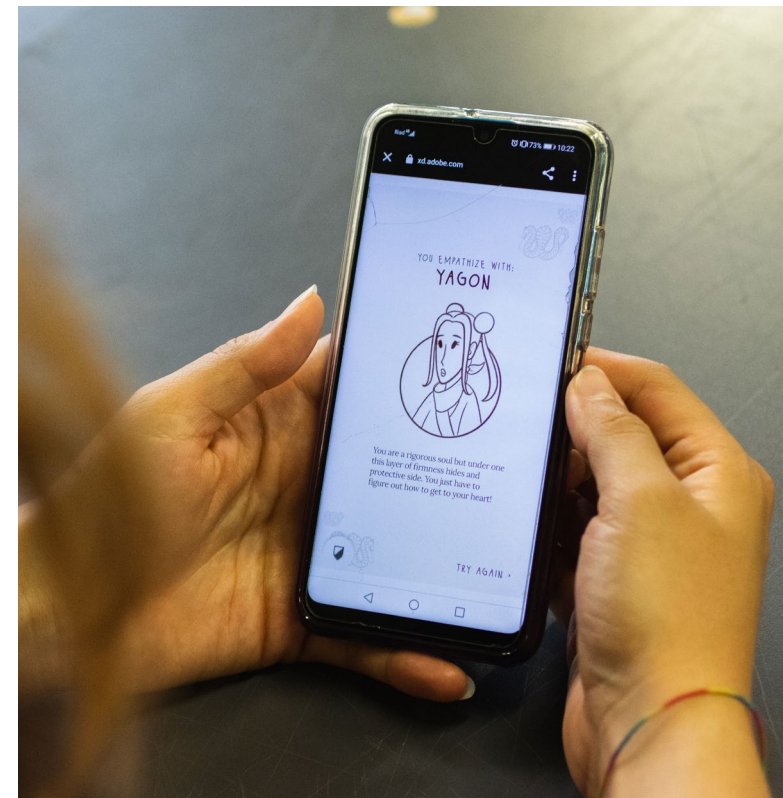
So, we started with a warmup, which allowed us to introduce our characters and the context. The warmup game was prototyped in XD and through a series of choices, each user will arrive at a character to whom he or she will be kindred.



65.

**Figure 66.**  
*Playtesting with experts, Find  
your character minigame*

Once the concept was introduced, we decided to apply the shadowing technique, as it was extremely important for us to understand how the users interacted and how they approached the box and the objects inside. The users were very intrigued by the many objects inside and we noticed how involved they were in the activity of discovering all the “secrets” of the box.



66.



## Chapter 5

**Figure 67.**  
*Playtesting with experts,  
Introducing the concept*

In this phase, we decided to give as little help as possible during the interaction and to collect photos and videos to understand as much as possible users' points of view.

All the participants were very enthusiastic to interact with all the objects and while they were discovering all the different aspects of the project they gave us interesting feedback.

In the next phase, we proposed a short survey on Google Forms that could summarize what the users experienced.

The survey touched on all the different areas with that users had interacted.

Once these last quantitative data were collected, we let the users freely express their thoughts about the project and everything they had experienced, collecting many positive comments.

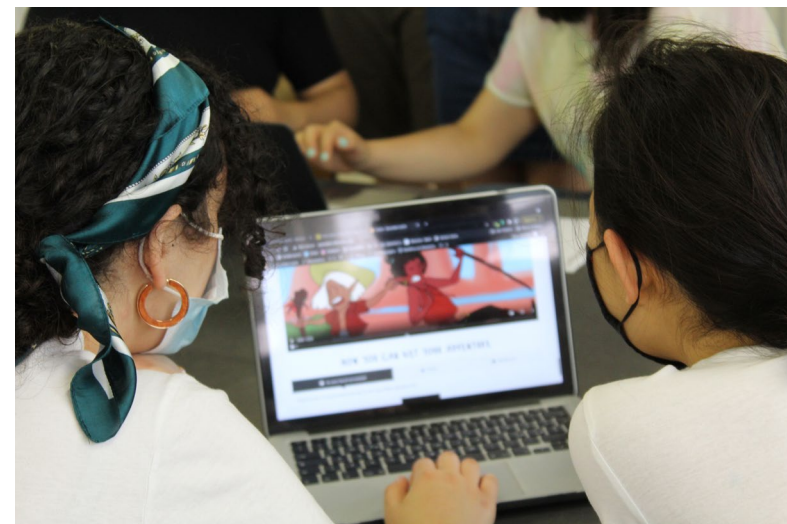
67.



**Figure 68.**  
*Playtesting with experts,  
Interaction with the objects*  
**Figure 69.**  
*Playtesting with experts,  
Interaction with the digital  
media*



68.



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**Figure 70.**  
*Playtesting with experts,  
collecting feedbacks from the  
experts*

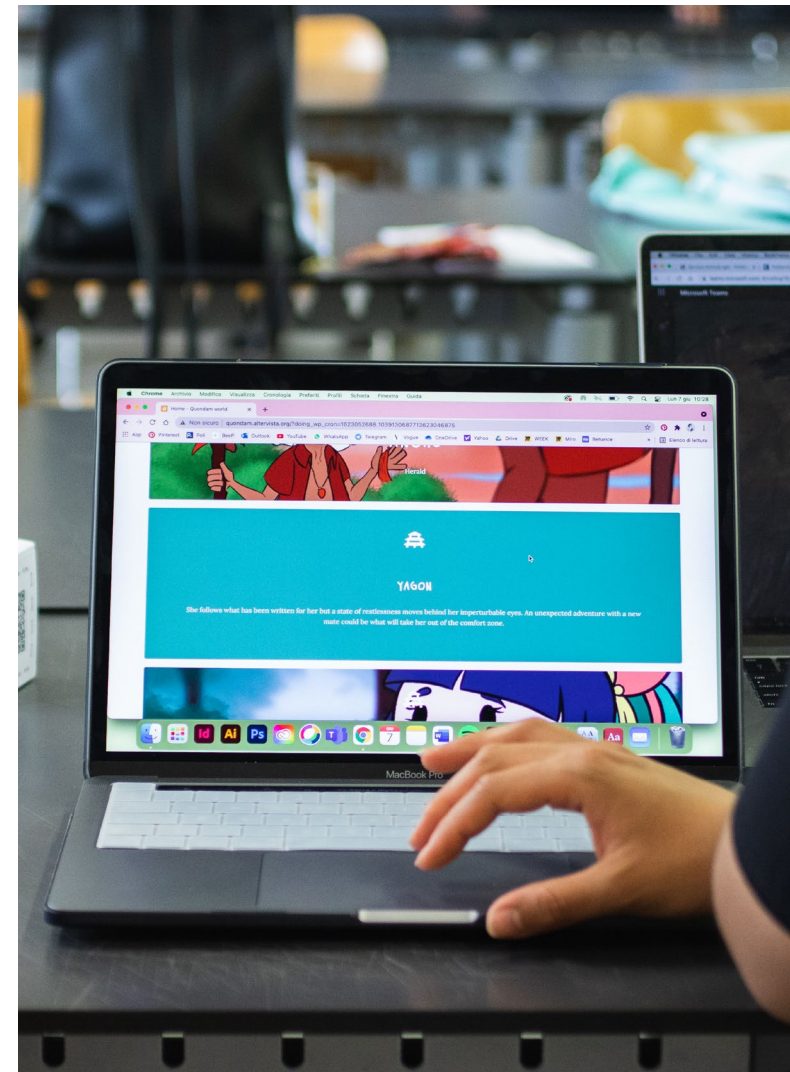
**Figure 71.**  
*Playtesting with experts, The  
objects of Quondam: beyond  
the folkways*

**Figure 72.**  
*Playtesting with experts,  
Interaction with the landing  
page of Quondam: beyond  
the folkways*

70.



71.



72.

### 5.2.1. Results and implemantions

The feedbacks obtained were various and positive, and they addressed different parts of the project. The first important result was that after all the experience they captured the topic addressed and the intention behind the project.

All the participants in the test have expressed their approval of the experience made. However, advising to better communicate the flow to follow, because the numerous elements with which to interact can make the users feel confused, and as they also express in the survey, they sometimes felt not confident about the interaction and ask the team for help. Nevertheless, all the elements, both digital and physical, were considered very useful for the understanding of the story, in fact, has emerged from the questionnaire carried out afterward, 6 out of 7 people considered the action taken through the elements useful to understand the topic of the project and its purpose.

The part that was deemed less clear of the project was the landing page, due to some bugs in the system, which were easily solved after a few adjustments, nonetheless, they point out in the survey that all the needed elements to access the project and the dynamics of it were present on the website.

They find it easy to access the different digital content, such as animations and 3D environment, declaring also that they add a great value to the entire project, and moreover the letters written by the characters, where they tell the story from their point of view were considered a great contribution.

Thanks to the letters and also the information given on the landing page, the users were able to understand where the character belongs and the tradition linked to them, as also the result

of the survey points out.

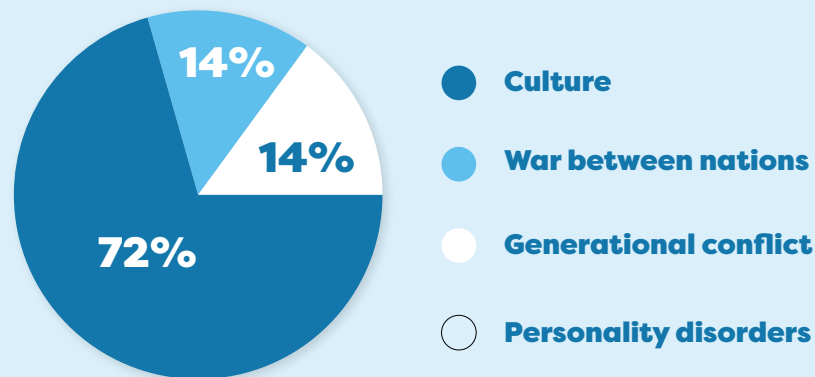
The most appreciated activity during the playtest was the one performed during the Warm-up. In fact, as mentioned earlier, in order to introduce and allow users to get to know the characters, a small mini-game for smartphones was created, which would allow the players to find out which one they were most affinity with, creating the first connection with it and eventually wearing the pin of their character.

In this phase, very important clues were collected, resulting into improving the project, in fact, there was decided to include it in the flow of the project as the first task to do, but most importantly, it also allowed me to be able to make the first reasoning at the base of this thesis.

**The results obtained were implemented in the final project**, resulting in an improved experience that pays more attention to the flow that the target has to follow while guiding them through the story with specific instructions regarding how to proceed into the journey. But the users will not be alone, in fact, thanks to the character game they will always feel like they have a companion during all the adventure.

**Figure 73.**  
Some of the questionnaire's  
results on Google Form, Data  
visualization

**What is the main theme of this project?**



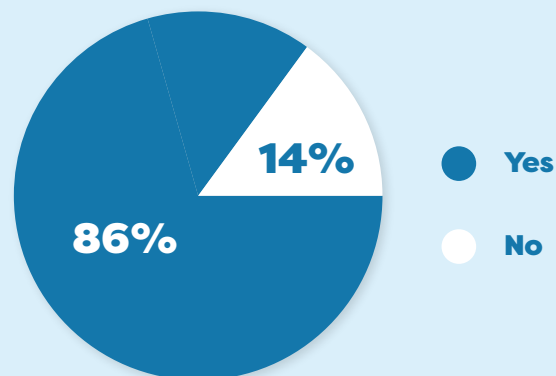
**6/6 USERS**

declared that



**3D environments** and **animation** were useful for the understanding of the story and increased the value of the project

**Did you find the actions taken significant to your understanding of the story?**



**Did you have hard time figuring out how to interact with the whole project?**



# **Chapter 5**

## **Quondam: the project & redesign**

*Second part*

## Chapter 5

### 5.3. Redesign of Quondam's Characters

After having described Quondam in its complexity and how it has changed after the first playtest with the experts, this chapter will explain all the different phases that have been enacted to redesign the characters, for the purpose of this thesis, following the principles understood in the previous chapters.

Also, it will deepen the choices made for this redesign and why they have changed in this way.



**Figure 74.**  
*Quondam: beyond the folkways' prototype opened*



### 5.3.1. First step into the redesign

The redesign of the characters is the most important part of this project, in fact, it is the key to understanding if the intuition of this thesis could represent an important step in the field of interactive storytelling for learning purposes.

As explained, we can obtain different results and values learned if we use a specific typology of characters, namely Static, for Intellectual and Moral values, and Dynamic, for Emotional and Personal values. Needless to say, this principle could be used differently according to the story and the context, as we can see from the example made in paragraph 3.4.3 of the previous chapter.

To start this challenge, I had to define different goals to achieve an effective result, following the principles learned from the research and explained before.

The goal settled were 3:

- **Analyze the characters** and define **how and where to change them** in the story
- **Redesign their transformational arc**, according to what has been define in the previuos phase
- **Redesign the characters visually**, respecting the final goal we want to achieve.



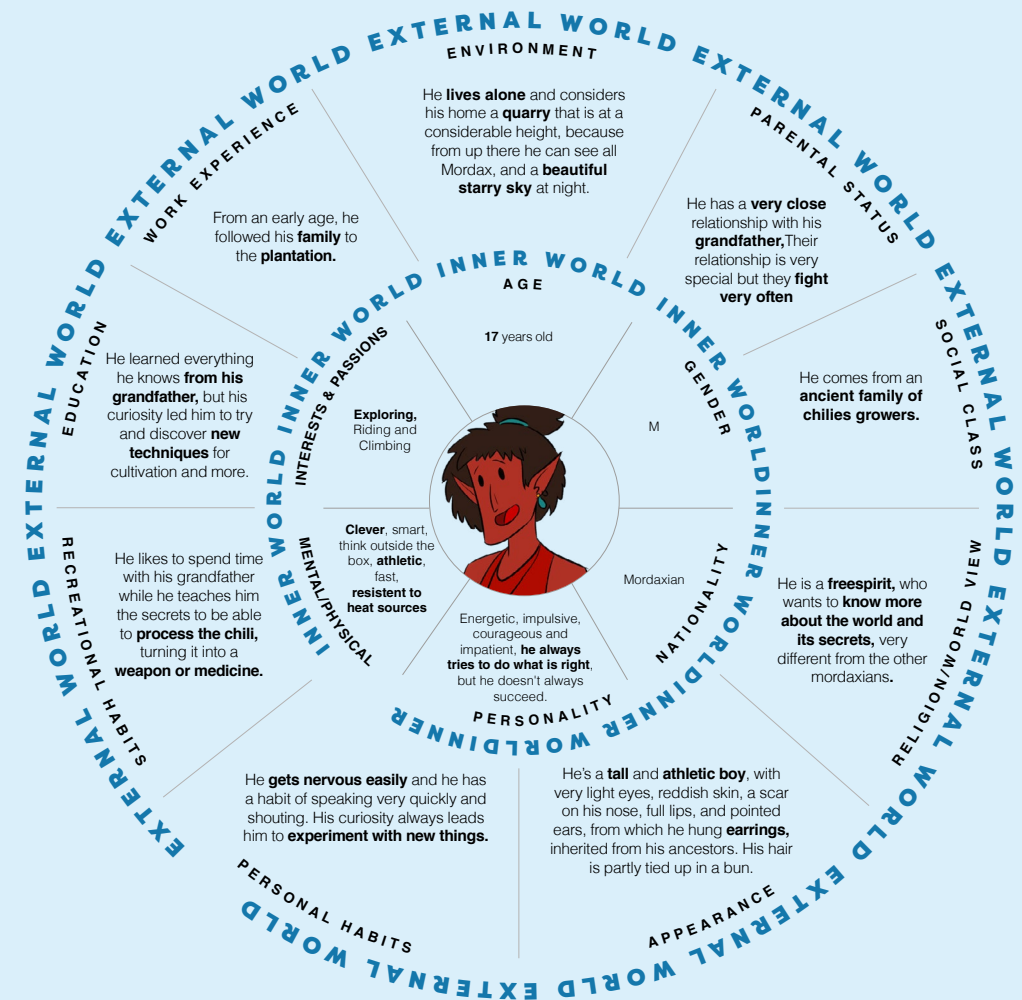
## 5.3.2. The process

From the analysis of each character, it is possible to classify them as Static.

They have gained an understanding of other villages and peace has been restored in Quondam, but their transformational arc is relatively unchanged, and they remain loyal to their values and traditions.

This could be logical because, since Quondam is a project of learning IDN, a Static character could help to communicate an intellectual and moral value... but what if the character were designed as Dynamic? What results will be obtained? Could it help us to communicate better the aim of the project?

**Figure 75.**  
Efrén's old Character wheel





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**Figure 76.**  
*Part of the Interactive Narrative Architecture, focused on the part in which perform the change of the characters.*

To achieve this result we should define where also in the story is better to make evident this change.

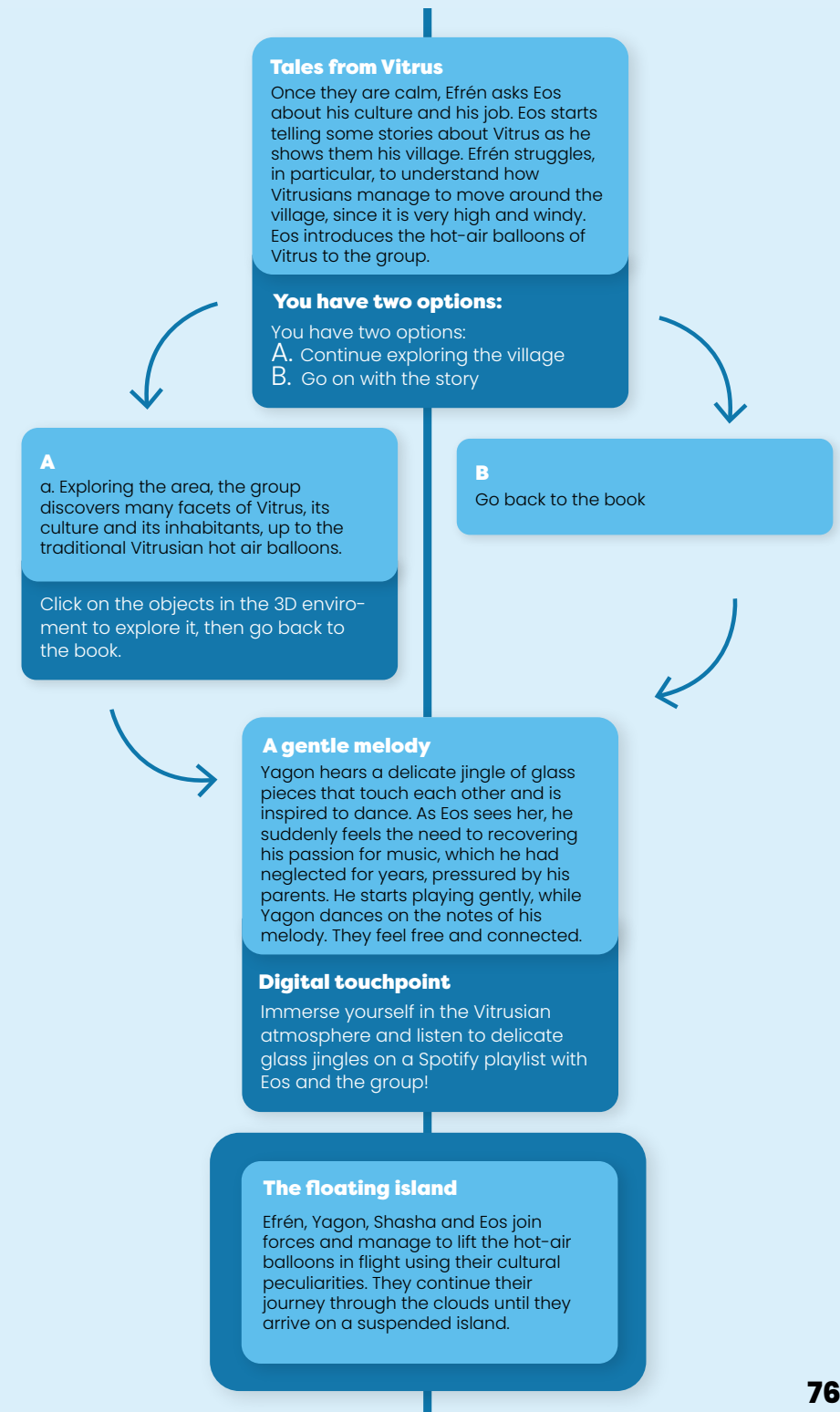
If we recall the structure of Quondam we can see, in the map in the following page, that there is a moment where the characters have to collaborate to reach the village of Tra (***The floating island***), to do this they have to use their peculiarities and make the ancient hot balloon of Vitrus work, as is highlighted in blue in the next map.

I thought that this could be the perfect moment to have a deepen change in the characters and make it evident that there has to be contamination within cultures to get to know them better and transmit them to the others.

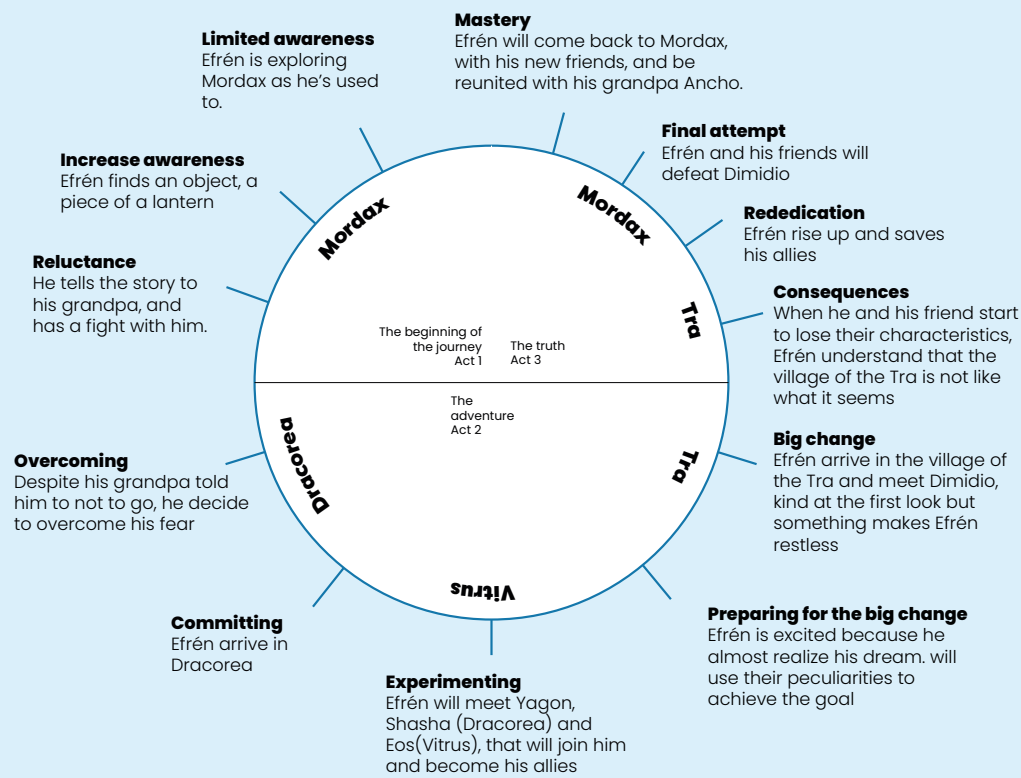
The best way to make this clear is to have a change in terms of a character arc and to change them visually and integrate specific elements that come from the different villages.

The changes of the characters will start from their arc, in the **Preparing for the big change** part.

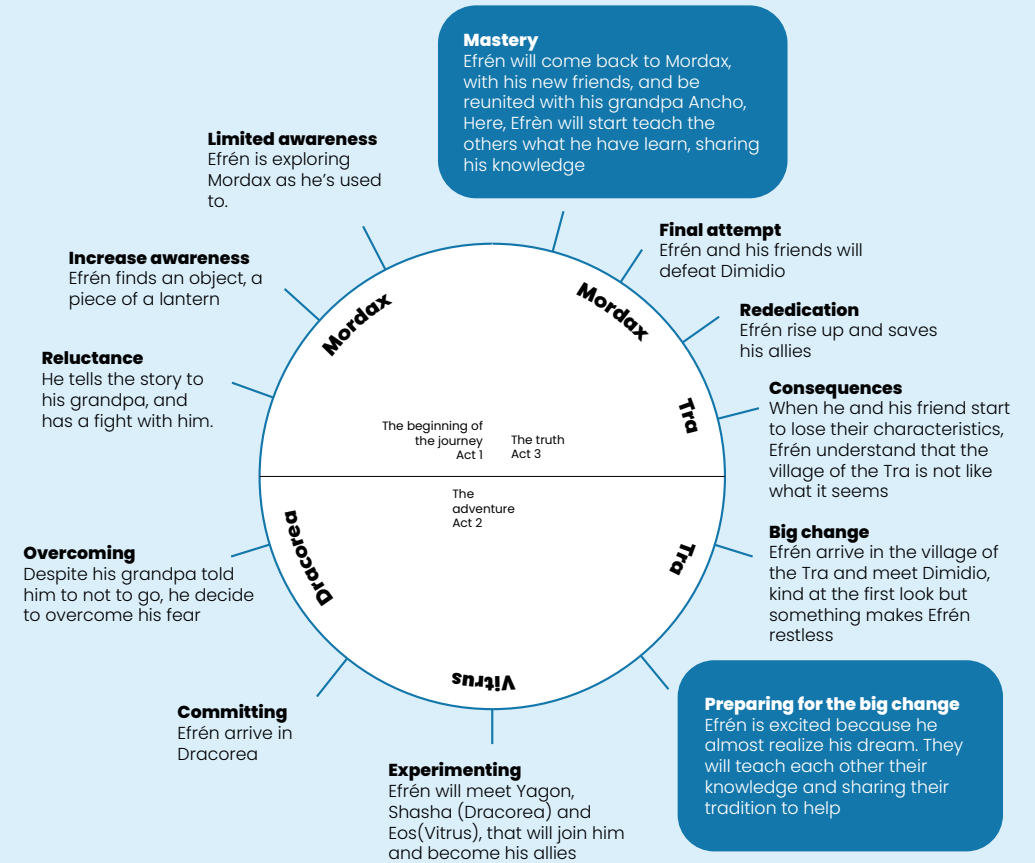
For Efrén, Yagon, Shasha, and Eos is the key moment to communicate the message. In these next pages charts, we can see how they change.



**Figure 77.**  
Efrén's old transformational arc, as Static Character



**Figure 78.**  
Efrén's new transformational arc, as Dynamic Character



## Chapter 5

From a visual point of view, they also have changed maintaining their main features but also they have integrated new elements from the other characters, except Dimidio, he will remain the same since he is the antagonist of the story, and as such he will remain strict to his way of thinking.

Changing them in this significant way, could help the targeted user to reach the message behind the story, and make them achieve in a better way the intellectual and moral value of the project.

To check the efficiency of the redesign, multiple tests were specifically designed to prove the effectiveness of the new character, which will be explained in the next chapter.

**Figure 79.**  
*Old Quondam's Characters*  
**Figure 80.**  
*New Quondam 's Character after their adventure.*



79.



80.

### 5.4. Designing the test

How can I understand if the new characters work more effectively with the redesign? Which kind of activity should I perform with the users?

That was the question I asked myself while designing the test to perform.

To achieve the result that I want, I must carefully design each step of this test and I have to adapt the characters' changes and the new structure in the existing project.

Moreover, I have to consider the new materials that must be produced to have a complete experience with the new characters.

The following chapter will cover all the phases that I have made to arrive at the final test dedicated to the targeted users, that are preteens from 12 to 14 years old, chosen because they are starting to be aware of these kinds of topics.

Also, since the project has been designed for this kind of target, the test must respect their skills and most importantly the timing because this could affect the final results of all the activities performed.



## 5.4.1. Framing the steps

According to the STAR method (see 3.3.1), I have organized the testing session following the five steps.

As previously introduced, the STAR framework is based on five moments, such as an introduction to the story and the characters, a set of puzzles, a resolution, and a debriefing. (Molnar and Kostkova, 2013c).

In line with this, I have designed the workshop following the path that would be deeply explained in the following pages. Moreover, the test was designed to fully respect the aim and the initial purpose of this project, which was to teach the future generation, that the immaterial culture is something that must be shared with the others, and in order to maintain it, there must be a contamination among the cultures.

**Figure 81.**  
Scheme of the step followed during the test

### Introduction

**Time:** 10 minutes

**Tools:** Character Identikit, illustrations and prototype.

**Activity:** Introductions to the character, minigame and telling the story.

### Set of puzzles

**Time:** 20 minutes

**Tools:** Objects and puzzles to solve

**Activity:** Explaining the challenges they have to solve through the materials.

### Task development

**Time:** 20 minutes

**Tools:** Personalized cards, with Static and Dynamic Character

**Activity:** Development of the main activity.

### Debriefing

**Time:** 10 minutes

**Tools:** Final questionnaire

**Activity:** Filling the final questionnaire about the experience.



# Chapter 5

**Figure 82.**  
Elements used during the introduction part

## Introduction

In the introductory part, I have decided to let the children have a chance to interact with the characters and their story worlds, through the physical objects and the different media of the project.

According to that, I have prepared specific material that could support this part, such as **Identikit cards, illustrations, and minigames.**

In this phase, they have been asked which character the children identify with the most, choosing their avatar through an online form, structured as a **minigame.**

**ÉFREN**  
 È UNO DEI TANTISSIMI ANZIANI FANTASTICI CHE, NEL CORSO DI MOLTE ANNI, HA SCOPERTO IL MONDO DEL MARE. È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI. È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI.

**CARATTERISTICHE**  
 AFFETTUOSO IMPULSIVO  
 ASTUTO CORAGGIOSO  
 INTELLIGENTE ESPLORATORE  
 SICURO DI SÉ SI ARRABBIA FACILMENTE  
 INSEGUOSI

**ICONA:**

**ANCHO**  
 È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI. È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI.

**CARATTERISTICHE**  
 SASSOSO TRAZIONALISTA  
 VESUGIOSO PROTETTORE  
 GIUSTO POLICE PERDE  
 IMPULSIVO SI ARRABBIA FACILMENTE  
 ONESTO

**ICONA:**

**YAGON**  
 È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI. È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI.

**CARATTERISTICHE**  
 RESERVATO PREZIOSA  
 ELLEGANTE CORAGGIOSO  
 INTELLIGENTE RAZIONALE  
 RATTINATA PROTETTORE  
 RISERVATO

**ICONA:**

**SHASHA**  
 È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI. È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI.

**CARATTERISTICHE**  
 SPREZIOSA IMPULSIVA  
 EMOZIONALE AGILE  
 CAOTICA ESPLORATORE  
 SOLARE SI ARRABBIA FACILMENTE  
 AMBIZIOSA

**ICONA:**

**EOS**  
 È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI. È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI.

**CARATTERISTICHE**  
 TALENTUOSO FRAGILE  
 TIMIDO FORTE  
 INTEROSETTO CALMO  
 INSIGURO ADORA LA MUSICA  
 GENTILE

**ICONA:**

**DIMIDIO**  
 È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI. È UNO DEI PIÙ SAGGI E PIÙ SENSIBILI DEI SUOI CONTEMPORANEI.

**CARATTERISTICHE**  
 DISTACCATO TACITURNO  
 FREDDO RISERVATO  
 INTELLIGENTE CALMO  
 SENZA EMOZIONI SENZA AMBIZIONI  
 INSEGUOSI

**ICONA:**



## Chapter 5

**Figure 83.**

Activities performed during the Set of puzzles part, such as "Find your way through Mordax" and "Solve the puzzle to read the story"

### Sets of puzzles

In the second part, dedicated to the set of puzzles, I started telling them the story of Quondam, using the book and other images as support.

During this part, I have given them **challenges to solve** according to the final aim of the project, in order to prepare them for the final one.

Once they have accomplished all the firsts tasks and have arrived at a certain point in the story, they have faced the **final quest** that they had to solve:

*"In the story, the characters collaborate to succeed in reaching the goal (Arriving in the village of Tra), how?"*

The children used **pictures, playing cards, and objects** to solve the question.

### Find your way through Mordax



### Solve the puzzles to read the story



## Chapter 5

**Figure 84.**  
Samples of the cards used during the main activity

### Task Development

During the development of the final task, I asked them to **collaborate** and **confront each other** about the topic.

They used all the materials that I gave to them and arrived at the resolution of it.

In the last part of this step, they told me how the characters would accomplish their mission, using the **cards of the Static and Dynamic characters** and the **illustrations**.

### Samples of cards with Static Character



### Samples of cards with Dynamic Character





## Chapter 5

**Figure 85.**  
Final questionnaire about the  
experience

### Debriefing

Once the quest has been solved, the children have been asked to make a **questionnaire** about their impressions during this experience and what they have learned, choosing words or phrases that best encapsulate it, and most importantly which kind of character's development they think works better for the story. The final question of this was deeply related to the aim of all the research because I wanted to test if the new characters would make more sense to the tested users.

**GRAZIE PER IL TUO AIUTO!**

IN QUESTA SCHEDA FINALE TI CHIEDERÒ ALCUNE SEMPLICI DOMANDE CHE MI AIUTERANNO A CAPIRE MEGLIO COME È ANDATA L'ESPERIENZA.

**1. SCEGLI LE PAROLE CHE SECONDO TE RAPPRESENTANO MEGLIO CIÒ CHE HAI IMPARATO DALLA STORIA.**

CULTURA	COLLABORAZIONE	CONDIVISIONE	CONFLITTO
AMICIZIA	SFIDA	ABILITÀ	DIFFIDENZA
ASTUZIA	GUERRA	UGUAGLIANZA	RISPETTO
PERCORSO	VIAGGIO	META	CAMBIAMENTO
ACCETTARSI	DIVERSITÀ	INCLUSIONE	LEGAME
IMPARARE L'UNO DALL'ALTRO	SIGNIFICATO	EMOZIONE	TRADIZIONI

**2. COSA HAI IMPARATO DA QUESTA STORIA?**

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**3. SCEGLI TRA LE SEGUENTI FRASI QUELLA CHE PER TE RAPPRESENTA DI PIÙ CIÒ CHE HAI IMPARATO.**

- NELLA STORIA SI CAPISCE CHE È IMPORTANTE CONDIVIDERE I PROPRI SENTIMENTI PER POTER RAGGIUNGERE LO SCOPO.
- NELLA STORIA I PERSONAGGI CRESCONO INSIEME E IMPARANO GLI UNI DAGLI ALTRI.
- NELLA STORIA SI CAPISCE CHE È IMPORTANTE IL RISPETTO, LA CONOSCENZA DELLE ALTRE CULTURE E TRADIZIONI, E LA CONDIVISIONE DI QUESTA CON GLI ALTRI.
- NELLA STORIA I PERSONAGGI IMPARANO A CONOSCERE ED A RISPETTARE CHI HA UNA CULTURA DIVERSA.

**4. SECONDO TE, QUALI DI QUESTE IMMAGINI RAPPRESENTA MEGLIO I PERSONAGGI DOPO AVER AFFRONTATO QUESTA AVVENTURAT?**

<input type="checkbox"/> 	<input type="checkbox"/> 
---	---

**Figure 86.**  
Physical elements of the test,  
Character's Identikit, Playing  
Cards and Final Questionnaire

### 5.4.2. Preparing the material

The material that I prepared for the first session of testing allowed me to understand the direction to take and if this kind of investigation could work for my purpose.

So, I started with the creation of the characters' identikit, in order to sum up their features and values and help me to present them to the users.

Then, to help them perform the task, I designed 2 different decks of play cards, one with actions that were more aligned with the old character and the other one more aligned with the new ones. In order to see, which kind of actions they would have thought to be more coherent with the story.

Lastly, I made the questionnaire they would have taken after the quest in the debriefing part. It was structured into 4 main parts, the first question asked is to choose a set of words that describe what they have learned according to their experience, the second question was open, and they had to write what they thought of the test, the third question asked them to choose among 4 sentences the one that they felt more closed to what they had done, and the last question was about the characters, so they had to choose which one of the options were more coherent with the test.



### 5.5. Testing the insights with the users

Testing the users is the key, in a design process, to understanding if our intuition could be effective or not and help us to improve our projects.

So, by following the structure designed before that takes inspiration from the STAR method, the test of the new changes of Quondam: beyond the folkways will be performed.

In this chapter will be told the tests executed with the different users, and what they have learned through the various media.

The tests performed were two, with a large group composed of boys and girls of the target users.

Here, there will be explained how they have interacted with the objects and the digital media of the project, and most importantly what they have learned by filling the final questionnaire, presented in the previous paragraphs.

Each test will be told through some pictures that will explain clearly the phases that have been performed and the various interactions with all the elements, and at the end, there will be all the results obtained.



## Chapter 5

**Figure 87.**  
*First test with the users, Discover your character minigame*

### 5.5.1. The first test

The first test was taken with 6 users, divided into 2 groups, and it lasted almost an hour.

During this first attempt, the users have interacted with different objects and media, but they didn't have the chance to try Quondam in its completeness, still, I have obtained great results.



87.

**Figure 88.**  
*First test with the users, Exploring Mordax 3D environment*



88.

## Chapter 5

**Figure 89.**  
First test with the users, Card  
game



89.

**Figure 90.**  
First test with the users, Final  
questionnaire about the experi-  
ence



90.

## Chapter 5

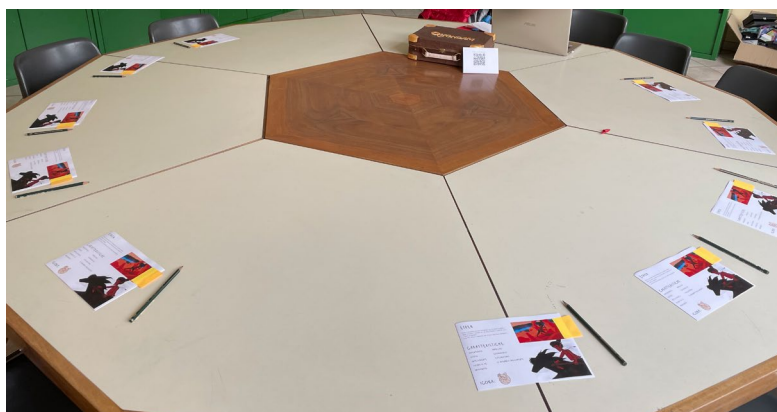
**Figure 91.**  
*Final test with the users, Preparing the material for the test*

### 5.5.2. The final test

After the first test, I obtained interesting results from the final questionnaire. Still, I wanted to test a wider group of pre-teens. So, the final test was performed with 15 users, they followed the same path as the previous one, but they also had the chance to test the prototype of Quondam and more objects and media of the project.

Since they were a larger group, in this case, I've also used a little bit of gamification to encourage them to participate and win a little reward at the end of the test.

In these pictures, we can go through the process in all the different phases.



91.

**Figure 92.**  
*Final test with the users, Discover your character minigame and learn more about the through their identity kit*



92.

## Chapter 5

**Figure 93.**  
Final test with the users,  
Group 1 resolving the first puzzle  
of the experience



93.

**Figure 94.**  
Final test with the users, Group  
2 resolving the first puzzle of  
the experience



94.

## Chapter 5

**Figure 95.**  
Final test with the users,  
Group 1 and 2 resolving the  
second puzzle of the expe-  
rience



95.

**Figure 96.**  
Final test with the users, Group  
1 interacting with the physical  
media of the experience



96.



## Chapter 5

**Figure 97.**  
Final test with the users,  
Group 1 member is interacting  
with the elements inside the  
prototype



97.

**Figure 98.**  
Final test with the users,  
Group 1 member is interacting  
with the elements inside the  
prototype



98.

**Figure 99.**  
Final test with the users,  
Group 1 working together for  
the final task of the test



99.

**Figure 100.**  
Final test with the users,  
Group 2 working together for  
the final task of the test



100.

### 5.5.3. Test results

I have tested **21 users**, aged between 11 to 13 years old. There were 2 boys and 4 girls in the first test and 5 boys and 10 girls in the final test. I've received great appreciation for the experience and its visual aspects from all of them.

11/21 have chosen from the 4 sentences the one that expressed a growth from an intellectual point of view.  
7/21 have chosen from the 4 sentences the one that expressed a growth from a moral point of view.  
20/21 have chosen the new characters instead of the old ones because they felt that they would change through the story.  
So, 18/21 had to learn from an intellectual and moral point of view, using Dynamic Characters.  
In the following graphs and charts, we can see a visualization of all these results, which would allow having a clearer comprehension of them and a big picture of all the insights obtained.

**Figure 101.**  
*Tested users visualization*

**21 USERS**



**7 boys**



**14 girls**

**11-13 years old**

**Figure 102.**  
Data visualization

**Conflict**  
**Sharing** **Respect**  
**Culture**  
**Collaboration**  
**Learning from**  
**each other**  
**Tradition** **Diversity**  
**Journey**  
**Friendship**



**11 USERS**

### Intellectual growth

In the story emerged that is important the respect, knowledge of the other cultures and traditions, and sharing them with other people.



**7 USERS**

### Moral growth

In the story, the character learn to know and respect people who as a different culture.



**20 USERS**

**have chosen the Dynamic characters**



"FROM THIS STORY I HAVE LEARNED THAT CULTURAL DIFFERENCES ARE NOT AN OBSTACLE, BUT WE MUST LEARN FROM EACH OTHER AND SHARE OUR KNOWLEDGE."

### 5.6. Final conclusions

By the end of the thesis, what we have obtained is the answer to our research question: “ In the design of an Interactive Digital Narrative Learning project can be the Character Design one of the main elements in enhancing the audience engagement?”.

All the research, the analysis of the case studies, and also the re-design of Quondam: beyond the folkways have brought this research to its final result. The results obtained from the tests have demonstrated that it is possible to gain a deeper engagement of the users and leverage on specific aspects of our projects using a particular typology of character, resulting in **growth** from a **personal/emotional** or **intellectual/moral** perspective.

As previously explained in paragraph 4.3, using dynamic or static characters lead us to different results in terms of growth.

But it is important to remember that we should use them, keeping in mind **the aim of our communication** and consider which typology works better for the story and the flow of the Interactive Digital Narrative.

On such premises, we have seen through the applications of these intuitions on a Learning IDN project that we obtain better results than the previous one in terms of understanding and values communicated. This led us to improve the whole project.

Looking at the results gained from the tests, it has been demonstrated that if we make the right choices while designing characters, we can obtain great results to pass the message that we want, and so it could be truly helpful for **educational purposes**.

Characters could really be the key to new approaches to learning concepts, which could be difficult to understand for a young audience or help the users understand a point of view that they

would just ignore, guiding them into a new way of thinking.

A new chapter in the next pages will be dedicated to the possible future applications and the opportunities of such insights in the world of Learning IDN projects and also in other fields.

# **Chapter 6**

## **Future applications**

# Future applications

## 6.1. A look into the future

This final chapter will discuss the insights found through the re-design of Quondam: beyond the folkways and the possible future applications of this different design method for characters. Starting from the IDN learning field and going through other different areas.

As we will see in the following paragraphs, the possibilities are various and could bring our projects, and also services, to the next level; in terms of engagement and also loyalty from the users, there are already some companies that are adopting these kinds of solutions to humanize the experience that they provide to the audience.

The chapter will conclude with the definition of the **final framework for designing character for Educational IDNs** and starting with the aim, it will explain in the detail the processes to follow for each phase, giving also the guidelines and the possible tools that can be used for each.



**Figure 103.**

Screen of the project Edugame4all, adapting the Star method, from [https://www.researchgate.net/publication/261705166\\_Who\\_Poisoned\\_Hugh\\_-\\_The\\_STAR\\_Framework\\_Integrating\\_Learning\\_Objectives\\_with\\_Storytelling](https://www.researchgate.net/publication/261705166_Who_Poisoned_Hugh_-_The_STAR_Framework_Integrating_Learning_Objectives_with_Storytelling)

## 6.2. Possibilities and applications

The Interactive Digital Narrative field is constantly evolving and thanks to technologies and new media, we have different tools to design and create new stories and projects. However, there is a lot that hasn't been discovered yet. In fact, as pointed out by several experts, the integration of storytelling for educational purposes has been not experimented with enough, even though different case studies, such as the project Edugame4all, have led to great results because they motivate and keep the attention of the users very high. (Koenitz et al. 2015)

Following these first steps in this field, I think that the intuition that I had about the character could be another little step for this kind of purpose.

In fact, from the results of the multiple tests that I have made, we have a **high positive response** for this kind of educational activity, having also a higher engagement and understanding of the topic addressed.



**103.**

We can imagine that, in the future, there will be applied new methods to learn something at school, following a totally different perspective.

Regardless, I think that this new knowledge could go beyond the only educational purpose. Also in the entertainment field, we could apply this new knowledge, using dynamic or static characters, to obtain a growth from the user with the characters and their values. By giving the right amount of attention to them first, and letting the user discover them slowly, **we can create a long-lasting bond between them**, resulting in a sort of loyalty to the character and its world.

Moreover, we can use these typologies of characters to guide a user in a service that it's been provided, moving on from the classic Onboarding apps, and creating new paths, humanizing the experience of the service, helping also the company to build a deeper and trustable relationship with the users. Some companies use characters in their apps, that could represent a companion or guide, an example could be Intesa San Paolo Reward with their character Asky, a static one. It is a dog that helps the user to stay motivated and do the daily tasks that are proposed in the app, and so let them obtain a reward that will keep them engaged and build loyalty between it, the application, and also the company.

The possibilities are multiple and as designers, we should keep experimenting and be curious about everything.

Of course, this insight represents a small piece of a wider puzzle, but, surely, this thesis demonstrates that it could truly help for educational storytelling, and maybe one day it could become the standard for the designing of characters of an IDN.



### 6.3. Final design framework for designing character for Educational IDN

From all the literature review, case study analysis, and testing, we can define this thesis's final results, which is a design framework for developing characters for educational interactive digital narrative projects.

This framework takes into account the principles of the **character design** and **storytelling** rules, resulting in a structured character that could aid us in getting our final goal.

Going through this process, it is possible to understand which are the step to follow in order to design the most coherent character for our story and support through it the learning purposes of our project.

We have **4 main phases** after having defined our aim, the purpose of the project, and the target of our audience, and they will be analyzed in the following pages.

## Build a Storyworld for a Learning IDN 1

In order to design our characters, we have to define their story world first, because they will be a direct consequence of it, both from their background and visual point of view.

The objective of this first phase is to build a storyworld in which our character could develop itself and help us in the communication of our aim. In the storyworld, we should express the values and meanings that we want the user to learn, so, it must become a representation of them, and to do so, we can use metaphors or make them more explicit. It is important to create a solid and coherent environment because it enables the user to engage and immerse themselves in the Learning IDN project.

### Questions

- What is/are our **educational objective/objectives**?
- Which are the **values** and the **meanings** that we want to represent?
- How can we **represent narratively** our values in the storyworld?

### Aim

What we want to obtain is a functional storyworld that is in line with our educational and learning purpose, using creativity and metaphors to obtain an original result.

### Steps

Starting from the definition of the aim and purpose, the next step would be the definition of the characteristics of the world in which our character will live and explore, and so our user.

### Tools

In this phase, a useful tool that we can use is the Storyworld Canvas, designed by Francesca Piredda, Mariana Ciancia, and Simona Venditti (Piredda, Ciancia, e Venditti 2015). This tool supports us in creating the environment, the life goal and objectives, the language, the value system, the system of relation, the time setting, and the background story of our world.

# Develop the Character for a Learning IDN **2**

The goal of this second phase is to design our character, but before we go deeper in the designing of it, we should mind what has been before and must make a reflection on which is the most appropriate typology of character for our education and learning purpose.

Once we have made our decision on which typology will be used, we can deep dive into the designing of our character in all of its aspects, respecting and making it coherent with the storyworld previously designed.

## Questions

- Which kind of **growth/development** do we want to achieve with our project?
- Will the characters of the project address more **emotional or educational** topics?
- To achieve the final message, a **change in the characters** would help?
- How will our characters deal with the **values** that we have defined?
- What is the **archetypal role** of our character? (*According to Vogler's Classification*)

## Aim

This second phase aims to design the best characters for our educational and learning project, leveraging on the insights previously discovered and tested. The final result of "Develop the Character" must be characters that are coherent with what we want to achieve and the objectives that we have set.

## Steps

Once we have answered these questions, we start to have an idea of which is the kind of character that best suits the story. To reinforce our choice we can use the Dynamic/Static Character Matrix to also see their main characteristics.

The final step would see the filling of two important tools that are the Character wheel designed by Mariana Ciancia and Ilaria Mariani (Ilaria e Mariana 2019) and the Transformational Arc (Marks 2007). These two tools allow us to fully design our character in all aspects, by designing its internal and external world and its change during the story.

Moreover, the transformational arc, in this part will become crucial because in its phases, especially Preparing for the big change, we will define the final result of our character and so the final message we want to transmit to the audience.

## Tools

The tools that can be used in this phase are the Dynamic/Static Character Matrix, which we can use to see clearly the differences between these two kinds of characters. Here, there is the possibility to see which kind of development/growth we can obtain, their peculiarities, visual aspects, and how they would/would not change in the story. Then, we should use the Character wheel and the Transformational Arc.

# Dynamic VS Static Character Matrix

## Dynamic character

<b>Growth</b>	These typology of characters provide growth in terms of <b>emotional</b> and <b>personal</b> values.
<b>Development</b>	In the story, these characters will go through an <b>important event</b> or <b>conflict</b> that will make them change forever.
<b>Characteristics</b>	These characters are the ones that have an <b>attitude for change</b> . They don't feel comfortable in their position.
<b>Visual aspects</b>	Usually, they can adopt <b>new features</b> or <b>new characteristics</b> based on the driving event of the story.
<b>Interaction</b>	The level of agency and interaction with the users is always up to the designer, however these characters are often use with <b>high agency</b> .

## Static character

<b>Growth</b>	These typology of characters provide growth in terms of <b>intellectual</b> and <b>moral</b> values.
<b>Development</b>	In the story, these characters can go through an <b>important event</b> or <b>conflict</b> but they will not change.
<b>Characteristics</b>	These characters are the ones that stay true to <b>their values</b> and <b>their purpose</b> . They will carry it along with the story.
<b>Visual aspects</b>	Usually, they <b>look always the same</b> , and they don't adopt any new features.
<b>Interaction</b>	The level of agency and interaction with the users is always up to the designer, however these characters are often use with <b>low agency</b> .

# Visual aspect **3**

According to what we have defined in the previous phases, now it's time to create our character visually, following the characteristic of the typology of character that we have chosen and the rules of the character design, such as Silhouette, Color palette, and Exaggeration.

These 3 aspects are the basis of our visual result. We must make our character recognizable and unique, in order to let the user bond with it immediately.

Also in this phase, we should be guided that these questions that are related to what we have defined previously.

## Questions

- Which **internal and external characteristics** should we represent?
- **In which way** we can represent the internal and external characteristics **visually** through our character?
- Which aspects of our character should we **emphasize**?
- How can we **make it recognizable** to the audience?
- Which color could help us to **communicate our message** and value?

## Aim

As designers, we have to use our creativity in this phase in order to create the most original and recognizable characters for the audience. Leveraging on the rules of Character Design and the power of Dynamic/Static Characters.

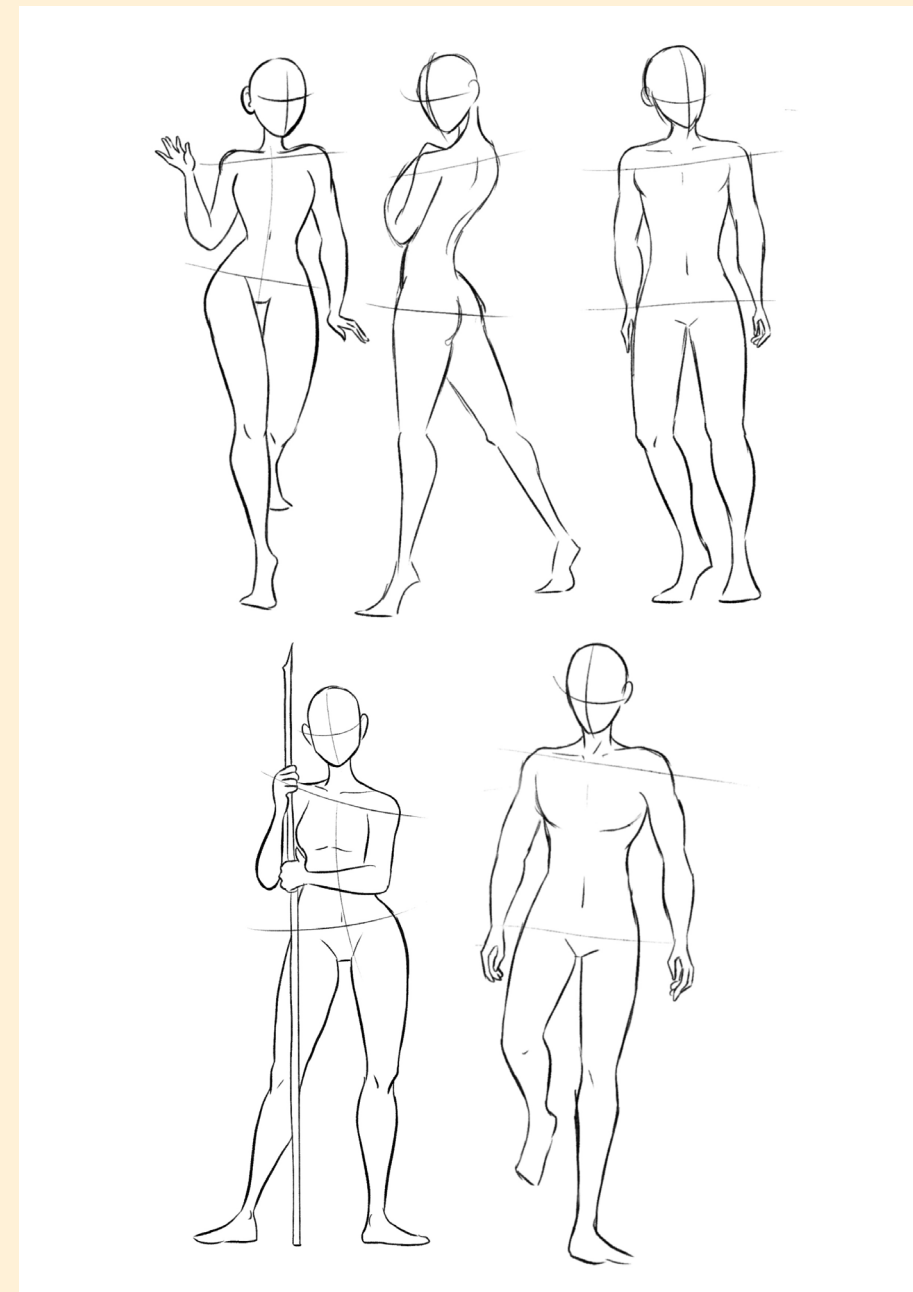
## Steps

Starting from the physical characteristic chosen during the definition of the character wheel, here we can start to translate all of this in a visual way, supporting us with all the tools that we could need.

## Tools

The tools that we should use in this phase, must support our creative thinking, so would be helpful to find some inspiration on some websites, such as Pinterest, Pexels, Unsplash, and so on. Through these, we can find images and videos that help to understand the vibe/mood that we want to communicate to our characters, and we can make a Moodboard or a Styleboard from them.

**Figure 104.**  
Some sample of character  
reference sheet



# Testing with the users 4

In this last phase, we should test what we have designed with our targeted users.

What is important in the testing part is to verify if the selected values and the type of growth we want to achieve are obtained through these new characters. And to do so, we must design all the testing phases paying attention to the activities that they will have to perform and their skills.

## Questions

- What is/are the **educational objective/objectives** we want to test?
- What is the **target** we are referring to? And what are **their skills**?
- Which are the **activities** that could help us to test our project?

## Aim

Verifying if our design choices are working is part of the project and we must understand if the direction that we have chosen to follow is correct.

## Steps

The steps that we should do in this last phase are related to the type of project we are working on and on the type of target we are interacting with. For example, if our target is very young we should prepare the testing session according to their skills and capabilities. So, they should calibrate our design choices minding these aspects.

## Tools

The tools that we can use are related to our final aim. In order to understand what kind of growth we have obtained, we can perform a questionnaire, interviews, shadowing, or co-design, and also combine them.

## Evaluation

These tools help us to evaluate different aspects of our project, so we must choose them according to what we want to investigate.

### Questionnaire

Through it, we can obtain quantitative and objective data, so it is useful to verify the understanding of the topic and the quality of the engagement of the users, through specific questions.

### Interview

The interview helps us achieve qualitative results, so we can verify whether the user's experience with our project was positive or not.

### Shadowing

This method can be used during the test, in order to see how the users approach the project and how they will go through the experience, without any guidelines from the designers. It is useful to understand if what we have built is intuitive or not.

### Co-Design

With the co-design sessions we can design with the users the experience and the content of the project. Following this method, we can obtain results in terms of users' preferences and skills.

To conclude, we must always **keep in mind our target and choose the test, and the activities within it, based on them and on the skills** that they have because each kind of audience has its constraints and criticalities.

Moreover, the timing is extremely important because it must be related to the referred target, otherwise, we will not obtain the results that we want or they could be not satisfying for our purposes.

## 6.4. Further developments

Looking at the future and imagining how this framework could become a well-known tool for designing the Learning IDNs, we have several possibilities.

The main objective is to make this framework available to all designers. Moreover, to achieve this, the starting point is to build an **online open access repository**.

We can imagine it as a detailed guide through all the different phases designers must follow for this kind of purpose.

Before going deeper into the possible flow of this digital platform, there will be an **onboarding part** in which the user can become aware of the potentiality of this framework and why it is so effective. Once designers have understood the framework, they will find an **intuitive and user-friendly interface** that will guide them through the processes, the tools, and the useful external links to other platforms, such as Youtube, Pinterest, and moreover.

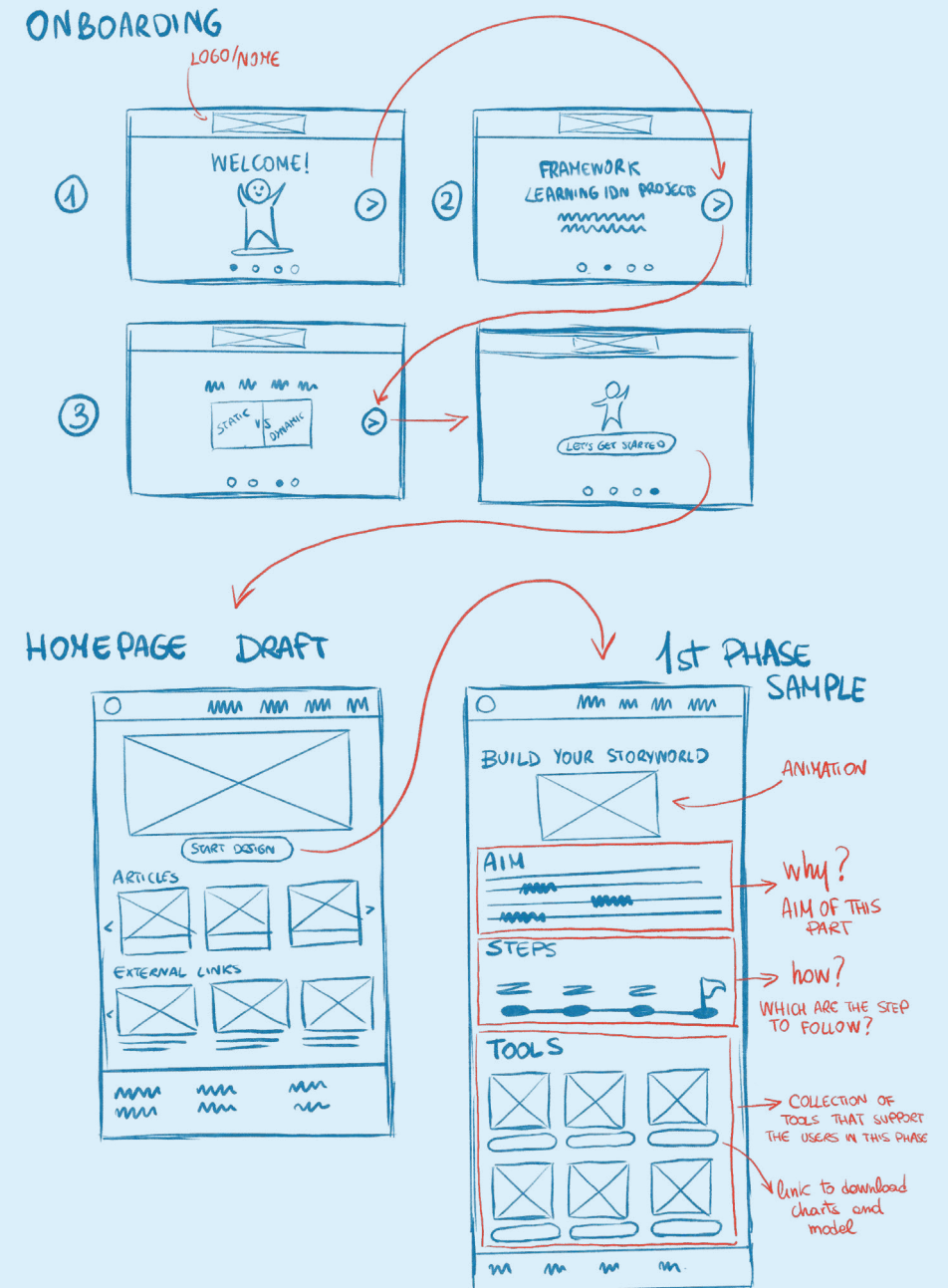
Designers will be guided and have the possibility to access the contents available on the website.

As pointed out in the framework obtained in this thesis, each step has its tools, and this platform collects all of them and will help designers quickly access them.

Moreover, there will be a focus on the **Dynamic VS Static Character Matrix**. As seen from the testing performed and the case studies, it could affect our results.

Also, the website would provide different character design reference sheets to help the designers visualize it with different styles and poses, and be consistent with the story they are developing. To conclude, this digital platform could become **a point of reference for designing Learning IDNs** and could support designers in their projects, making them simplify the processes.

**Figure 105.**  
Rough sketch of the flow of the website



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# Appendix

## Appendix

This appendix contains all the case studies analyzed during this research that give me the chance to define the interesting insights explored in this thesis.

Each of these case studies has been analyzed using the matrix presented before in the chapter 3, in the paragraph 3.3.2 dedicated to them.

### Inequality.is

Economic Policy Institute; 2013  
<http://inequality.is/real>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Omnichannel -Website
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Moral
	<b>Agency</b>	Low agency

## Appendix

### Antura and the letters

TH Köln / Cologne Game Lab; 2018  
<https://www.antura.org/it/>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Omnichannel -Website
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Intellectual
	<b>Agency</b>	High agency

### At Risk

Kognito; 2009  
<https://kognito.com/products/at-risk-for-university-faculty-and-staff>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Branching story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Avatar
	<b>Growth</b>	Static
	<b>Immersion</b>	Engrossment
<b>USER</b>	<b>Growth</b>	Moral
	<b>Agency</b>	High agency

# Appendix

## Auti-Sim

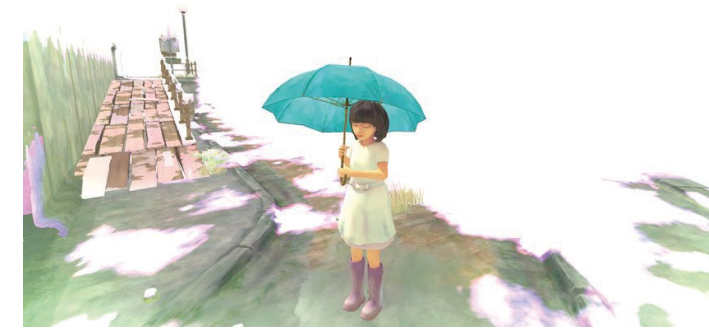
Gamejolt; 2013  
<https://gamejolt.com/games/auti-sim/12761>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Avatar
	<b>Growth</b>	Static
	<b>Immersion</b>	Total immersion
<b>USER</b>	<b>Growth</b>	Personal
	<b>Agency</b>	High agency

## Beyond the eyes

Tiger & squid; 2015  
<https://www.gamesforchange.org/game/beyond-eyes/>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Dynamic
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Personal
	<b>Agency</b>	High agency

# Appendix

## Rainy day

Thaisa; 2016  
<https://thaisa.itch.io/rainy-day>



<b>CATEGORY</b>	<b>Typology</b>	IDN
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Foldback story
	<b>Media</b>	Digital
	<b>Channels</b>	Omnichannel -Website
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Emotional
	<b>Agency</b>	Low agency

## Dive in the past

3D Research; 2021  
<https://www.mobileworld.it/2021/04/07/dive-the-past-280327/>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website, Console, VR
<b>CHARACTER</b>	<b>Character Typology</b>	Avatar
	<b>Growth</b>	Static
	<b>Immersion</b>	Total immersion
<b>USER</b>	<b>Growth</b>	Intellectual
	<b>Agency</b>	High agency

## Appendix

### Earth 2050

Kaspersky; 2021  
<https://2050.earth/>



<b>CATEGORY</b>	<b>Typology</b>	IDN
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Branching story
	<b>Media</b>	Digital
	<b>Channels</b>	Omnichannel -Website
<b>CHARACTER</b>	<b>Character Typology</b>	Avatar
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Intellectual
	<b>Agency</b>	High agency

### The Bicentennial Experience Exhibits Singaporean History

Kalina Nedelcheva;2019  
<https://www.trendhunter.com/trends/the-bicentennial-experience>

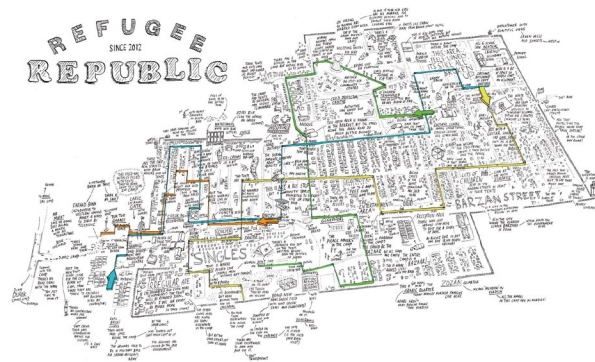


<b>CATEGORY</b>	<b>Typology</b>	Exhibition
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital and Physical
	<b>Channels</b>	Multichannel - Exhibition spaces, multimedia content, artistic performance
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Total immersion
<b>USER</b>	<b>Growth</b>	Moral
	<b>Agency</b>	Low agency

## Appendix

### Refugee Republic

DIRK JAN VISSER, JAN ROTHUIZEN, MARTIJN VAN TOL; 2014  
<https://docubase.mit.edu/project/refugee-republic/>



<b>CATEGORY</b>	<b>Typology</b>	Documentary
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Foldback story
	<b>Media</b>	Digital
	<b>Channels</b>	Omnichannel - Website
<b>CHARACTER</b>	<b>Character Typology</b>	Avatar
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Moral
	<b>Agency</b>	High agency

### Another Day of Depression in Kowloon

IP Yuk-Yiu; 2012  
<https://www.ipyukyiu.com/kowloon>



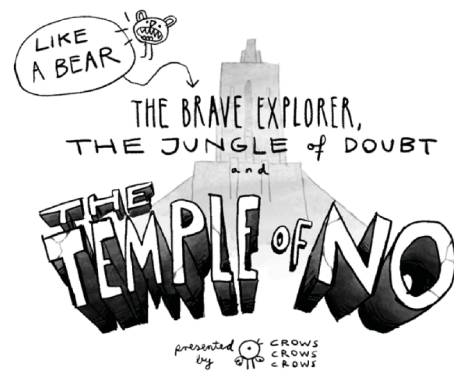
<b>CATEGORY</b>	<b>Typology</b>	Documentary
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Foldback story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - IW engine, Video, Xbox
<b>CHARACTER</b>	<b>Character Typology</b>	Avatar
	<b>Growth</b>	Static
	<b>Immersion</b>	Engrossment
<b>USER</b>	<b>Growth</b>	Emotional
	<b>Agency</b>	High agency

## Appendix

### The Temple of No

Crows Crows Crows; 2016

[https://itch.io/queue/c/314317/twine-examples?game\\_id=72357](https://itch.io/queue/c/314317/twine-examples?game_id=72357)



<b>CATEGORY</b>	<b>Typology</b>	IDN
	<b>Aim</b>	Entertainment
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Branching story
	<b>Media</b>	Digital
	<b>Channels</b>	Omnichannel -Website
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Personal
	<b>Agency</b>	High agency

### Una collezione veneziana

CamerAnebbia,2018

<https://www.cameranebbia.com/desktop.html>



<b>CATEGORY</b>	<b>Typology</b>	Exhibition
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Branching story
	<b>Media</b>	Digital and Physical
	<b>Channels</b>	Multichannel - Website, Interactive screen and video content
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Intellectual
	<b>Agency</b>	Low agency

## Appendix

### Detroit: Become Human

Quantic Dream; 2018

<https://www.quanticroad.com/en/detroit-become-human>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Entertainment
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Branching story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Dynamic
	<b>Immersion</b>	Engrossment
<b>USER</b>	<b>Growth</b>	Emotional
	<b>Agency</b>	High agency

### Depression Quest

The Quinnspracy; 2014

[https://store.steampowered.com/app/270170/Depression\\_Quest/](https://store.steampowered.com/app/270170/Depression_Quest/)



<b>CATEGORY</b>	<b>Typology</b>	IDN
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Branching story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Total immersion
<b>USER</b>	<b>Growth</b>	Emotional
	<b>Agency</b>	High agency



# Appendix

## If not us

Ub4q; 2018  
<https://ub4q.itch.io/ifnotus>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Entertainment
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Foldback story
	<b>Media</b>	Digital
	<b>Channels</b>	Omnichannel -Website
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Personal
	<b>Agency</b>	High agency

## Olympus

EKGfiction; 2021  
<https://ekgfiction.itch.io/olympus>



<b>CATEGORY</b>	<b>Typology</b>	IDN
	<b>Aim</b>	Entertainment
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Omnichannel -Website
<b>CHARACTER</b>	<b>Character Typology</b>	Avatar
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Moral
	<b>Agency</b>	Low agency

# Appendix

## Gris

Nomada Studio; 2018  
<https://nomada.studio/>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Dynamic
	<b>Immersion</b>	Engrossment
<b>USER</b>	<b>Growth</b>	Emotional
	<b>Agency</b>	Low agency

## That Sky Game

Thatgamecompany; 2019  
<https://www.thatsskygame.com/>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Entertainment
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Dynamic
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Personal
	<b>Agency</b>	High agency

# Appendix

## 80 Days

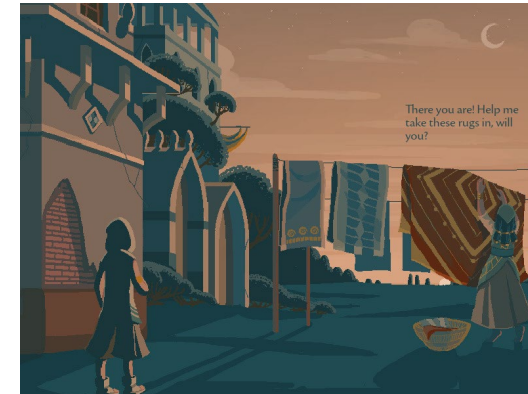
Inkle Studio; 2014  
<https://www.inklestudios.com/80days/>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Foldback story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Intellectual
	<b>Agency</b>	High agency

## A closed world

Gambit; 2011  
<http://gambit.mit.edu/loadgame/aclosedworld.php>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Moral
	<b>Agency</b>	High agency

# Appendix

## Alphabear

Spryfox; 2015

<https://spryfox.com/our-games/alphabear/>



<b>CATEGORY</b>	<b>Typology</b>	Game
	<b>Aim</b>	Learning
<b>STRUCTURE</b>	<b>Narrative Structure</b>	Linear story
	<b>Media</b>	Digital
	<b>Channels</b>	Multichannel - Website and Console
<b>CHARACTER</b>	<b>Character Typology</b>	Predefined Character
	<b>Growth</b>	Static
	<b>Immersion</b>	Engagment
<b>USER</b>	<b>Growth</b>	Intellectual
	<b>Agency</b>	Low agency

# Ringraziamenti

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*Non siamo quello che siamo stati, ma ciò che sogniamo di essere*