

The Self-Writing Encyclopedia
UI Design for Emergent Story Discovery

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ABSTRACT

The Self-Writing Encyclopedia UI Design for Emergent Story Discovery

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One of the main appeals of emergent narrative games is the stories they can generate. However, these games tend to be complex simulations, resulting in a large amount of information that makes the discoverability of narratives challenging. To alleviate this problem, we believe redesigning the user interface and experience can facilitate the discovery process of stories. But what kind of interface could help even inexperienced players navigate easily such a large mass of information?

The answer we are looking for might be in web design, more specifically, *Wikipedia* and web browsers. This research tested two interfaces' iterations of a game. Participants with varying experiences with emergent narratives had to play with one of the interfaces and share their feedback on their experience during a recorded interview. The feedback collected on the first test helped redesign the second interface's iteration, while the feedback collected during the second test helped determine if the research was going in the right direction.

According to participants, the first interface's iteration was unsuitable for sifting through a large amount of information. However, the second interface's iteration, which had a design much more similar to websites, proved to be well received by participants. Because of these findings, we believe that web design might be a solution to solve the discoverability problems of stories in emergent narrative games.

Although the results point in a promising direction, a larger audience needs to play with the second interface to confirm that it is, in fact, approachable for a majority of players. Secondly, to adequately evaluate the effectiveness of the interface for facilitating the discovery of stories, we need a research method that can prove when players find a narrative in a quantifiable way and use this method with the second interface.

Keywords: emergent narrative, emergent story, information design, web design, user interface (UI), user experience (UX), encyclopedia, documentation.

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CHAPTER 1 | INTRODUCTION

1.1 Emergent Narratives

Narratives are a key aspect of engagement in video games. They can ease players into the game and keep returning until they reach an end. However, video games possess more than one type of storytelling. One of these storytelling methods is named embedded narrative. Embedded narratives are stories written prior to being experienced by an audience ([Jenkins 2004, 10](#)). They are a type of storytelling commonly found in games, books, movies and television shows. Embedded narratives rely on someone writing a story that will play out the way they envision, and everyone viewing or reading that story will experience the same narrative. In other words, embedded narratives are predetermined and transpire the same way for everyone.

Another storytelling method is emergent narrative. Emergent narratives are not stories written by someone beforehand but rather narratives that users conceive as the experience unfolds ([Jenkins 2004, 13](#)) ([Kreminski and Wardrip-Fruin 2019, 3](#)). In the context of a video game, players' actions in a game can result in the creation of events. These events are the emergent narrative, the game's narrative elements born out of the player's actions. In other words, an emergent narrative is not made by someone beforehand for an audience to experience. Instead, they are narratives made by the audience as they experience the medium. In a way, emergent narratives are the opposite of embedded narratives. They are not predetermined and fixed and can vary from person to person.

To help illustrate what an emergent narrative is, here is an example shared by the user [sim-narios](#), which they titled *Not Your Normal Couple*:

"I had two Sims who couldn't really have friends because of their demanding jobs; she was a pharmacist and he was a commercial pilot. They were each others best friend, and when they were both free they would hang out at her house to eat chefs salads and watch TV together.

One day well enjoying each others company and the daily news, I watched her make him look the other way, pick up a huge wad of her salad and throw it at him. They both laughed and INSTANTLY FELL IN LOVE WITH EACH OTHER...

I I just stared at my screen in complete confusion as to how that even happened.

If someone threw dressing drenched salad onto me I'd be pissed!

Love is love I guess, whatever works lol" [sic] ([Sim-narios, 2015](#))

What [sim-narios](#) experienced is an emergent narrative created by the game they were playing, *The Sims 2* (Maxis, 2004). Individuals will experience similar games with different outcomes and memorable moments as they play, making them feel like more personal narratives. However, these narrative elements are only a part of the puzzle surrounding emergent narratives. Other concepts have been formed by fellow academics and help us explain their nature. For instance, once a player has memorable moments made by the game, they can assemble these events into a cohesive narrative. We refer to these stories as afterstories. Larsen and al. describe afterstories as such: "Afterstory is [...] a term to describe the specific, actual story that happened

as a result of a play experience. It is specifically the (static) story itself, rather than the behaviour that creates it." An afterstory is the result of a systemic interaction and a player's perspective ([Larsen et al. 2019, 193](#)). In other words, an emergent narrative is a story born from the game, while an afterstory is the player's interpretation of the game's story.

Once the game creates a story and the player interprets that story, there is a final possible step. The player can choose to share their afterstory with others. If they choose to do so, another narrative is produced, a retelling. As Larsen and al. puts it:

These retellings are not exact copies of the afterstories they are coming from, as it is impossible to tell a story without, well, telling it, and thereby shading it through a discourse. This retelling, when it has been told, is then interpreted again by the new readers, who never experienced the events that led to the afterstory but only get the retelling, and then add their own layer of interpretation to it ([Larsen et al. 2019, 195](#)).

Afterstories and retellings constitute a significant appeal of emergent narratives. Video games with emergent narratives tend to have communities centred around players' stories and sharing them with fellow fans of narratives born from those games. An excellent example of this phenomenon is *Dwarf Fortress* (Bay 12 Games, 2006). The communities around this game love to share their experiences with others, and they display that interest through their use of various media to engage with one another. Some news outlets will share their favourite stories ([Kotaku 2019](#)). Fans will host a website where players can share their tales ([Dwarf Fortress Stories 2010](#)), or they might do so on one of the many subreddits ([Reddit Dwarf Fortress Lore 2014](#)) ([Reddit Dwarf Fortress 2009](#)). It might even go so far as individuals creating a career out of the retellings from the game ([Kruggsmash 2006](#)).

What compels people to search for and share a story with others? According to James Ryan, there is what can be called an aesthetics of the uncovered which is a form of pleasure derived from the discovery of an appealing story among what he and his peers refers to as "*a morass of data a game's simulation produces*" ([Ryan 2018, 81](#)) ([Ryan et al. 2015, 7](#)). This pleasure, born out of curiosity and excitement, could explain the appeal of emergent narrative games. As for the act of sharing, many possible reasons can vary from one individual to another; it might be to entertain others, interest people in the game or keep a record of the stories.

Some content creators have become professionals at retellings. YouTuber [Kruggsmash](#), for example, masterfully retells *Dwarf Fortress* tales to an audience of over 100 thousand people, which indicates an interest in the stories born from *Dwarf Fortress*. However, although some audience members share their stories in the comments, we can also read comments about users who are interested in the stories but are intimidated by the game. *Dwarf Fortress* is a complex video game; its simulation and gameplay are very advanced. So advanced that a book of 219 pages was made to teach players how to play the game, and on the cover, the title reads: *Getting Started with Dwarf Fortress: Learn to play the most complex video game ever made* ([Tyson 2012](#)).

This difficulty and introduction barrier for new players is not limited to *Dwarf Fortress*. Other popular emergent narrative games such as *Crusader Kings III* (Paradox Development Studio, 2020) and *Rimworld* (Ludeon Studios, 2013) also suffer from their complexity allowing for the creation of incredible stories while simultaneously deterring new players because of that same complexity. As a result, players end up being discouraged, preventing them from playing and creating their very own afterstories in these games. This situation shows that there is an interest in emergent narrative games. However, their complexity pushes away potential players leaving them only to be an audience for the retellings instead of participating in the exchange as potential retellers.

Another problem present in these games is that they are designed to experience emergent stories but not discover them. This means that players can miss tons of emergent narratives if they are not happening to them. This focus on the present and the player is only half the problem. Additionally, once a narrative happens, if the player fails to notice it, there is no way for them to go back and discover it. None of the games mentioned have a feature that allows players to see past information like they can with the current information; this results in a large amount of information being lost as well as potential narratives missed by the players. They have to pay attention continuously and remember as much as possible to conceive an afterstory which can also be a source of friction and prevent them from retelling their stories.

Lastly, emergent narratives and simulations have a history together. The earliest known story generators, such as *Novel Writer* (Sheldon Klein, 1973) and *Tale-Spin* (James Meehan, 1976), are emergent-narrative systems (Ryan et al. 2015, 1). It is, therefore, not surprising to see video games like *Dwarf Fortress*, *Crusader Kings III* and *Rimworld* employ automated systems. However, it is surprising that even after so many years, they still share the same problem. They all possess a problem with story discoverability, and although that problem has been known for a long time, it is also a tricky problem to solve. Nevertheless, while some researchers try to solve this problem with the curation of the simulation, this research instead focuses on facilitating the discovery process of emergent stories in a video game.

1.2 The Problem of Emergent Story Discovery

This research takes place within the larger context of the *Chroniqueur* project, which aims to explore design strategies to emphasize the experience of emergent narratives in accessible ways. This represents a vast undertaking that goes beyond the scope of a single Master of Design (MDes) project. It provides, however, a context in which more focused research can happen. This research addresses a specific aspect of *Chroniqueur's* problem-space: making emergent narratives easier to discover.

However, it is easier said than done; a few challenges prevent us from reaching our research goal. *Chroniqueur's* social simulation generates an enormous amount of information

about the world and its inhabitants that is simply overwhelming. Said information is essential for players to create afterstories; after all, the more information they have access to, the more likely they are to stumble upon an emergent story. The result is a counterproductive situation where more information yields higher chances of stumbling upon an emergent story, but it also means it becomes harder to find them in this ever-expanding sea of information.

This brings us to the research question: what kind of interface could help even inexperienced players navigate easily such a large mass of information? Our starting idea was to imagine a user interface (UI) that would provide access to an interactive archive of everything that has happened in the simulated world. Before giving any shape to what we would eventually call the "Chronicles" interface, we looked at relevant precedents.

1.3 Precedents in Simulation Interactive Documentation

Our Chronicles draw inspiration from multiple projects, two of them being games. The first game, or rather the first game mode, is *Dwarf Fortress* Legends. This game mode allows players to generate a world and read about it instead of impersonating a character or managing a fortress. One particularity of Legends is its user experience; by relieving players from more complex actions linked to the simulation, they are free to peruse the generated legends of the world at their leisure. This approach was a major source of inspiration since it avoids a problem previously mentioned where games are far too challenging to learn and play, which deters some players. By giving a book filled with stories of the world, players can simply read about things that occurred in the simulated world and potentially uncover emergent narrative.

The idea of an encyclopedia that documents everything occurring in the simulation is a fascinating prospect. However, we find it regrettable that it is disconnected from the rest of the game. Because of this, we decided that the Chronicles, the interface serving as an encyclopedia in *Chroniqueur*, should replicate the Legends mode but implement it in the game rather than splitting it into a different game mode. In *Dwarf Fortress*, there are three distinct game modes, Fortress, Adventurer and Legends. If a player is not playing the Legends mode, they cannot access the information about the world outside of what their character or fortress "knows". In contrast, *Chroniqueur*'s Chronicles are always accessible; they are not restricted to a specific game mode.

Dwarf Fortress Legends mode restriction is not its only downside; sadly, the user experience also proves to be a challenge for players. At its core, *Dwarf Fortress* is an ASCII game: the game relies on keyboard inputs to be played; arrows and hotkeys are its forte, and the use of a mouse is not possible. This situation alone is already enough to deter some players from giving the game a spin because it requires a time investment to learn the hotkeys and unlearn the use of a mouse, an essential computer periphery. Additionally, although an ASCII aesthetic is quite distinctive nowadays, it also comes with the baggage of tech-savvy culture and old games.

ASCII is associated most with computers and coding. Therefore, it is not far-fetched to expect some individuals to glance at the game and feel overwhelmed by its presentation.

Other challenges hinder the overhaul experience of users—challenges like accessing pages. Currently, the Legends mode does not make use of links, meaning that if players wish to read about a character they just discovered, they have to look for them in the Legends; they cannot click on their name to open their page, for instance. These extra steps are why the Legends mode is hard to use for an uninitiated player.

It is essential to note that while this research is being conducted, *Dwarf Fortress* is also undergoing an overhaul for its future release on Steam. The overhaul should fix many game issues, such as using a mouse and adding more visuals to the game, replacing the ASCII elements. As for the Legends mode, Tarn Adams, one of the creators of *Dwarf Fortress*, announced that the game mode would also get an overhaul to improve the experience, and the addition of links is the most apparent change.

The final issue we have with Legends mode is the limited amount of information presented to players. Not everything is written in the Legends; only the most significant information is recorded by the game, leaving tonnes of potential information undisclosed to the player, resulting in afterstories being lost. This is where our second source of inspiration comes from, *Diol/Diel/Dial*. DDD, for short, is a story generator that James Ryan developed for his research on *Curating Simulated Storyworlds* (Ryan 2018, 296). It is essentially a web page containing all the information about a simulated world. DDD and the Legends mode are very similar in function, where players can navigate information about a world and discover afterstories generated by the game. However, the user experience is different from one another. DDD uses clickable links to access pages, just like a web page. Additionally, there is no curation of the content; players see everything generated by the simulation, not only significant events like in the Legends mode.

Diol/Diel/Dial solves a problem by adding improvements to the navigation with the addition of clickable links. However, it also brings forth another problem: the vast amount of information displayed overwhelms players. This problem is even more exacerbated because of its web page layout; the more information there is, the longer the page becomes, making for a tedious long scrolling experience. James Ryan believes that a solution to that problem would be the curation of what is shown to the player by cutting what could be qualified as meaningless information; however, we believe that doing so would bring us back to our starting point. Instead of cutting information out of the game, we simply need to present that information in a layout more suitable for the task.

This is where our final sources of inspiration, *Wikipedia* and web browsers, come into play. We believe that the web design approach might be the missing piece of the puzzle. James Ryan was on the right track when he created a game that uses a web page as an interface. If we look at *Wikipedia*, every subject has its own page with subsections allowing for an efficient

navigation of what is possibly one of the most extensive collections of knowledge online. We believe that this design will be very effective when applied to a game with so much information.

As for the web browsers' influence, our speculations are that because they are so widely used on a daily basis, users would have an easier time transferring their habits from one medium to the next. In other words, by utilizing concepts from one domain and applying them to another, we believe that the transition would be easier for users and, therefore, far less daunting for them to play what would otherwise be a complex game.

In summary, this research aims to design an interface that will document and communicate a complex simulation's data in an accessible and intuitive way. Our hypothesis is that we can do this by borrowing from the design of *Wikipedia*, another interface to a massive amount of data, and the design navigation principles of web browsers.

1.4 Chapters Overview

The following chapters will explain the steps taken to achieve the outcome of this research. Chapter 2 will explain how the first iteration of Chronicles' interface was designed and influenced by web design, *Dwarf Fortress* Legends mode and *Diol/Diel/Dial*. Chapter 3 details the methodology used to assess the research prototype, *Chroniqueur* as well as how the first iteration of the interface performed with participants. Chapter 4 discusses the revisions done to improve upon the first interface iteration and details the results of the tests done with the second iterations of Chronicles' interface. Lastly, Chapter 5 will go over everything discussed in this paper, what we believe are the shortcomings, and the next step for this research.

CHAPTER 2 | CHRONICLES 1ST ITERATION

We call "Chronicles" the section in the user interface that allows players to read the information written about the world generated by the simulation in *Chroniqueur*. Every new game creates a new world with its unique history, meaning that the Chronicles must adapt its layout to the simulation-generated information. Couple this situation with the goal of documenting every piece of information present in the game, and the Chronicles become a challenging interface to design. Just like *Diol/Diel/Dial*, the Chronicles are overwhelming because of the sheer amount of information available to players. Every human, land, clan, chiefdom, raid and culture are documented in the Chronicles, and they all have specific information about their world. For instance, humans have skills, families and possessions, while lands have regions, biomes and inhabitants. This means that there could be hundreds of different humans and lands that all have unique details about the world generated. Combine that with the other concepts documented like the clans, the chiefdoms, the raids and the cultures, and the Chronicles end up being an incredible source of knowledge that poses a real problem when it is time to navigate its content and read about various entities.



Figure C2.1 - Chronicles V1 - Tabs Drop-down

To solve this problem, the Chronicles are conceptualized like a website; they are separated into various pages representing important concepts simulated in the world: humans, lands, clans, chiefdoms, raids, and cultures. Furthermore, each page's content is separated into subsections conceptualized as "tabs". Here is a list to help illustrate the hierarchy:

- 1) *Chroniqueur*, the game
 - a) Chronicles, the part of the interface that serves as an encyclopedia
 - i) Pages, the documented concepts of the game (humans, lands, clans, etcetera)
 - (1) Tabs, the categories of each concept (For example, humans have: information, timeline and family)

In other words, the player can open a page and view the content of one tab; if they want to read more about the subject of the page, they must change the tab. To change the tab, they can use a drop-down menu located at the top of the page; see Figure C2.1. Clicking on this button will open a menu displaying all available tabs. The content of this menu changes depending on

the page players are viewing, the only exception being the information tab which is present for all Chronicles pages since it is the default tab. Preserving the information tab also serves as an anchor point for users. Since every page has an information tab, there is an element of consistency that should help players navigate the interface. This consistency is based on the fourth heuristic principle of Jakob Nielsen: consistency and standards (Nielsen 2005, 4).

Pages were broken down into tabs to avoid an information overload. More information results in a long scrolling page, and the longer a page is, the harder it becomes to find something. This phenomenon brings us back to the *Diol/Diel/Dial* (DDD) trouble. When users start exploring DDD, they are greeted by a very long scrolling page containing tons of information, and whenever they decide to investigate something, the interface changes to show another very long scrolling page. This decision to show everything in such a format goes against Jakob Nielsen's sixth heuristic principle: recognition rather than recall (Nielsen 2005, 6). Because of how the information is presented, players have to scroll if they want to know what is shown on the page; they have to remember the possible sections of pages and find them on the page by scrolling. By fragmenting the content into tabs, the Chronicles allow players to know precisely what information is on the page. They control what is shown and can change tabs at any time, making it far easier and quicker to access information than by scrolling.

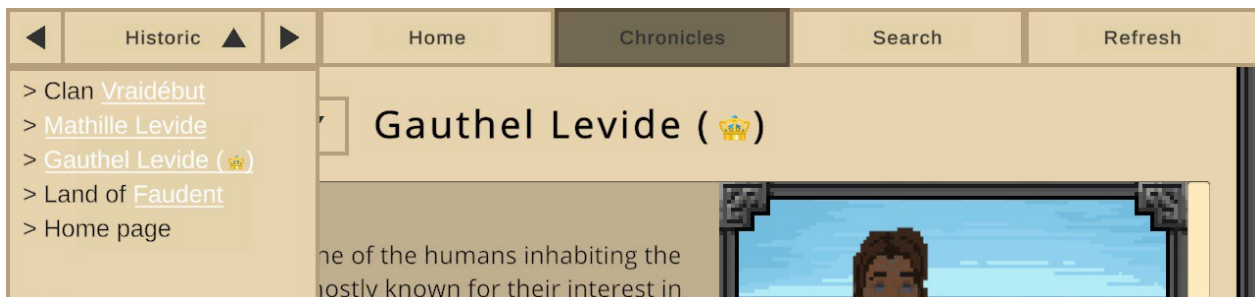


Figure C2.2 - Chronicles V1 - Chronicles Navigation

As previously mentioned in the introduction, web navigation is a significant inspiration for the navigation of Chronicles. Every page has a link. Players can click on said link to access the page¹. Employing such navigation comes with expectations from users familiar with web browsing, namely, the possibility to go back and forth through the navigation history. For this reason, there are three buttons in the Chronicles interface that allows going back to the previous page viewed, going to the latest paged viewed and a drop-down menu showing all the pages that have been visited. This drop-down menu has a list of links² letting players choose precisely which page they want to revisit. This navigation system adheres to Nielsen's third and fourth

¹ This is one thing that *Dwarf Fortress* will implement in their redesign of Legends

² As a side note, the use of white text on a light-coloured background is terrible, and although not acknowledged in this paper, it was changed in the next iteration.

heuristic principles: user control and freedom, and consistency and standards. By utilizing web navigation, players should have a sentiment of familiarity even though they have never used the Chronicles ([Nielsen 2005, 4](#)). Additionally, the multiple options to go back to previously seen pages gives ample "emergency exits", as Nielsen called them, if the player makes a misclick or changes their mind ([Nielsen 2005, 3](#)).

A unique aspect of the first iteration of Chronicles is the fact that the interface is split into three "main" pages; the home page, the search page and the Chronicles page. Because the naming convention is quite confusing, here is another hierarchy:

- 1) *Chroniqueur*, the game
 - a) Chronicles, the part of the interface that serves as an encyclopedia
 - i) Home page, a page that shows surface-level information about the world, such as the name of the world, the current year and the number of humans alive.
 - ii) Search page, a page that, as the name implies, allows players to search by name specific pages.
 - iii) Chronicles page, this "main" page, acts as the one englobing all the other pages.
 - (1) Pages (humans, lands, clans, chiefdoms, raids and cultures).
 - (a) Tabs (For example, humans have: information, timeline and family).

These "main" pages allowed players to easily access the search feature and home page. The reasoning behind it was that web browsers tend to have a landing page that is accessible no matter the page a user is currently viewing. The home page was viewed just like a landing page and, therefore, should be accessible easily with the click of a button. As for the search feature, because it is a page in the first iteration of the Chronicles, the easiest solution was to implement it like the home page.

Lastly, Chronicles navigation possesses a refresh button to update the information shown on pages, just like all web browsers. However, this is not just for aesthetic purposes or familiarity. There is a functional reason behind that decision. Because the simulation can be paused, slowed or sped up, whenever a player views a page, it shows the information at the time of opening. This means that if a player opens a human page on year 33, the Chronicles will display information dated from that year. However, if the simulation is not paused, then the current year could be 40. Therefore, by pressing the refresh button, the information will be updated from year 33 to year 40.

The following subsections will go into more detail about each page, its tabs, its content and the design decisions.

2.1 Home Page V1

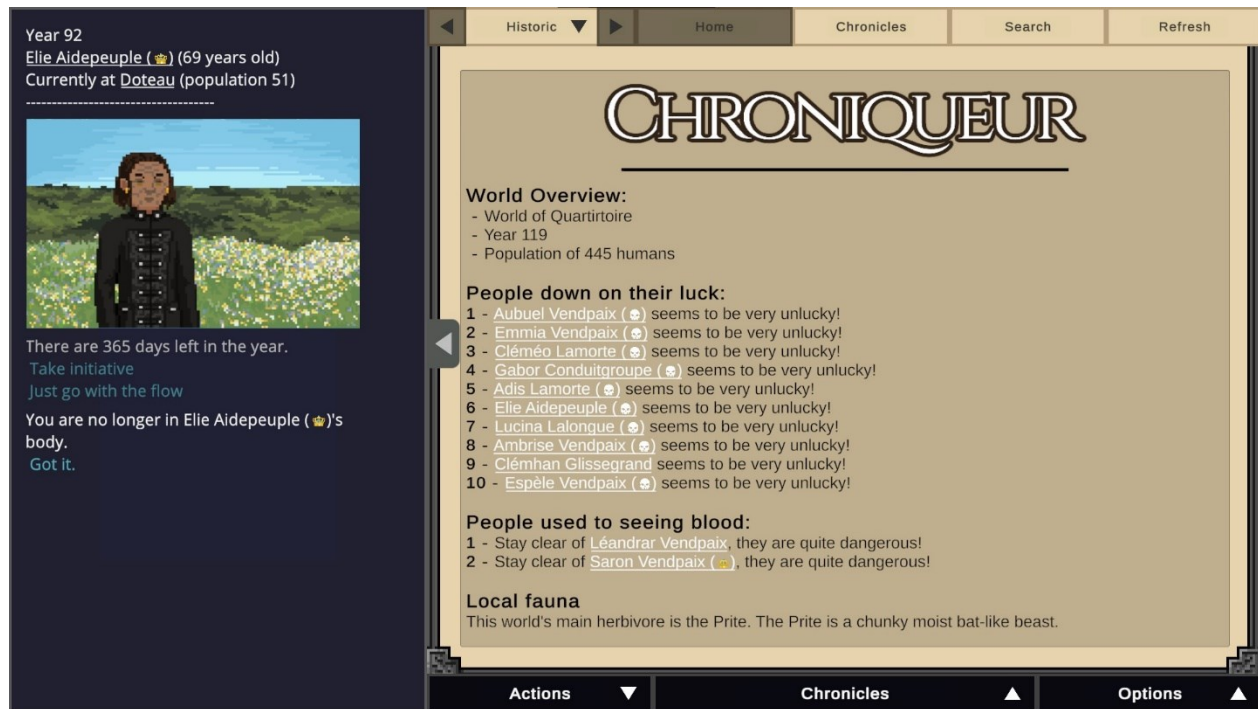


Figure C2.3 - Chronicles V1 - Home Page

The home page is the default page displayed in the Chronicles when nothing has been opened. In this iteration, there are only three ways to access the Chronicles: players can either change the view by selecting Chronicles at the bottom of the screen between actions and options, click on the label of a city shown on the world map or if they are embodying someone³ players can click on the character's name to open their page.

This page serves as an overview of what is going on in the world. It shows information such as the name of this newly created world, the current year and the total population of humans currently alive. Additionally, there are two lists of individuals: one for humans with a large number of accidents in their life which we labelled unlucky and one for humans with the highest number of murders which we labelled dangerous. Lastly, there is a paragraph that informs players about the fauna of the world. This serves no other purpose than to add some lore to the world; in essence, the description has no bearing on how the fauna acts in the simulation.

When conceiving the home page, there were three goals in mind. The first one was to offer entry points for players because there is so much information present in the Chronicles that it can be challenging for players to find afterstories. A solution to that problem is akin to

³ In the game, you can take control of a human in the simulation and make decisions in their stead; when doing so, the left section of the interface will show information about your character and give the player options as to what they can do over the course of a year, the unit of time for the simulation.

curation, where the Chronicles offers what is known as an entry point. Entry points are what we conceptualize to be players' desires and motivations ([Lessard and Beauchesne 2022, 3](#)). Essentially a place where players could go to start looking for interesting stories in the world. Usually, the more accidents or kills an individual has, the more likely there is an appealing story waiting to be discovered. These entry points took the form of top 10 lists for their eye-catching nature. Hence why, on the home page, there are two lists of individuals that can serve as the entry points⁴ for the Chronicles.

The second goal was to give more context to the world. Since emergent narratives are co-authored, giving more surface-level information to the player can help stimulate their interpretation of how the world is ([Kreminski and Wardrip-Fruin 2019, 3](#)). In this context, surface-level information can be described as information that can influence the world's perception but has no effect on the simulation. For example, in the simulation, predators roam around the lands and hunt animals and humans. These predators are part of the simulation; however, giving them a name and a physical description does not impact how the simulation uses them. It only impacts the imaginations of players. Therefore, it is considered a piece of surface-level information.

The third goal is to communicate world information. World information refers to knowledge that informs players about the state of the simulation. Information such as the number of living inhabitants allows players to track how the simulation is doing. It is a valuable feature as sometimes a world can end up with zero humans alive, which hinders the gameplay possibilities but make up for an intriguing starting point for figuring out how it came to be.

⁴ As they are not an essential part of this research, this paper will not go into more detail about them.

2.2 Search Page V1

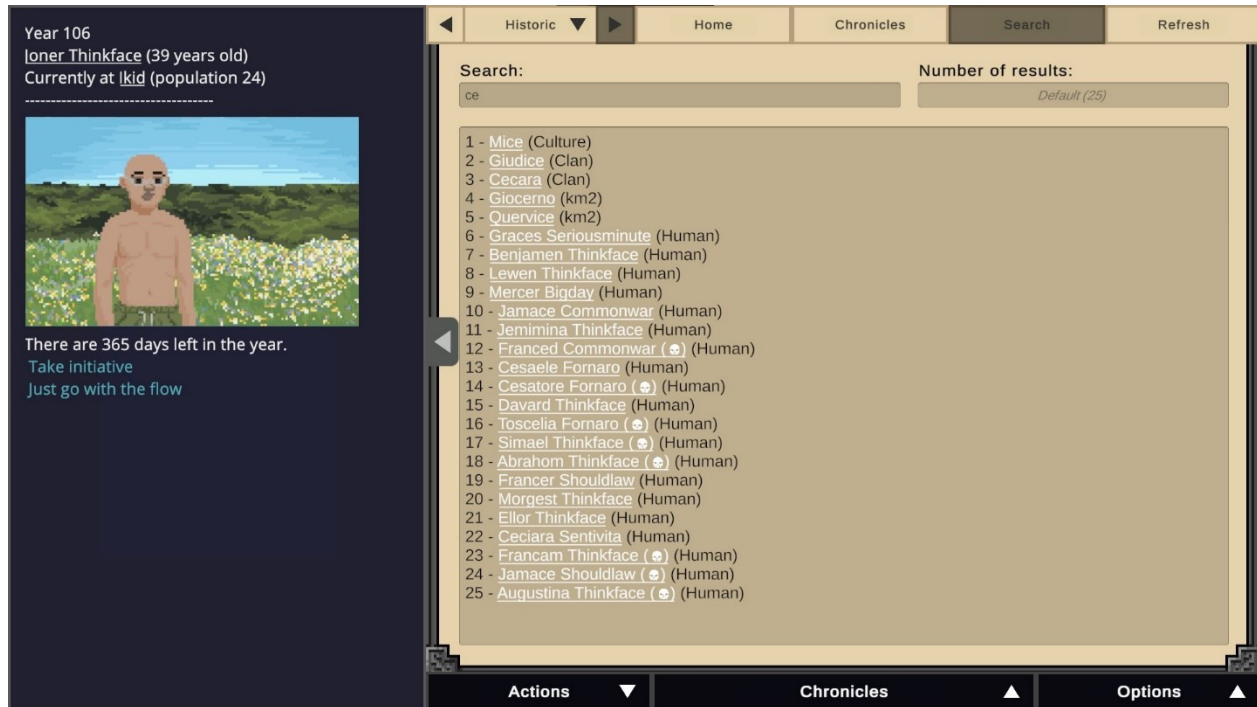


Figure C2.4 - Chronicles V1 - Search Page

The Search page, as its name suggests, allows players to search for any pages present in the Chronicles. In this iteration, the primary use of the search is to list concepts. By writing "human", only results that are of the type human will be shown; this is the same for the other pages, such as "lands" and "clans", to name a few. It is possible to look for more specific pages, but the use of clickable links minimizes the use of the search feature for that purpose.

The search works by looking for the letters typed in the input field; they do not have to be at the start of the word. As shown in Figure C2.4, not all results start with "ce", but all of them possess that combination. Another aspect worth pointing out is that the results are grouped. Cultures are above clans that are above lands that are above humans. The reasoning behind this formatting is that because there are fewer cultures than humans, if we were to show the humans before cultures, we would probably not see them in the results that are limited to 25 items displayed by default. Players can increase the amount, but it would still be inconvenient to show the categories with the most results on top of the ones with the fewest. As developers, we know which categories have the most items and which have the least, hence why they are grouped this way in the search page results.

2.3 Human Page V1

2.3.1 Human Information V1

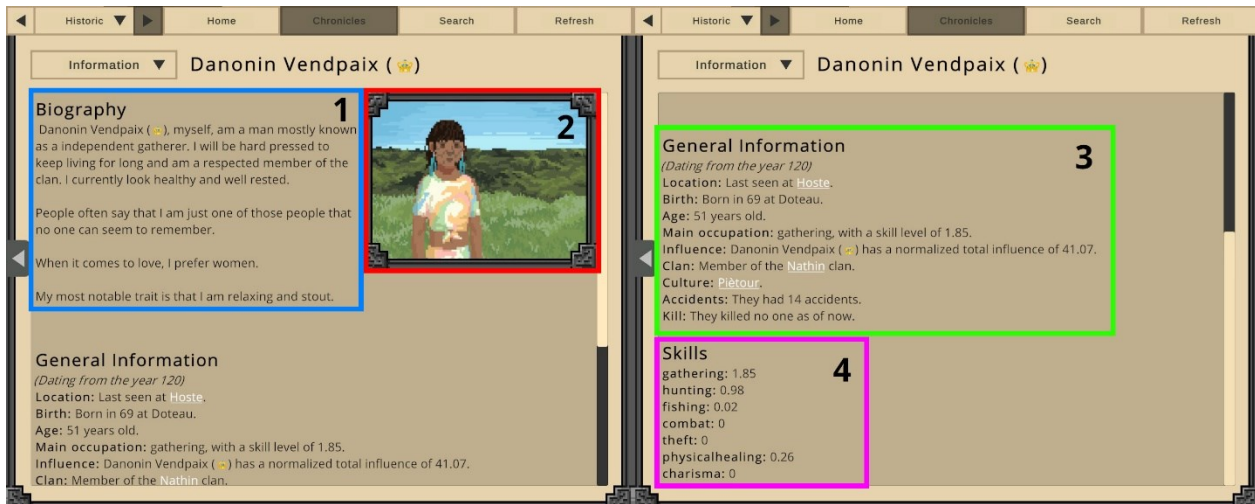


Figure C2.5 - Chronicles V1 - Human Information

In *Chroniqueur*, Humans are the driving factor of the simulation. They have two fundamental objectives, to collect food and find a partner to have descendants eventually. In order to accomplish these goals, they might have to roam the world, trekking on various lands, hunting, gathering and wooing potential suitors. As the years come and go, events will ensue. Maybe an accident while gathering, a predator attacking while hunting or perhaps a jealous lover might challenge them to a dual. There are dozens of actions humans can do and just as many things that can happen to them. Some of these actions include the formation of a clan or the creation of a chieftom. Additionally, they can organize raids for various reasons and loot other humans.

For these reasons, human pages tend to have an incredible amount of information, especially in their timeline, where every event that transpired throughout their life is documented. To simplify the readability of human pages, they are divided into three tabs; the one shown by default is called information. This tab is akin to the home page, where it gives an overview but for humans. The elements displayed at the top are a short biography of the individual, the first rectangle in Figure C2.5, and a portrait, the second rectangle in Figure C2.5. Starting with the biography, it gives a resume of whom this human seems to be. The biography reflects how a human acts in the simulation; it is here to give more context to the player and help them form an opinion on the character.

The next element is the portrait. Humans and background environments are modular, both being generated separately based on their traits. For humans, these traits come from their parents, which results in families having similar traits. As for the environment, it is based on the land's biome where the human is currently located and the biomes of the lands surrounding it. Once

both images are generated, they are combined to form one picture, the portrait. The reason for the implementation of portraits is twofold. The first reason was to help differentiate humans; the visuals are a great way to stand out when comparing two individuals. The second reason was to replicate the layout of *Wikipedia* articles on individuals. Most of the time, an image is shown in the upper right section of the page, which displays the face of the person in question.

The section located underneath the biography and portrait is the general information, the third rectangle in Figure C2.5. The content of general information depends on the year; therefore, the first line mentions from what year this information is dated. Because the information displayed is based on what year it was when the page was opened, it is common for the simulation to continue in the background. Resulting in a page about someone in year 45, but the simulation is now at year 83. As previously mentioned, the refresh button updates the information shown to the current year of the simulation. In the general information section, players can read about: the current location of a character, the year and location of their birth, their age, their main occupation⁵, their influence, their culture and accidents and kills, if they had any. The section also shows if a human is part of a clan or a chiefdom, but if that is not the case, these lines are hidden in order to minimize the crowding of information.

Lastly, in the fourth rectangle of Figure C2.5, players can find an individual's skills. These skills are essential for the simulation as they dictate how well a human performs when doing a task. Not only that, but it also helps players understand a character. By seeing skills level, players can assume how effective someone will be when they embody them but also know what they have been doing over their life, adding even more context.

⁵ The main occupation is chosen based on the skill used the most. We can determine which skill is used the most by comparing the level. The way the simulation works is that the more often a human does something, the better they become at it; hence the level increases.

2.3.2 Human Timeline V1

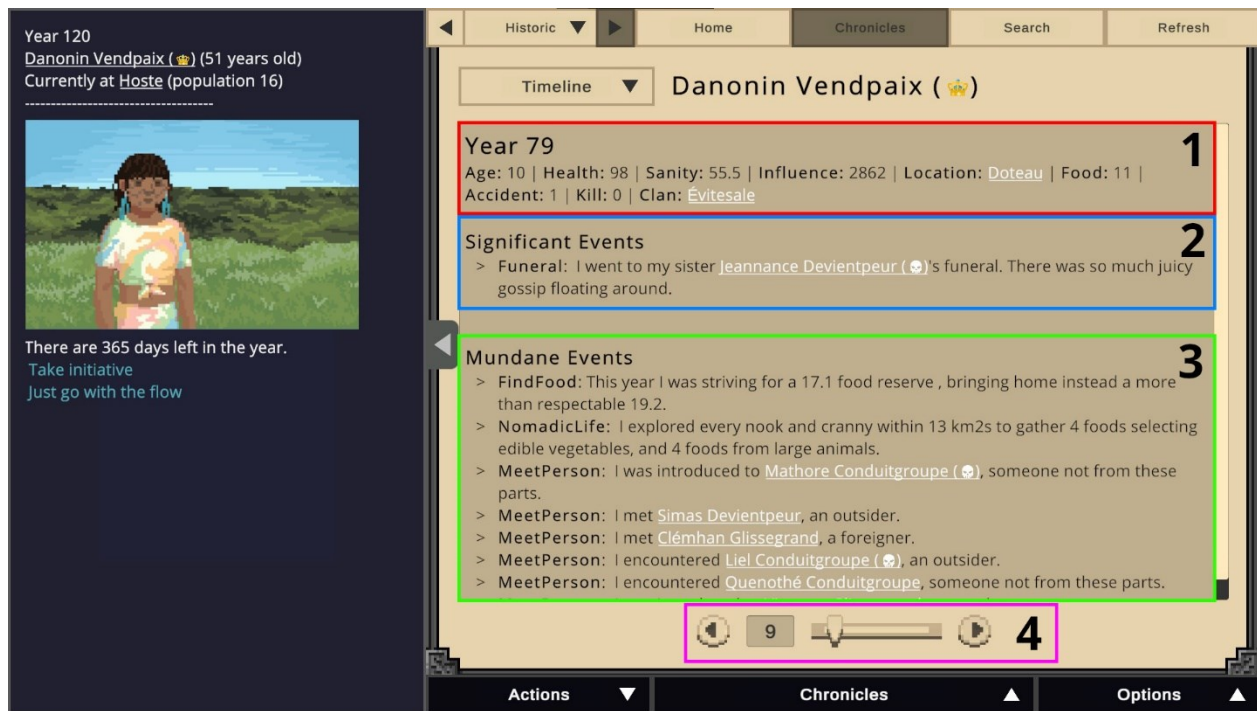


Figure C2.6 - Chronicles V1 - Human Timeline

The timeline is one of the main appeals of the Chronicles. This tab contains everything that has transpired over the life of a human. It is like a PowerPoint where each slide represents a year and contains what was going on in the individual's life.

The content can be split into three sections. The first one at the top, see the first rectangle in Figure C2.6, possesses similar details to the general information mentioned in the previous section, so players can see how these elements have changed over the years.

One behaviour that was observed when we were playing around was that we would gloss over events in the timeline because most of them felt pointless in most circumstances. There was also the repetitiveness of some events, which encouraged skimming over the information presented quickly. In order to keep a ledger of everything, as is our challenge, while still maximizing the readability of the interface, we opted to differentiate between two types of events: significant and mundane. The second section, rectangle 2 in Figure C2.6, is what we refer to as significant events. We have chosen these events because we believe they are more likely to interest players as they have a more consequential impact on the character's life.

In contrast, the mundane events of the third section, as seen in the third rectangle of Figure C2.6, are events judged to be superficial and, therefore, less likely to be useful for players. These events are judged mundane because they play a minor role in the life of humans. However, we believe that showing them is still valuable, for they can yield additional context to a narrative that a player is discovering.

Since there are likely to be more mundane events in a year than significant ones, the list of mundane events was placed underneath the list of significant events. As seen in Figure C2.6, the mundane events are taking up most of the space, which could hide the significant events list and force players to scroll. With the same approach as for the search results, the lower numbers should be placed on top to prevent as much as possible scrolling and the potential concealment of information.

Players can navigate the timeline with the help of arrows located at the bottom, the fourth rectangle in Figure C2.6. Additionally, they can also use the slider if they want to move quickly through the years. Players can utilize the input-field if they know exactly which year they want to look up. By selecting the input-field, the rectangle with a "9" in Figure C2.6, they can search for a specific moment in the timeline⁶.

2.3.3 Human Family V1



Figure C2.7 - Chronicles V1 - Human Family

Humans in the simulation have families and relationships, and the number of individuals is usually enough to warrant its own tab. The initial goal was to make a family tree with lines connecting individuals. However, this decision proved to be quite challenging. Because a human can have more than ten siblings, for example, it would make the row of siblings too long to fit

⁶ Since in programming numbers start at zero, the slider's value is always the age of a human minus one, this detail has been changed in the second iteration of Chronicles.

into the section. A solution would be to make a large canvas that could fit all the family members no matter their number and where players can zoom in and out, allowing for theoretically infinite space. Unfortunately, because of time constrain and a lack of expertise, the idea was shelved, and a simple list format was chosen. The final result follows the flow of a family tree where the parents are at the top and the children are at the bottom. If the human has no siblings, partner or children, the sections are hidden to minimize the scrolling.

2.4 Land Page V1

2.4.1 Land Information V1

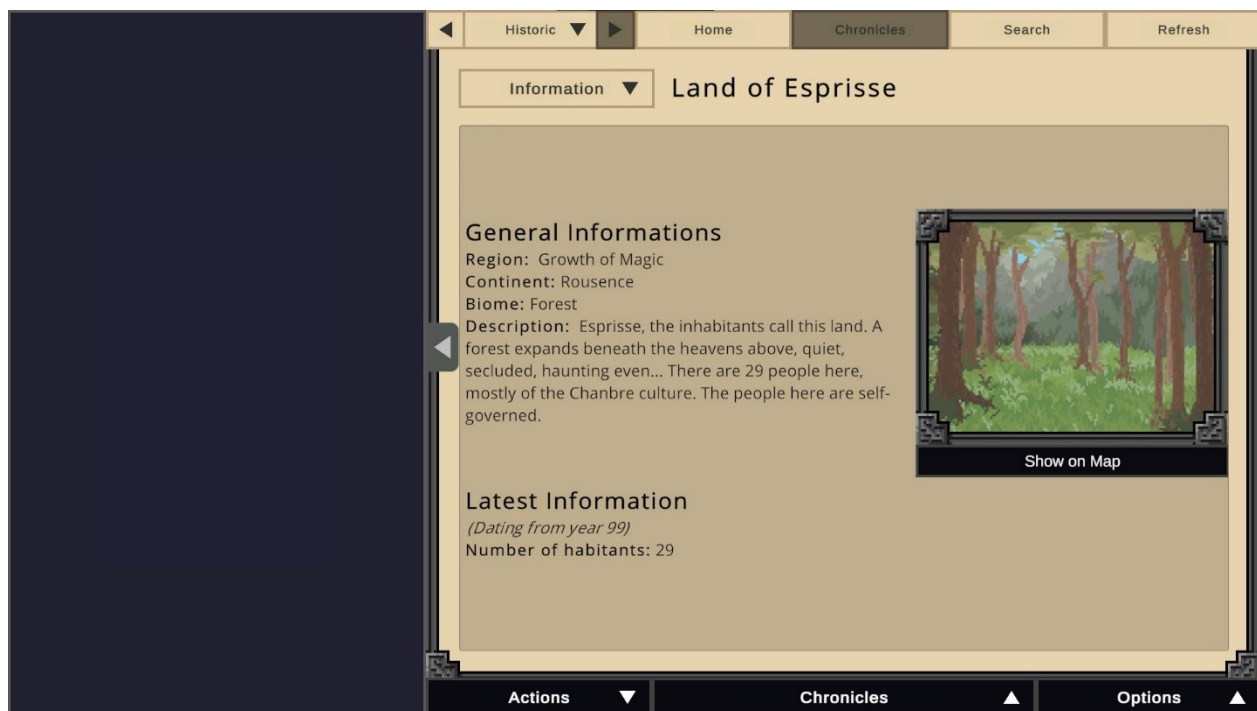


Figure C2.8 - Chronicles V1 - Land Information

Whenever a player starts a new game, a world map is generated, and for this map to easily communicate with the simulation, we cut it into numerous tiles that are the size of a square kilometre. Square kilometres (km²s) or lands are one and the same in the simulation. They are a vast area where food from plants and animals can be found to help humans stay alive. Humans can also settle on them; if enough of them gather, it becomes a village. Lands have a region, a biome and are part of a continent. All this information is detailed in the general information section, and in it, there is a description detailing how rich in resources, hostile and habited the land is. There is also a number indicating the number of inhabitants this land possesses in the current year.

Just like the humans' page, lands have an image to help players visualize how the environment looks. In some instances, houses are shown on the image whenever a certain threshold of inhabitants settles on the land.

2.4.2 Land Population V1



Figure C2.9 - Chronicles V1 - Land Population

The Population tab, as the name implies, is a section dedicated to listing all inhabitants of the km2 selected. It shows the individuals currently living on the land and does not include people that used to live here in the past or that died on the land.

2.5 Chronicles Potential

The Chronicles cover more than individuals and location; it also details sociocultural entities such as clans and chiefdoms, events like raids and social constructs like cultures. These pages follow the same design principles as the one presented for human and land pages; therefore, their description has been removed from the chapter for brevity's sake. Curious readers can refer to Annex 1.1 to Annex 1.4 for more information about these pages.

The range of subjects is currently limited to these concepts, but the Chronicles can cover even more concepts in the future. Thanks to its extensibility, new pages could easily be integrated into the Chronicles. Pages such as migrations, successions, weddings and other events that are

already present in the game simply need more information to be a worthwhile addition to the list of concepts. Nevertheless, before going further with the addition of more concepts, the interface needs to be tested, and the feedback needs to be favourable.

CHAPTER 3 | METHODOLOGY AND 1ST ITERATION EVALUATION

3.1 Methods

Chroniqueur has been in development for almost two years, and over this period, the only individuals that had a word on the game's design were the team members. Although some people outside the team previously played *Chroniqueur*, their input on the game was not the focus and was therefore not taken into consideration when developing the game. Furthermore, because of its early development phase, we did not pay much attention to users' feedback as we were still trying to figure out what *Chroniqueur* would be and how the Chronicles should operate. However, once the project reached a point where we were satisfied enough with it to present it to individuals outside the development team, we felt more comfortable testing their reception of the project and seeing how they would react to *Chroniqueur* and its Chronicles. After all, the best way to know if we designed an intuitive interface for players is by seeing how they play with it. More specifically, we wanted to know if they could find their way around the interface and if they would use the interface the way we intended.

Playtest sessions were planned to evaluate the reception of the Chronicles. Here is a brief overview of these playtest sessions; the following paragraphs will go into more detail about each step. The playtests asked participants to accomplish a list of tasks in *Chroniqueur* over a period of 30 minutes; during that session, I would take notes about their behaviour and answer any questions they might have. Once they were done with the playtest, participants would take part in a semi-formal interview, allowing me to discuss with them and get their first-hand experience. In the end, these playtest sessions would yield qualitative data, which should help us understand the pros and cons of *Chroniqueur* and its Chronicles. This process would be done on two occasions with two different groups of participants increasing the number of inputs in the hopes of getting a more cohesive answer as to how the interface fare with individuals.

I judged that qualitative data would be more valuable than quantitative data for one reason. Because of *Chroniqueur*'s early stage of development, the game's design was still in the brainstorming phase meaning that it was pointless to measure the reception of features present in the game when we did not even know if certain features would stay or not in the final build. Therefore, having players outside the development team test the game was an excellent opportunity for us to gather players' impressions of *Chroniqueur*. These impressions would help us understand players' interests and make informed decisions when designing *Chroniqueur*. For this reason, qualitative data was chosen over quantitative data because it would give us more insight into players' impressions and interests. Quantitative data would not have yielded this kind of information and was therefore not warranted.

Since first-hand experience is the best way to know how people interact with any medium, playtest sessions of around 30 minutes would be conducted to gather players' feedback on their experience with *Chroniqueur*. In order to test all facets of *Chroniqueur*, players would

have to play with the two main features of the game: the Chronicles and the embodying mechanic. As shown in chapter 2, the Chronicles is an encyclopedia players can use to read about past and present information generated by the game. In the playtests, we wanted to know if players could navigate the Chronicles without assistance to confirm their ease of use. The second feature is the embodying mechanic, which allows players to take control of a human simulated in the game. When players embody someone, they get to live as a human in the simulation. They can also interact with the world, which they cannot do with the Chronicles. At the time of the playtests, these were the actions available when embodying:

1. Gathering or hunting for food;
2. Roaming the world;
3. Changing the marital status;
4. Asking people for information;
5. Establishing a new home.

The embodying system was in an early phase of development when the playtests were conducted; because of this, we wanted to know the players' first impressions. Is the embodying mechanic appealing to them, and what would they want to be able to accomplish with it? These were the primary focus of the playtests.

Semi-formal interviews were favoured over questionnaires for two reasons. The first reason is that because this research focuses on user experience (UX), sessions where participants would interact with *Chroniqueur* were mandatory. Moreover, since individuals would need explanations on how to interact and play with the game, it felt natural to transition from a game session to an interview instead of giving out a questionnaire. The second reason is that interviews allow for more nuances in participants' answers, personal expressions, and body language contributes to the message, and these behaviours do not translate in written form ([Hanington and Bella 2019, 138](#)). In other words, there is less chance for information to be misunderstood when spoken than when written, limiting the possibility of biased interpretations that could otherwise obscure the intended message of the participant.

This research process was done twice, with two different versions of *Chroniqueur*. The idea was to test a first version of the game with a group of participants, collect their impressions and revise *Chroniqueur* to iron out any areas of contention mentioned by participants. Once the second version of *Chroniqueur* was done, another playtest session with a new group of participants was conducted to gauge their reception of the revised version of *Chroniqueur*. The reasoning behind this decision was that an iterative process would allow us to see if the changes made were a step in the right direction or if there might be underlying problems with *Chroniqueur*. However, before attempting to conduct the playtests that would be integral to this research, I wanted to test my method on a smaller scale to anticipate any potential problems that might surface and that I could not anticipate.

3.2 Research Process

3.2.1 Pre-Tests

Pre-tests felt like an essential step before conducting the first tests with participants. These preliminary tests were done with two participants. The goal was to anticipate potential pitfalls that the method had and try to solve them before attempting it with a more extensive set of participants. More precisely, I wanted to know: if the questions would adequately help me answer my research question⁷, if the framing of the playtests was suitable for participants and if any game-breaking bugs would hinder the playtest.

The pre-test worked like this: participants would have 30 minutes to play around in *Chroniqueur*; during that period, I would observe how they navigated the game and help them if they had any questions. Once the play session was over, I would have a conversation with them and write down their feedback. The conversation had a set of questions that would serve more as a guide if the discussion veered off from the main subject.

Doing pre-tests proved valuable because two elements ended up being problematic. The first problem was the playtest session itself. Because of its complex nature, *Chroniqueur* differs from the type of game players can start playing and learn in 30 minutes. While I was there to help players with questions, I ended up being more of a guide for the participants, telling them what they could do, how they could do it and where to click. This situation is problematic because it proves that the game cannot simply be shown to players and see how they interact with it. After all, the results will always be the same. I will have to step in and help them, which defeats the test's purpose.

The second problem was the interviews notes taken about players' experiences. While sifting through the information gathered during the pre-tests, I realized that all my notes were second-hand information. It was not what the participant said but a paraphrasing written by me. This simple act can considerably change the message of participants. Furthermore, another problem was that by writing down what was being discussed, my attention was split between interacting with the participant and taking notes. This tug of attention likely resulted in a rush to write down feedback to prevent long moments of silence where the participant was not doing anything but watching me write. Because collecting people's information is of utmost importance when conducting interviews, especially in a context where their feedback will shape the project's outcome, it was imperative that this issue was solved before the final tests.

The last problem also relates to the data collected about participants. Because everyone has varying degrees of experience with games and their genres, their feedback reflects their knowledge of the medium. With the way the pre-tests were done, I was able to extrapolate why the two participants had diverging opinions on the project because I knew their background and

⁷ What kind of interface could help even inexperienced players navigate a large mass of information easily?

who they were. This additional knowledge helped me better understand their perspective. Therefore, I needed to collect some information about participants' experiences with the medium to help me better understand their feedback.

The following subsection will explain the solutions to the two problems that surfaced during the pre-tests and describe the new research process used for both playtest sessions.

3.2.2 Tests Revisions

In order to conduct productive playtest sessions, three issues needed to be solved: the playtest experience, the method to collect data and the additional knowledge about participants. In the case of the playtest experience, the problems are linked to the open-ended nature of *Chroniqueur* and the limited playtime. Because *Chroniqueur* is not a narrow game with limited options and goals but rather an open sandbox game, players would quickly get overwhelmed by it. When discussing this matter with the team, we would make the comparison that *Chroniqueur* is like an ocean. If a participant is dropped in the water and is tasked to swim, they will start to swim aimlessly. However, if we were to add a buoy nearby, participants would likely swim toward it. The additional problem was that the play session was too short, preventing players from getting familiar with the game and its interface. Since we want to learn how the interface fare with new players, we have to give them reasons to use it. Unfortunately, we do not have the time to let them learn by themselves. The solution was to create little tasks to serve as a tutorial and double as the buoy. These tasks would guide the participants through the interface and quickly familiarize them with the game.

Tasks were designed following three principles:

1. They need to be easy to understand;
2. Players should be able to accomplish them quickly;
3. Ideally, the task should flow naturally between one another.

Examples of some tasks given to participants:

1. Could you open the Chronicles?
2. Can you choose a human that interests you?
3. What is the age of the person you chose?
4. Where are they from?
5. What did they do when they were 20 years old?

Going through the 20 tasks should help players learn the interface and start to understand the amount of information generated by the game as well as how to access it. Nevertheless, this solution only solves one problem.

For the issue of data collection, the root problems are twofold: firstly, participants do not have my full attention because I have to write down their feedback and secondly, knowing that they do not have my attention makes me want to write down as quickly as possible their comments, resulting in second-hand information and an interview that feels more like an interrogation than a discussion. To avoid these problems, I opted to record the playtests. The trail of thought was simple. If I record participants, I not only have a visual reference of them playing with *Chroniqueur*, which gives me more time to study their behaviour at my own pace. It also allows me to save everything they have to say, including their tone of voice, something text does not convey as clearly (Hanington and Bella 2019, 138). There would be two recordings, one of the computer screen allowing the review of the gameplay footage and one of our discussion, or in other words, one video recording and one audio recording.

Lastly, for the problem of the lack of information on participants, I decided to add a step before the playtest. This step would be just like the interview about participants' experiences; however, this time, it would instead serve to know more about them. These profile interviews would consist of questions that are related to participants' knowledge of video games, such as their favourite video games if they play video games or their favourite leisure activity if they do not play video games.

3.2.3 Final Tests

Thanks to the revisions done to the tests, the final tests end up being a three-step session. The first phase involves interviewing participants to learn more about their knowledge and interest in video games. The second phase is the playtest, which consists of making them play with *Chroniqueur* by completing a list of tasks. Phase three is another interview, where participants are asked about their experience with the game. The following paragraphs are a more in-depth description of each step.

As the pre-tests have shown, knowing a participant's knowledge of video games can help to understand their reasoning for compliments and complaints. Because the participants taking part in this research will most likely be people I do not know, inquiring about their experience and knowledge of video games will be essential, and in order to accomplish this goal, a list of surface-level questions was redacted (See Annex A2.1). These questions helped me assess the knowledge participants might have regarding the subject of the research. Depending on their answers, there is a second section with questions more suited for them. If they play video games, I want to know on which platform they play the most, their favourite games and if they have a favoured genre. Knowing this gives us a better idea of what will be their top-down approach with *Chroniqueur* and what they might expect it to do. If they do not play video games, I want to

know their main leisure activity and what they like about it. Doing this helps me speculate why they might enjoy or dislike their experience with the game.

Every interview would start with a brief introduction and the start of the recordings. The process would then go as such: I would ask the participant a question, and they would answer. Everything was done verbally, and I could concentrate on the conversation since the process was recorded. Starting with something light where the participants talk about themselves and their passion makes for a great icebreaker, and before the end of this phase, most participants seemed more comfortable with the whole thing. Once all the questions had been asked, we would start the second phase.

For the second phase of the test, participants had to complete a set of tasks (See Annex A2.2). As mentioned previously, these tasks had two purposes: guiding participants through the interface, familiarizing them with it in the process and showing what kind of information is displayed in the Chronicles. However, the tasks are only half of the playtest experience. The second half is the game's other main feature, allowing players to take control of any humans alive in the simulated world. Doing so changes the content shown in the Chronicles and adds actions players can choose to do during a year. Additionally, humans can have quests which are objectives that they want to accomplish. At the time of the tests, only two quests were implemented, find a family member that has been gone for a long time or kill someone that has murdered a family member.

While the tasks were scripted to see how players would interact with the Chronicles, the embodying part was more open-ended. Now that participants were more familiar with the game, their new task was trying to accomplish their character's quest. During this part, participants were left to explore the game how they wanted, and my role was to ensure that they would avoid getting stuck in the game and answer their questions if they had any. This phase would conclude either when the player managed to complete their quest or when they could no longer accomplish their quest.

Phase three is very similar to phase one, it consists of another interview, but this time it focuses on the experience of participants with *Chroniqueur* rather than their preferences for leisure activities. When conceiving the questions, the overall experience was the scope, not just the interface. The approach was broadened for two purposes. The first one is that it would be the first time people outside the development team would play this new game version. Since new people were going to play the game, the opportunity was seen as an excellent way to further the research and improve *Chroniqueur* as a game. The second reason to broaden the scope was to prevent limiting participants' feedback. Since the interviews are a discussion, stopping participants' train of thought because it was going out of the scope of the research would have prevented them from freely sharing their opinions. The exchange is compromised if participants start to censor themselves because they think the research might not need some information. Although it is more time-consuming to curate the feedback after the tests, the results are far more valuable for the research and the game.

Questions were written as a way to direct the discussion and avoid missing subjects when conversing with participants (See Annex A2.3). Dana Lynn Driscoll recommends doing four things in order to write good questions ([Driscoll 2011, 163-164](#)):

- 1) Ask about one thing at a time;
- 2) Avoid leading questions;
- 3) Understand when to use open and closed questions;
- 4) Write clear questions.

I adhered to three of the four principles of Driscoll when I wrote my questions. For the first principle, I would choose a subject to ensure that the questions would only ask about one element. The subject would be a mechanic or feature in the game. For example, the navigation of the Chronicles, the embody feature, the narrative elements, etcetera. The second principle was to ensure that all the questions were open-ended to prevent yes or no answers, which are detrimental in qualitative research. Since the data collected is qualitative, having various yes or no answers would be purposeless. The comments and recommendations from participants are what will be of value for both iterations of the interface. The last principle I followed was to make clear questions; I did my best to write straightforward questions that would be easy to understand and avoid confusing participants.

There is one principle that Driscoll suggested doing that I decided to alter, which is to avoid leading questions because it can create bias in the answers. Although I want to avoid bias in the collected feedback, I also want to probe deeper into why a participant may like or dislike something. This compelled me to lead some questions, but I would do so in the opposite direction of how the participant seemed to stand. If a participant's overall experience was positive, I would sometimes ask a leading negative question to see if their perspective would change. The purpose of doing this was to see if, by challenging their reception of the game once in a while, more information would be shared to either reinforce their stand or mention something they might have otherwise left out.

The following subsection will discuss the results of the first playtest session and how all the information collected was organized to make it more manageable.

3.3 Chronicles V1 Evaluation

Six participants tested the Chronicles' first iteration in the first playtest session and had many things to say about it. The results from these sessions are six recordings of two to three hours, representing a daunting mass of information to sift through. Although the previous section mentioned how texts do not clearly communicate the tone of voice like a recording, it does make the process of finding information far quicker. Because of this, I decided to transcribe all the recordings, which took one week to accomplish and resulted in 37 pages of text instead of 12 hours of audio. However, reviewing the feedback and searching for specific topics was now more

manageable. Whenever a sentence was unclear, or I was unsure of the participant's intention, I could always refer back to the recordings.

Although transcription made finding information more straightforward, there was only so much it could do with six participants and interviews well beyond one hour in scope; it is not surprising that the results are 37 pages of text for just the first session of playtests. An ocean of information, which makes it hard to comprehend all the knowledge present in it. This problem has to be the most ironic one for such research. After all, when the problem is that an overabundance of text can completely overwhelm a user, rendering most of the information meaningless, it is hard not to laugh at the situation where the method that should help alleviate the problem ends up causing the same problem.

The information was condensed as a series of bullet points to cut out some of the fluff. Turning huge paragraphs into sentences of one or two lines makes participants' messages more evident. However, paraphrasing each point proved difficult as for every statement made by a participant, a revision of the context, be it by reading the whole paragraph or listening to the recording, was necessary to avoid erasing the participant's intent. These bullet points were much more convenient, but to facilitate the readability even more, they were categorized into game and interface. Interface is for all the comments relevant to this research, while game is for everything else. In the interface category, there are four subcategories: good, ambiguous, missing and bad (See Annex A3.1). Bullet points that are good are considered things that should be kept the same since players appreciate them. Bullet points that are ambiguous are things where it is unclear if they represent positives or negatives for players. Missing is, as the name suggests, things that players felt were lacking in the experience. Lastly, bad elements must be changed or removed based on participants' comments.

3.3.1 Good

Here are the good elements of Chronicles' first iteration:

- All participants had no difficulties with the clickable links; one of them even mentioned that it is obvious they are clickable;
- Two participants liked the amount of information; one of them even mentioned that it was not overwhelming, thanks to the sections;
- One participant found that the images alleviated a lot of the tenuous part of text-based games where you have to read a lot which they found pleasant;
- Another one liked that because it does not show precisely what happens; you can imagine the scenarios;
- One participant liked being able to explore the world as if it was a history book;
- One participant appreciated the Chronicles because it gave them a feeling of being some kind of detective;

- One participant found it nice that there was so much information that could be useful;
- Lastly, one participant liked the fact that when travelling, they had all the information about places they would visit.

Based on the feedback collected, the first iteration has three main positive takeaways. The first one is the links; all participants were able to figure out how to use them quickly, they did not require any assistance. Combine this observation with the comment of one participant saying: *"There were things that I didn't know I could click on; the links, however, were good because of their underline it was very clear that they could be interacted with."* We can therefore assume that the links are a safe avenue for the second iteration.

The second takeaway is that fragmenting the content seems to be a good alternative to prevent the information from overwhelming the players. However, only two participants stated this; for the others, it was not as clear cut.

The third takeaway is that images could reduce the amount of text present in the Chronicles and, therefore, reduce the oversaturation of text. Although only one participant mentioned this, it is an avenue I judged to be worth exploring for the second iteration.

3.3.2 Ambiguous

Here are the ambiguous elements of Chronicles' first iteration:

- Four participants found the interface adequate once they understood how to use it;
- One participant felt that the navigation was fine for the complexity of the game;
- One participant believes that if they were more familiar with the game, they would not have many problems;
- When travelling, one participant found the images to be much more helpful than the little bit of text describing the environment. Because of this, they started to gloss over the text and the name of places;
- One participant felt a lot of information feels superfluous, but that is because they were not given a sort of outline early; maybe a tutorial or something similar would have helped them;
- One participant mentioned that the Chronicles should probably have less content in order to make it more memorable or maybe spread it differently or something else; they are unsure how;
- One participant, in their experience, felt that a lot of information was not necessary because it had nothing to do with their quest. But they do not think there are unnecessary elements.

There are some contentious points that are neither good nor bad when it comes to the Chronicles' first iteration. The one element that bothers me the most is that a majority of

participants said that the interface is adequate; they simply need some time to get accustomed to it. Although the feedback appears to be positive, I perceive it as unfavourable because all of them needed guidance to make their way through the Chronicles. Additionally, two participants leaned toward similar conclusions. Ideally, all participants would agree on the interface's state and would not require assistance to learn it; therefore, I believe that some things need to change.

Another participant commented about the images, but it is more ambiguous this time. For them, the images were more helpful than the text, which is a good thing because it means that the Chronicles are helpful in different ways for players. However, this situation led them to avoid reading text, which is not ideal when most of the content is text. Even though this participant was the only one to raise that point, it is possible that others felt the same but did not mention it.

The last point of contention is the amount of information in the Chronicles; some mentioned there is too much information leading them to believe that most of it is useless, while others said there needs to be more; in the end, it is hard to know who is right and who is wrong. Since a second playtest session was planned, I decided to fix other problems and see if the second group of participants would also bring up the amount of information as a problem before trying to tackle it.

3.3.3 Missing

Here are the missing elements of Chronicles' first iteration:

- Two participants mentioned that there should be a tab system/bookmark page;
- Two participants mentioned the lack of icons, one of them believes it would help them remember information;
- One participant assumed things like the pause button would always be visible, like in *RollerCoaster Tycoon* (Chris Sawyer, 1999) or *The Sims* (Maxis, 2000);
- One participant was expecting to see faces in the family tree;
- One participant wants to have a page with a list of countries, towns, etcetera;
- One participant wants an overview of places they are looking at, the same thing for animals and floras.

Regarding the list of elements missing in the Chronicles, a repeating theme is the lack of visuals in the interface. One participant was expecting portraits in the family tree, which makes sense as family trees tend to have pictures in them. Furthermore, because there are already images of humans in the Chronicles, why would they not be shown in the family tab? Additionally, two participants talked about icons, and one of them believed that it would help them remember information more easily. In short, the second iteration genuinely needs more visual elements.

A feature that two participants have requested is a bookmark system. In essence, this feature would allow players to save pages and access them quickly when needed. Funnily enough, this is a feature common in web browsers, and one of the participants who brought up this idea said that the Chronicles kind of looks like a web browser. Since this is a feature requested by participants, is commonly found in web browsers, and would most likely improve the navigation of the interface, I judged the addition of a bookmark system to be a priority for the second iteration.

Lastly, one participant requested that more elements present in the game should have their own page in the Chronicles. This proposition aligns with the sentiment of the team, who also wish to add more information to the Chronicles. As a side note, that participant was part of the few that said that there was too much information in the Chronicles, which secured my decision to wait for the second playtest session before trying to solve this problem, which might very well be different from what it seems.

3.3.4 Bad

Here are the bad elements of Chronicles' first iteration:

- One participant disliked the user interface since there are a lot of things that are hard to find;
- One participant felt that their first impression was that a lot of things are hidden;
- One participant disliked the most the user experience in the menus, it should be easier for players, and they should not search so much to find what they are looking for;
- One participant found that Chronicles tabs and buttons, such as embody, should not be grouped together;
- One participant said that having a drop-down menu for tabs is not ideal since they did not know there were multiple pages until I told them;
- One participant mentioned how if they wanted to see a country, they would click on someone to see it;
- One participant found the world nice, but there is a discontinuation of graphics like the UI elements, the 3D world pixelization, the perceived higher resolution of water, the trees and flags resolution, the pixel art resolution and the font choice, which is smooth. In short, there is a discontinuity in resolution/aesthetics;
- One participant does not think the text is uninteresting; however, things are highlighted the same way (referring to links) but they are not the same thing;
- One participant remembered the name of one character and that they died at 60 years old, but that is about it. Because there was so much information that they could not interact with it in a meaningful way, nothing else struck them.

As a result of this playtest session, the feedback is loud and clear; too many elements are hidden behind menus and sub-menus. The biggest offenders are the drop-down menus. Participants found it hard to find buttons which made learning the interface difficult and unintuitive. Moreover, from my observations, I have to agree that no one liked the drop-menus and that, after seeing so many players struggling with them, they have to go. The drop-down menus are just one problem with the navigation; one participant pointed out that if they wanted to access a land page, they would first have to go through a human page to find the land's link. This situation leads me to believe that not all pages are readily accessible. This situation had to change before the second playtest session.

A participant with a more artistic background pointed out the visual conflict present in the game's art. Where some elements are pixel art, others are more vectorial. For them, it was distracting, and although *Chroniqueur* is still in development, I would admit that starting to settle on an art direction would not be a bad thing. This problem applies to the game as a whole; however, the art direction also influences the presentation of the interface. Therefore, the sooner we settle on a style, the easier it will be to adapt the interface.

Continuing on the aesthetic side of things, a participant mentioned that some visual cues could be better. Their main problem is that the links all share the same colour but can be various types of pages. Having different colours for the links could be a solution. However, I prefer not to change this for now as the links are functional and adding multiple colours would only complexify the interface and become a hindrance when considering colourblind people.

Although the results of the first playtest session proved to be quite fruitful, a second playtest session with a new iteration modified based on the feedback from the first session felt necessary. While the first session gave ample points of failures and positive elements about the interface, the recommendations and comments made by participants are not a sure-fire way to improve the interface. The second playtesting session is a reliable way to know whether the interface's revisions are successful with players or not. Obviously, it is not a perfect method as every player has a unique outlook, and what might work for some may not work for others. Nevertheless, if most participants have a favourable opinion about the experience, then a case can be made that the project and its interface are going in the right direction. With the problems of *Chronicles'* first iteration being more defined, the next step was now to solve them and test the second iteration with a new group of participants.

CHAPTER 4 | CHRONICLES 2ND ITERATION AND EVALUATION

The first session of playtests ended up yielding far more feedback than expected, and the results are precise; the first iteration of Chronicles needs an overhaul. Participants' behaviour and comments have highlighted multiple problems with the user interface (UI) and overall user experience (UX). The following subsections will go into more detail, but here is an overview of the main problems that had to be solved:

- Navigating the Chronicles is unintuitive; all participants needed help understanding the interface's navigation, and none of them could learn by themselves without my guidance.
- Features at the players' disposal felt hidden; the search page, the embody button, pausing the simulation, and changing the simulation speed. All of these features were hard to find for participants to the point that most of them ended up being unused. Participants' common critique is that important options should be shown front and center instead of in submenus.
- Participants asked for more features; they felt that the game was lacking in some aspects when it came to navigating the Chronicles.
- A lack of visual elements; participants speculated that more images and icons would make the UI more intuitive and facilitate the retention of information.

These are the four issues that had to be solved when redesigning the interface of *Chroniqueur*. The redesign was a collaborative effort with the team working on the game, just like for the first iteration design. However, one new addition to the team is Natalia Balska, a graphic designer. As the feedback gathered gave us a better idea of where the project would go, we felt that a visual identity for the game would benefit the new iteration of Chronicles.

The following subsections will explain the redesign process for each Chronicles' page, starting from the menus and going through all the tabs, detailing their problems and the solutions we deemed appropriate.

4.1 Chronicles V2 Navigation bar



Figure C4.10 - Chronicles V2 - Navigation Bar

This research focuses on the user interface (UI), and a vital point of any good UI is its navigation. If navigating the interface causes problems for the user experience (UX), then the UI

needs to be changed and adapted to users' needs. Although working for months on a project and witnessing its shortcoming is heart-wrenching, it is an incredible source of motivation to go back to the drawing board and try to correct as many issues as possible.

The navigation of Chronicles was one of the most significant problems to solve. Even though the idea was to replicate a web browser, some differences were detrimental to players' experience. Starting with the search bar, Chronicles V1 had a search option. However, it was its own individual page. Very few participants used the search feature in the playtests. Some factors could explain this phenomenon: perhaps it was tedious to change pages to search for something, or participants simply had no use for search during the playtest.

Nevertheless, the fact that the feature was not used all that much proved that it did not warrant a dedicated page for itself. The redesign was to condense it into a single line where when a player types something in it, a small menu with the same width as the bar would open and show the results. The other difference was the removal of the ability to change the number of results shown. The reasoning was that the purpose of the search bar would be different. In the first iteration, the search page allowed players to find specific pages⁸, but it also doubled as the place to find lists of pages. Meaning that if a player were to type "clans", the results would display a list of all the clans. In the Chronicles' second iteration, the pages' lists were integrated into the home page instead. The purpose of the search bar is now exclusively to find a specific page and nothing more. This change aligns with Nielsen's fourth heuristic principle: consistency and standards ([Nielsen 2005, 4](#)). Because the navigation is lifted from web browsers, the search should also act like in web browsers. Users employ the search feature when they are looking for something specific; they do not use it to display an exhaustive list of elements. Additionally, in most applications and websites, the search feature is never its own page; it is usually a bar located at the top, which takes up less space.

The other major revision made is for the tabs (See Figure C4.10), they are information, timeline and family. The previous iteration used drop-down menus for multiple elements, such as the tabs, embody, and export buttons. The reasoning behind the use of drop-down menus was that it would allow the addition of numerous tabs to pages without having to account for the space required in the interface to add them. Simply put, it would make it easier to expand the Chronicles without redesigning the interface again and again whenever a page would have too many tabs. Every participant had to be told about the tabs, which indicates that they were not intuitive and that the drop-down menu was not cutting it. This observation, coupled with the fact that most pages did not go beyond three tabs, made us reconsider the utility of a drop-down menu. The redesign drew directly from our original source of inspiration, web browser tabs. Participants could now see all available tabs and specifically select the one they want to see, no more tedious steps of opening the drop-down menu and, in some cases, scrolling to find the coveted tab. This redesign adheres to Nielsen's third heuristic principle: user control and freedom

⁸ Humans, lands, clans, chiefdoms, raids and cultures.

(Nielsen 2005, 3). With the removal of drop-down menus, players can now access any tabs with only one click streamlining the navigation process and allowing them to undo or redo an action easily. Additionally, by showing at all times all the available tabs as well as the one currently selected, the navigation should be much more straightforward.

Removing the drop-down menu also forced us to rethink the placement of some buttons. The embody button, which allows players to take control of a human in the simulation, was previously shown in the drop-down menu of human pages. However, since there are no more drop-down menus, we decided to place it on the right side of tabs. The other button is a new one, the bookmark button. This feature was requested by some players so that they could save pages and quickly access them. Participants likely asked for this feature because they often had to alternate between pages but, most of the time, could not remember the page's name⁹. By adding a bookmark feature, players can save a page and view all the saved pages by clicking on the bookmark button at the top. This button will open a menu and display a list of all saved pages. Players can then click on any of these pages to open them in the Chronicles.

The rest of the navigation bar stayed the same in functionality but, thanks to Natalia, got a visual upgrade.

⁹ This problem is not linked to the research, it is linked to the complexity of names which mainly affect humans, but the other pages are not exempt from this. Because it is more related to a game problem rather than an interface one, it will not be further discussed in this paper.

4.2 Home Page V2

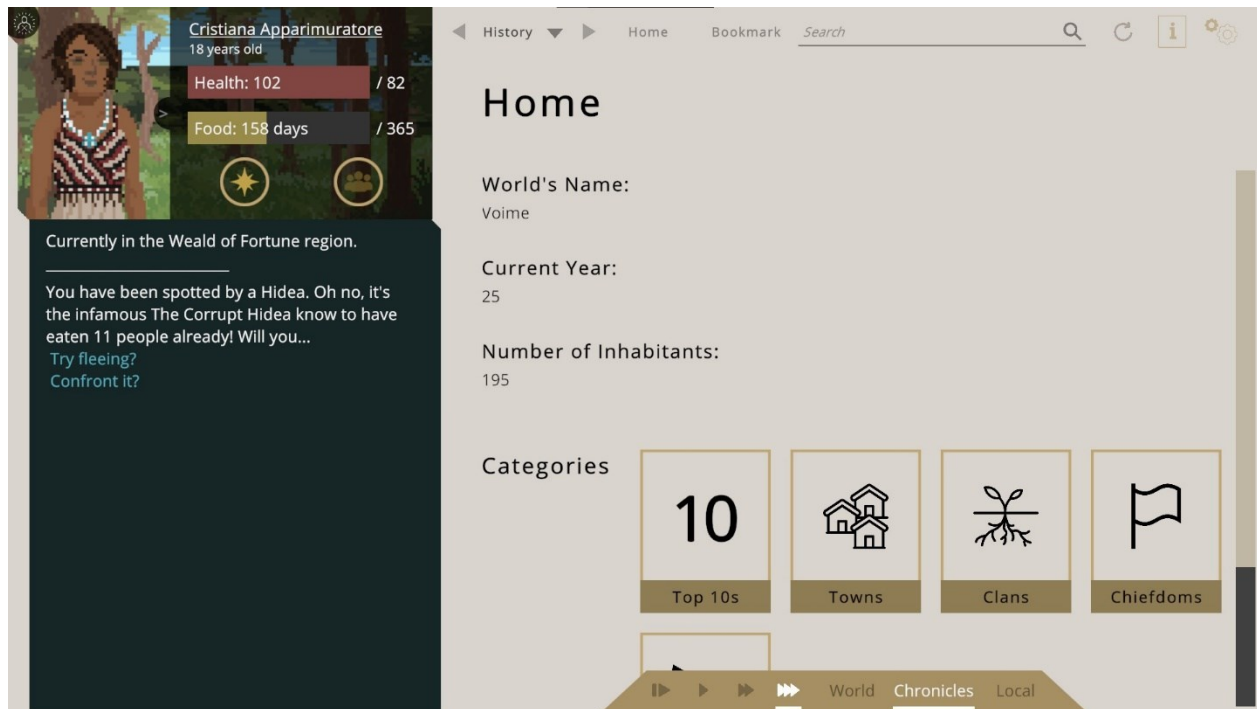


Figure C4.11 - Chronicles V2 - Home Page

The home page received no complaints, but it was not praised either. It served its purpose, nothing less, nothing more. Nevertheless, we already had plans to improve it before the first session of playtests was even conducted. Receiving no criticism left us with more freedom to change its layout.

The primary role of the home page is to offer entry points for story discovery¹⁰. The top 10s are one way to introduce humans that might have an interesting story somewhere in their timeline. In the first iteration of the home page, only two lists were present. In order to prevent making drastic changes between the first and second iterations, the second iteration kept the same lists. The reasoning is that it becomes harder to compare both iterations' reception if they have more than visual differences; adding content discrepancies would also impact participants' experience. For the method to be as fair as possible, the changes should be limited to the visual presentation, not the content. Ideally, the content shown should be the same¹¹ to isolate what is being tested.

Nevertheless, we have plans to add more top 10 categories in the future, which means that the home page will become longer and, therefore, more tedious to explore. Additionally, participants asked for a place where it is possible to view a list of villages, clans and chiefdoms.

¹⁰ See section 2.1 for a refresh.

¹¹ At least as much as procedural generation allows it.

This resulted in the search feature losing one of its purposes. The second iteration of the home page now serves not only as a page for entry points but also as a recollection of primary pages, which in hindsight, makes sense as the two purposes are intrinsically linked. These lists are shown in a grid-like pattern of multiple categories: top 10s, towns, clans, chiefdoms and fauna. Clicking on any of them will reveal a new page containing elements from the selected category.

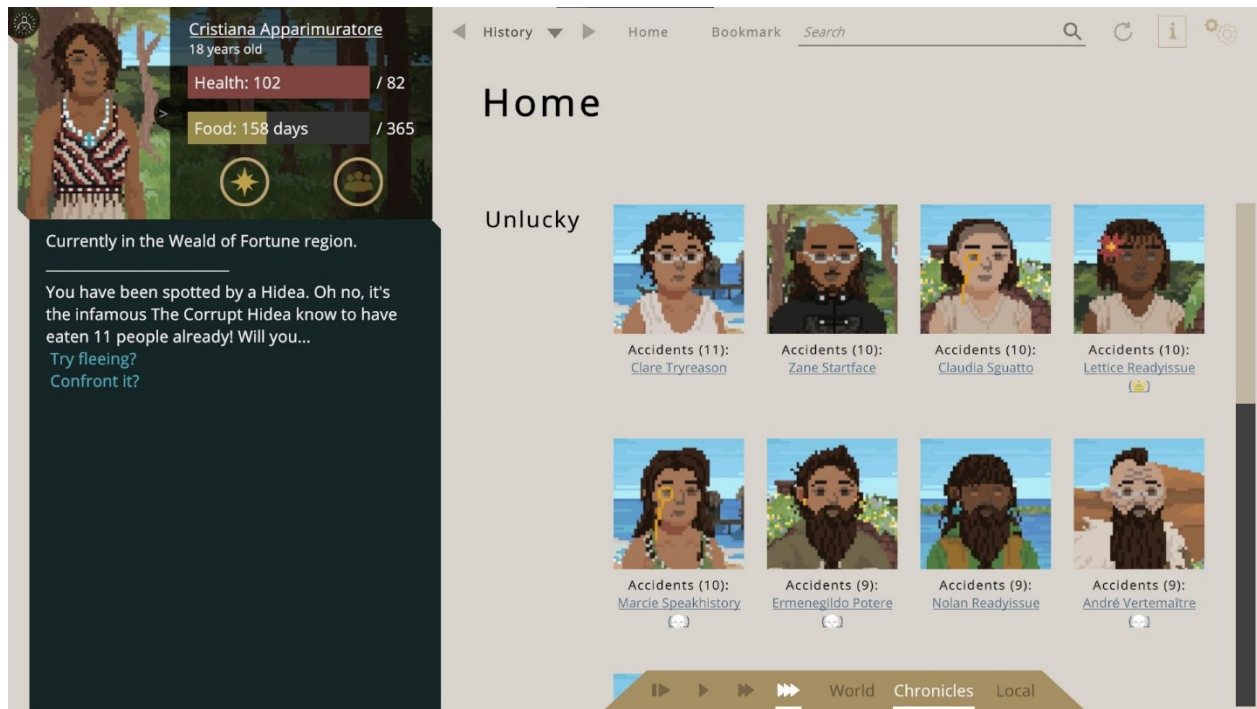


Figure C4.12 - Chronicles V2 - Top 10s

As previously mentioned, no participants complained about the home page; this includes the top 10 list presentation. However, as seen in Figure C4.12, the change is quite drastic compared to the previous iteration. Humans now have their faces displayed more often in the Chronicles. Three reasons are behind this decision. The first one is related to one of the main complaints about the interface and its lack of images and icons. Since we already had portraits, it was just a question of showing them elsewhere. The second reason is related to the names being hard to remember; some participants mentioned how they had an easier time remembering faces than the name of characters. Showing portraits was now solving two problems at once. The last reason was that many players liked the portraits' art. Since people like the portrait, why not show them more often? These are the reasons why the top 10 are so different, but as the following subsections will show, the home page is not the only one to benefit from this redesign.

The other difference is the grid layout instead of the list layout. This change was made because of the addition of portraits for individuals. A list with ten humans would drastically increase the page length if only one element were displayed on top of one another. By adding

more columns, we can fit more individuals on the same row, making the section shorter and allowing players to compare humans more easily. Like the portrait, the grid layout is present on almost every Chronicles' page.

4.3 Human Page V2

4.3.1 Human Information V2

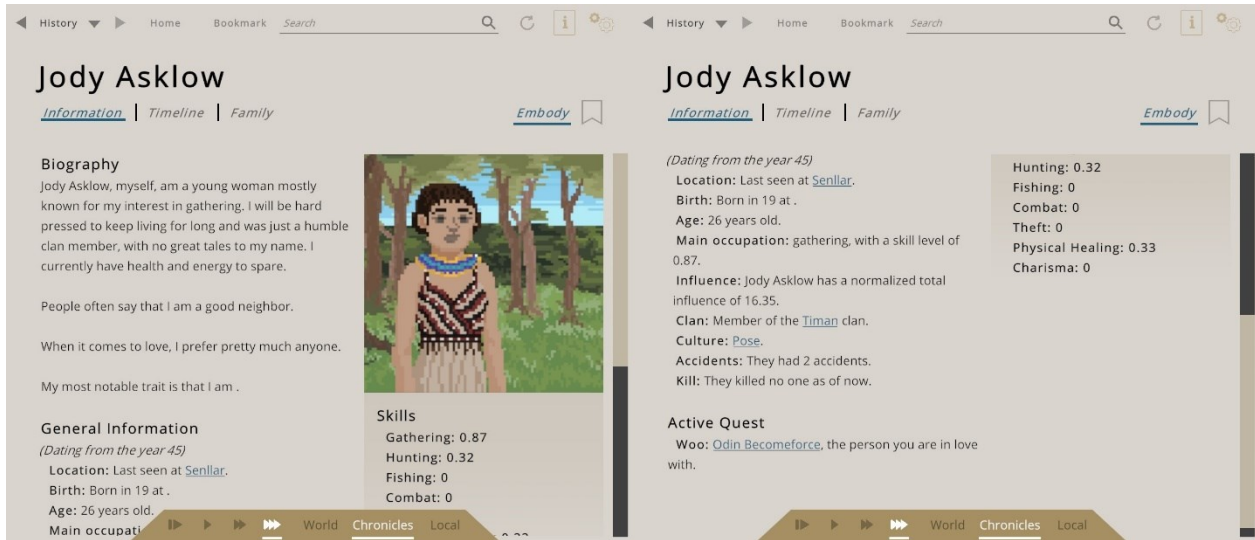


Figure C4.13 - Chronicles V2 - Human Information

Since the human page was one of the pages where players had the least difficulty reading, nothing significant was done to rework the layout. The overall aesthetic was modified to suit the new visual direction. These changes include removing the border for the portrait and a new aspect ratio to take less space and show more of the human rather than their environment. The information displayed in the general information section in tabular form makes the title stick out more and reinforces a visual similarity akin to bullet-point lists without adding the bullet points. The same tabular form was done for the skills which have been moved from the bottom of the content to the bottom of the portrait. This change was done to mimic the page layout of *Wikipedia*, where most pages have a block to the right of the page containing a picture and some statistics. Moving the skills was also an excellent way to optimize the amount of information shown on the page while minimizing the page's height and reducing the amount of scrolling for players. These modifications make for a better aesthetic and minimalist design, which is Nielsen's eighth heuristic principle (Nielsen 2005, 8). The use of bold text for contrast, tabulation for alignment and repetition of these principles for different sections and on all pages strengthen the design and the readability of the interface without saturating it. Lastly, just like in the first iteration, quests are displayed at the bottom of the page if the human has one. No changes were made on that end for the second iteration.

4.3.2 Human Timeline V2

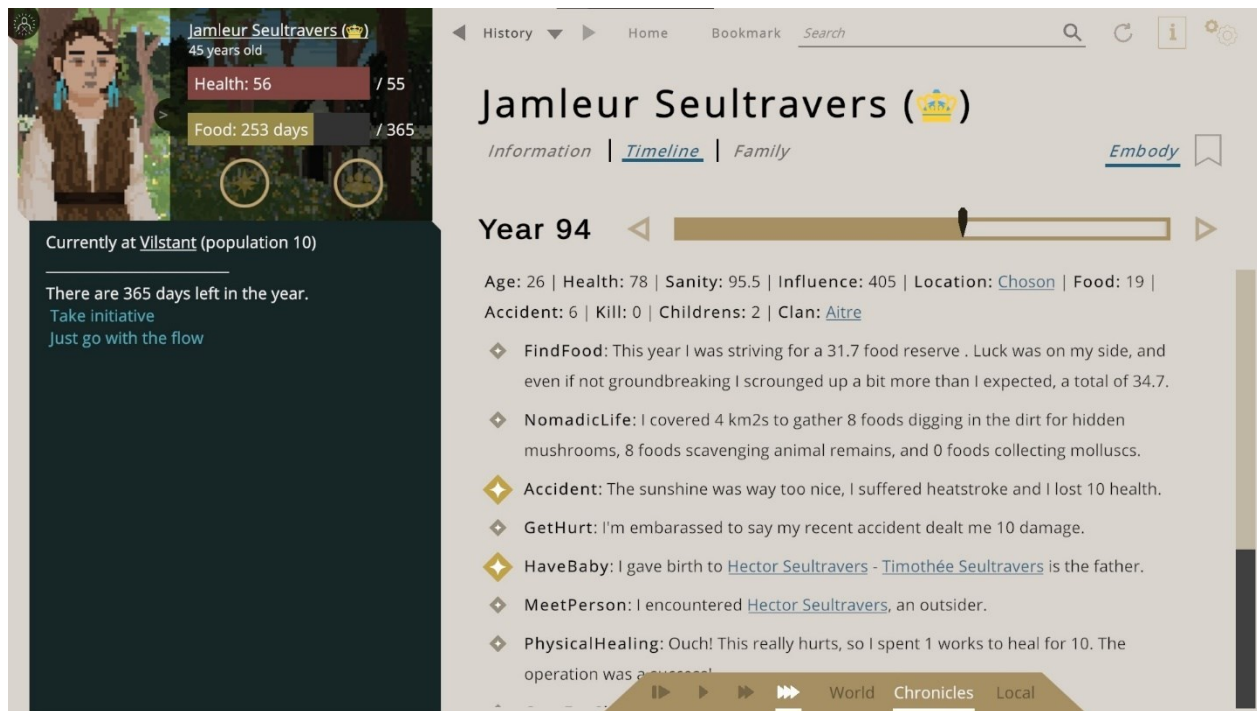


Figure C4.14 - Chronicles V2 - Human Timeline

The timeline had two significant flaws found during the first playtest session: the navigation and the sorting of events. Starting with the navigation, one observation was that almost every participant needed help understanding how the timeline operates. To give a brief recapitulation, the page function like a PowerPoint where each year represents one page. Players can cycle through each year someone was alive and read about their lives on a yearly basis. In the old iteration, the controls were at the bottom of the page, which meant that players had to look at the entire page and would either overlook or fail to understand the purpose of the controls. In the redesign, they were placed at the top, right next to the year. In theory, this would be one of the first things players see which might grab their attention from the get-go. Additionally, changing the page would change the year, making the readability much more apparent than in the previous iteration, where it was harder to see that the year would also change with the rest of the content. In short, these changes should provide better feedback when interacting with the timeline by informing players more efficiently, just like Nielsen recommends with his first heuristic principle: visibility of system status (Nielsen 2005, 2).

The second change was a reimagining of how the events are displayed. In the first iteration, events were split into two categories: significant events and mundane events. This distinction was made to grab players' attention, with events judged to be more appealing for the discovery of stories. Sadly, the results were that most participants paid no attention to mundane

events. Another problem was also the fact that by separating the events, we break the continuity of the events of individuals. Looking at Figure C2.6, one could assume that the funeral was done before everything else, but that is not necessarily true. However, because it is placed in a different category, it is also impossible to know when it happened in the timeline of the human. To correct this issue, the second iteration does not split events from one another; instead, it keeps them grouped together but adds icons next to each event (See Figure C4.14). The small and grey icons signify mundane events, while the more prominent and gold icons are significant events. This revision does not break the continuity of events and should minimize players' behaviour of skipping events when reading the timeline while also preserving the distinction between each event.

4.3.3 Human Family V2

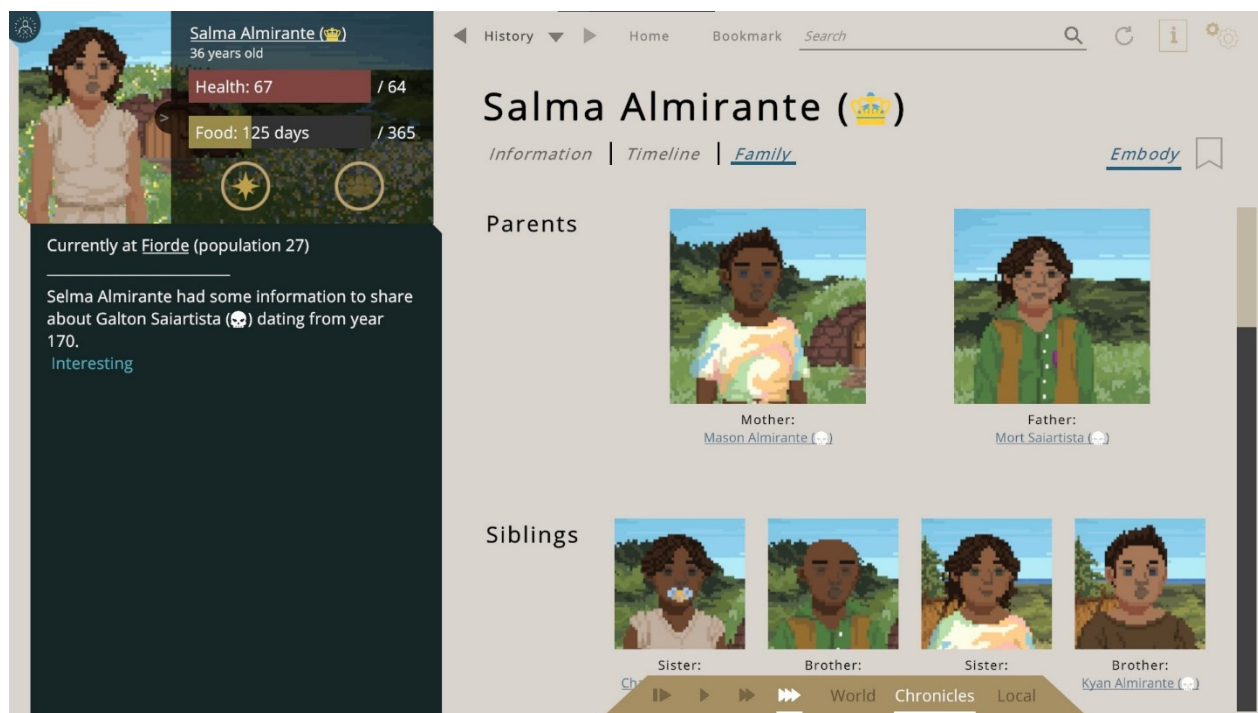


Figure C4.15 - Chronicles V2 - Human Family - 1

Early in the conception of the first iteration of the Chronicles, a family tree was a top priority for human pages. However, as previously mentioned, time constraints and a lack of abilities made it impossible to realize. Still in the back of our minds and brought up by multiple participants that seeing individuals' faces would be helpful and prettier, the idea came back into consideration. Fortunately, an idea came up while brainstorming; we do not need to show the lines of connection in the family, let alone place individuals in a single row; all we need is to group them together and show their faces. This is how the grid layout came to be; it was simple to implement and allowed us to reuse elements that had already been developed. As the

development of the second iteration progressed, other pages started to implement the grid layout because it made the interface more consistent¹², and since it was the same layout being reused, it was a lot quicker to assemble, making the whole process more efficient.

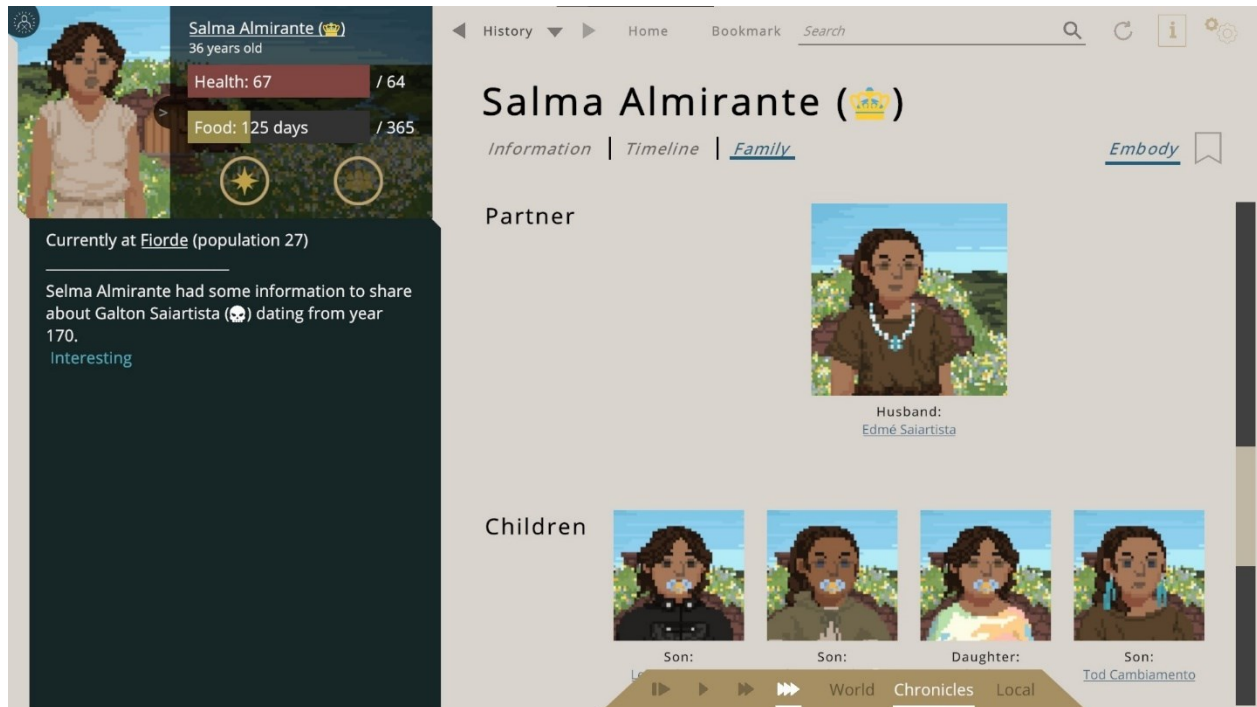


Figure C4.16 - Chronicles V2 - Human Family - 2

As seen in Figure C4.15, the parents of the human currently being viewed are shown at the top, just like a typical family tree. Underneath the parents are the siblings; this section is hidden if the individual has no siblings. Because of how humans are simulated, children take traits from both parents, making it more likely that a child will look like them¹³. However, our system does not support the generation of children visually. To remedy this, some team members suggested a pacifier on the portraits of children. An idea that is still contentious among us. Under the sibling section is the partner, and just like the siblings, if a character does not have a partner, the section is hidden. The children's section is identical to the siblings' section in form and function.

The reason why sections are hidden when they have nothing to show is to reduce the height of the page. If there is nothing to show in the section, why display an empty section and add more scrolling in the process? Another element worth pointing out is the size difference

¹² See Nielsen's fourth heuristic principle (Nielsen 2005, 4).

¹³ A fun aspect of this system combined with the new interface is that it is easier to see when someone has been adopted into the family, their name and their face would stand out from the others.

between some sections. Because it is rare for humans to have more than two parents¹⁴, and we currently only have monogamous couples in the simulation, a larger picture is displayed to facilitate the visibility of the portrait. Nevertheless, this is different for siblings and children. Humans tend to have numerous children, which results in more siblings. To minimize the space taken by large families, these two sections were made with four columns rather than two columns like the parents. This way, we can display two times more individuals for the same height amount without sacrificing the readability of portraits too much.

4.4 Land Page V2

4.4.1 Land Information V2

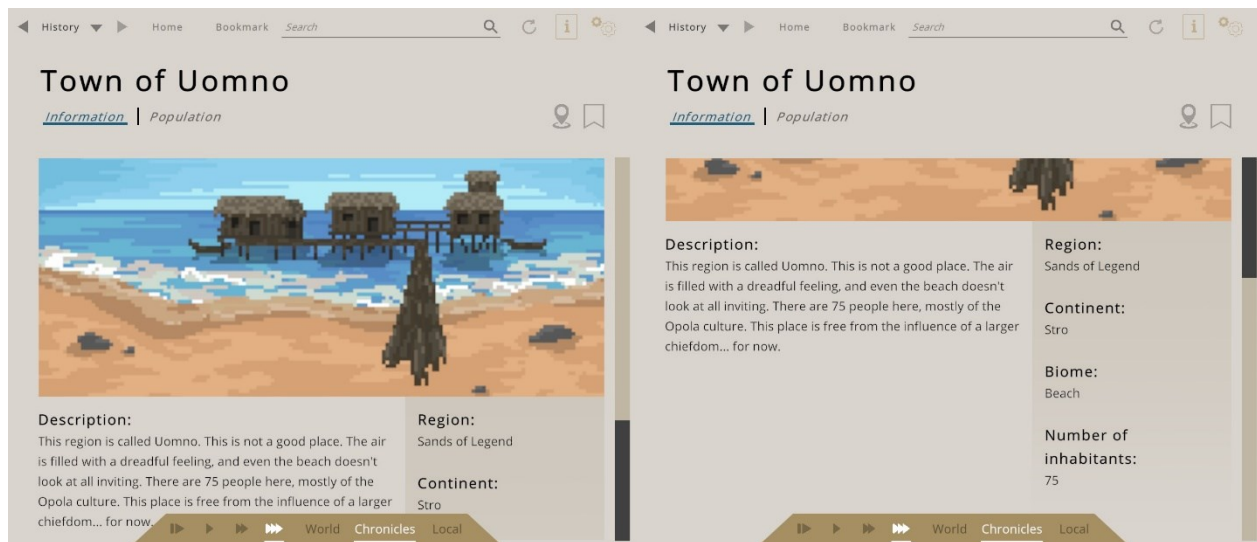


Figure C4.17 - Chronicles V2 - Land Information

The first playtest session showed no participants' complaints regarding the land page. This was good news as it meant the content was adequate and the layout was practical. Nevertheless, with a new visual direction, we decided to improve the design even though it was functional in hopes of making the page prettier. The first significant change was to increase the size of the image, turning it from a small painting in a frame to a large banner without any border. Participants said they wanted to see more images; some of them even mentioned how the images were more evocative for them than the text describing the land. These comments, combined with the fact that the information tab does not have much information to present, made it clear that upscaling the image was an excellent way to illustrate the land.

Similar to how the human page has a block of statistics to the right, the land page also got the same design; however, since lands have no skills, we opted to present all the information that

¹⁴ Humans can have more parents if other individuals adopt them.

was not part of the description. The block is a consistent pattern¹⁵ between pages and allows players to quickly glance at information that might be more useful to them.

The last modification was for the button previously located underneath the image in Figure C2.8. When players click on this button, the Chronicles closes to reveal the map, and a map marker similar to the one seen on Google Maps shows the land location on the world map. The obvious solution was to place the button right next to the bookmark icon above the image on the right. This is the exact location of the embody button on human pages.

4.4.2 Land Population V2

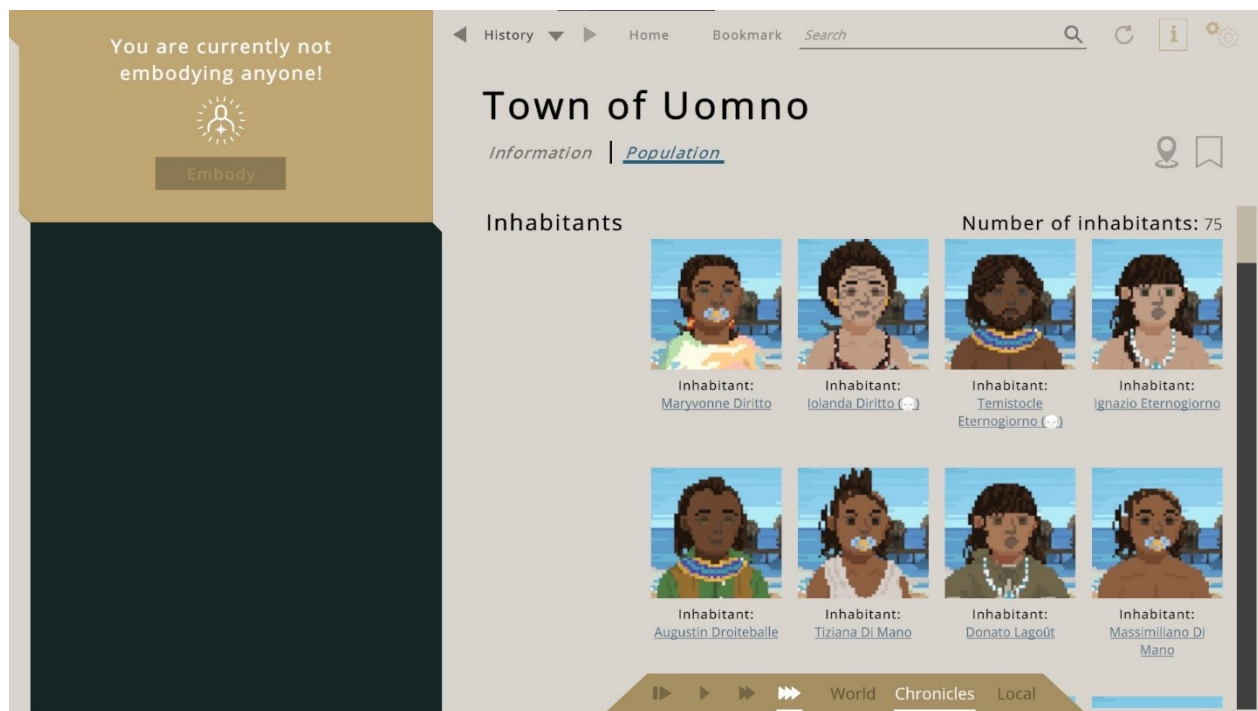


Figure C4.18 - Chronicles V2 - Land Population

The population tab was mostly the same in principle. It is still a list of individuals living on this land. It uses the grid layout like all the other pages to keep it consistent¹⁶. The number of habitants is still shown at the top so that players know the number of individuals displayed. The only real difference between the first and second iteration are the images. As seen in Figure C2.9, there used to be an image of the land shown in the population tab. However, it is not the case anymore with the second iteration because it is pointless to display on this tab, and with the grid layout, it is even detrimental as it takes away from what matters and becomes a waste of space that adds unnecessary height to the page. The only reason why the previous iteration had this

¹⁵ See Nielsen's fourth heuristic principle (Nielsen 2005, 4).

¹⁶ See Nielsen's fourth heuristic principle (Nielsen 2005, 4).

image was that the right side of the page felt empty without it. However, now, with the grid layout, this problem is no more and therefore renders the image obsolete.

4.5 Chronicles V2 Evaluation

When redesigning the interface of the Chronicles¹⁷, four main criticisms were addressed: streamlining the navigation of the interface, exposing features that felt hidden, adding newly requested features and implementing more visual elements. These were the four points that the second iteration of the Chronicles tried to accomplish. The second session of playtests was conducted with four participants to determine whether the changes were a step in the right direction. Of the four participants, three of them were new to this research, and one was part of the previous group. Participants unfamiliar with the project are ideal for testing. They have no experience with the game and therefore have little to no idea how to play and what to expect. There was, however, one participant that was present for the first playtest session. I wanted to know if the revisions made to the Chronicles would be received positively by a previous participant. This way, I could compare the result of both iterations and see if the participant had similar criticism or if the second iteration is heading in the right direction.

For the second round of playtests, the methodology stayed relatively the same. Participants would have a semi-formal interview to make a profile of their knowledge of video games and emergent narrative storytelling. They would then play with *Chroniqueur* by following a set of tasks and embodying someone, ending with another semi-formal interview where we discussed their personal experience with the game. There were only two differences between the first and second playtest sessions. The first difference was the removal of a task which asked participants to load a save file (See Annex A2.2 and Annex A2.5). The idea behind the use of a save file was to have every participant play in the same world, allowing for an experience with minimal discrepancies. However, the save file resulted in bugs that forced all participants to start a new game, making the task completely pointless. For this reason, the second playtest session dropped that idea. The second difference was modifying some questions for the experience discussion, like the one concerning the accomplishment of a quest (See Annex A2.6).

Overall, the new direction proved to be quite popular with participants. All of them had no problem navigating the interface; this was not only mentioned by participants, but their behaviour also confirmed their statement. I did not have to help participants find their way through the interface. This starkly contrasts with the first playtest session, where I had to guide all participants in some way or another. Some participants even mentioned how the Chronicles reminded them of a web page. This comment indicates that the inspiration was not lost on players

¹⁷ Just like for Chapter 2, information about the new design revisions made to the other pages has been removed for brevity's sake; curious readers can refer to Annex A1.5 to Annex A1.8 if they want to learn more about it.

and might help explain why they had an easier time navigating the Chronicles than the previous group.

Another aspect of the interface that was praised was the images. Most, if not all, participants liked the portraits of humans and the lands' environments. Although it is hard to say if the images helped players navigate the interface and remember information, their presence definitely affected the users' experience. During the playtest, participants are asked to choose a human among the top 10 lists. Before the implementation of portraits, players would choose a human because of their strange name or their rank in said list. However, after adding portraits to these lists, two participants chose someone because of their portrait. This outcome demonstrates that images have more significance than previously estimated.

These are the positive results from the second playtest session. Some elements still pose problems for players and, therefore, require some modifications. However, most of these comments are targeted at the game's overall experience, not the Chronicles' interface. Furthermore, the few comments addressed to the Chronicles are minor changes to make some elements more evident that they are buttons such as the embody button on human pages or remove superfluous information like the event GetHurt displayed in the timeline which is a repeat of the Accident event (See Figure C4.14). Overall, the redesign was a success; new players had an easier time navigating the interface when compared to the previous group. The visual design of the Chronicles and its images were well received and praised by participants. Additionally, this sentiment might also be shared with participants of the first group since the one that returned for the second playtest session had a very similar experience to the new participants. The best way to confirm this hypothesis would be to test the second iteration of Chronicles with the first group and see their reaction.

CHAPTER 5 | CONCLUSION

5.1 Summary

This research aimed to design a user interface (UI) that would allow users to navigate intuitively a large amount of procedurally generated information. Our initial sources of inspiration were *Dwarf Fortress* Legends mode and *Diol/Diel/Dial* (DDD); however, we decided to pivot towards *Wikipedia* and web browsers as the source of inspiration because we believe that people are more familiar with these interfaces, which should facilitate the transfer of knowledge.

Participants playtested the first iteration of the interface, and semi-formal interviews were conducted to gather their feedback. The feedback collected showed that the first iteration of the interface was subject to four main problems: the navigation was unintuitive, features felt hidden, and there was a lack of features and visual elements.

A second iteration of the interface was done to address these problems, and another playtest session was conducted to see how the modifications would fair with a new set of participants. The overall reception is that the interface is much more intuitive, and the new visual presentation was well received.

5.2 Contribution

Thanks to participants' feedback, this research confirmed our hypothesis; by borrowing from familiar designs like *Wikipedia* and web browsers, we can conceive an intuitive interface for navigating large amounts of information. Fragmenting *Chroniqueur*'s massive amount of information in legible pages and tabs allowed players to not feel overwhelmed. An argument could be made that, technically, fragmenting the information is a form of curation. After all, while players are viewing details about a chiefdom, for instance, all the other information is technically hidden. However, I would assert that *Chroniqueur* does not curate information for players; instead, players curate the information. We have given them the tools to facilitate their own process of curation.

Another avenue that seems promising is incorporating features from web developments. Players had an easier time navigating and searching for information by using hyperlinks to open and access pages. Additionally, using a back and forward history allowed players to alternate between pages quickly. These features have been the backbone of web navigation for decades, which means that a vast majority are reasonably familiar with the concepts. When incorporated into a game, these familiarities are quickly picked up by players.

Finally, by combining content fragmentation with web design navigation, we are left with an interface that is quick to learn and manages to present information without overwhelming players. These two benefits create an ideal user experience for discovering stories in an emergent

narrative game because players can focus on the information rather than fight with the interface to accomplish their goals. In short, the search for information becomes an unnoticeable step for most users.

5.3 Discussion

Despite the progress made on *Chroniqueur* thanks to this research, there is still much to be done. Even though the overarching goal was to facilitate the discovery of afterstories in emergent narrative games, the outcome was quite skewed. For us to test with participants their ease of finding stories, we had to solve other problems beforehand, the main one being the interface's usability. Indeed, because of how the game is played, players had to fight with the user interface (UI), which in turn made the user experience (UX) another obstacle for the discovery of stories. If we want to test an acceptable way to find afterstories, we need to limit the number of outside factors that could influence the results. In our case, that outside factor was the UI of the *Chronicles*. Not only did the participants struggle to navigate and find what they were looking for, but it was also the case for us developers, who had far more experience with the game. For these reasons, I decided to change the direction of my research. I saw no practical use in going further with such a prevalent hurdle in the way.

This change of direction meant that most of my initial theoretical framework became less specifically relevant for the research. I had read about game design, emergent narratives, and information design, which made sense in the case of facilitating the discovery of afterstories. However, redesigning a UI and assessing its UX could have benefitted from invoking other HCI subfields. This is especially noticeable with the second playtest results, where I remarked that most of the revisions made sense in hindsight, for they were common principles regarding UI and UX design. Another literature review focusing on UI and UX design should have been done before conducting the second playtests.

Nevertheless, even though the theoretical framework was not perfect for the research, the results it yielded are still very much insightful. After all, game design and UX design share principles; both fields aim to have an intuitive and frictionless user experience. While UX intends to make something efficient, game design intends to make something fun. Although they do not share the same goal, their methodology overlap. Thus, while my goal started as a way to make something more fun by facilitating the discovery of stories, my methods remained relatively unchanged. I wanted to accomplish this goal by making a better user experience, and the final results of this research are what was accomplished.

Conceiving an intuitive way to present and navigate an extensive amount of information is only one step toward easier story discovery. There are, however, some elements that have also been problematic for the research. While the methodology proved to be suitable for answering the research question, there were a couple of hurdles that were not anticipated before doing the whole

process. One of these hurdles was the small sample of participants. In the end, seven individuals took part in the first session of playtests and four people in the second session, one of them being a tester from the first group, which means only ten individuals played *Chroniqueur* in total. Although their feedback was constructive, we cannot prove that the sample had no bias. Their background and knowledge of the research subject were relatively diverse; however, it is hard to know if the interface will fair well on a larger scale with more individuals with varying experiences. We already have a solution to this problem which will be presented in the following subsection. However, ideally, more participants with distinct backgrounds in the research subject would have participated in the playtest sessions and yielded even more valuable data about *Chroniqueur* and its Chronicles.

Nevertheless, having more participants partake in the research would have been problematic. Since long-form qualitative methods like the one used in this research are very time-consuming, having more participants would drastically increase the amount of data generated and the time it takes to go through it. Fortunately, there are tools that can assist in many ways. For this research, I used **Descript** ([Descript](#)) to facilitate the transcription step of the research process for the second playtest session recordings. This tool drastically reduced the amount of work required to process all the feedback collected, making the transcription step far less daunting.

While the tester sample could have been larger, the main issue for the research is that the Chronicles were tested while *Chroniqueur*, the game it is intended to support, was still largely in development. For both playtest sessions, *Chroniqueur* was still in pre-alpha, which meant a plethora of bugs, a good chunk of information not implemented, and an overall game direction still blurry. All these elements certainly influenced the user experience of each participant, and although most of them tried to work with it despite these hindrances, it is hard to tell how much it affected participants' feedback. Furthermore, during phase two of the playtest, a quest was given to participants in order to guide them slightly in this otherwise open-ended game. The hope was that it would encourage them to explore the game by trying to accomplish something. The problem is that this method made sure that everyone approached and played the game in a similar fashion, which is unlikely to be the case when *Chroniqueur* is released publicly to a larger audience. In other words, while we can claim that the Chronicles are performing well as a standalone unit, we have little to say yet of the role they can contribute in their larger context.

In the end, the final conclusion that can be drawn from this research is that this type of interface resonates well with players, but it is unknown if it remains true on a larger scale and if it is suitable for the discovery of afterstories in emergent narrative games.

5.4 Next Step

Based on the conclusion of this research, I see three paths for the continuation of the research. The first avenue is to develop *Chroniqueur* further and evaluate how the Chronicles contribute to the overall game experience. Since this research has been conducted with a build where the main game was in pre-alpha, it would be interesting to compare how the Chronicles fair when the game is in beta or at a later stage of development. This way, fewer internal factors, such as bugs and missing mechanics, would influence the performance and reception of the interface during the playtest sessions.

The second avenue is to give a more concrete reason for players to use the Chronicles. As it stands, the Chronicles can be used to browse a large amount of information that players can piece together and weave stories with, but the game does not encourage them to do so. Instead, the afterstories are more of a by-product than the goal. Because of this, players are not browsing the Chronicles out of interest and curiosity but rather because they need to in order to play. In other words, we face a new challenge; now that the players can use with relative ease the Chronicles, why would they do so? Earlier in this paper, the mention of entry points was brought up. We believe that eye-catching information can raise questions in the mind of players prompting them to search for answers. Eye-catching information can be akin to clickbait, where the game shows information that will entice players to read more about the subject. Our first idea was to create top 10 lists to show humans with potentially interesting lives, which could pique the players' curiosity, make them read about these people and hopefully find an afterstory. However, we can push that idea further; we could create other ways to catch the players' attention and spur them to read the Chronicles. For instance, we could report major events in the simulation and display them to players, like breaking news.

The third avenue is distinct from the others because it could extend to more projects in the future. Although the larger goal of this research is to facilitate the discovery of stories in emergent narrative games, another step had to be taken care of before going further. This step was to ensure that the interface would not detract participants from the intended experience. The methods used to improve the user interface (UI) proved to be beneficial. However, they are unlikely to be suited for the next step, which is to prove that a player can easily create afterstories with a game. I believe two steps must be taken before trying to solve this problem. First, a new method needs to be developed specifically to prove whether a participant created an afterstory or not. As long as they are no quantifiable way to know if a player did, in fact, produce an afterstory, researchers will be left with only speculations of what their observation might yield. Only when a proper method has been designed can the next step be done, which is to test various emergent games like *Chroniqueur* with players and see how they perform when it comes to generating afterstories. I believe that only when these steps are done can we genuinely find a design framework that will facilitate the discoveries of afterstories.

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ANNEX 1 | CHRONICLES ADDITIONAL PAGES

A1.1 Clans V1

(For visual reference, see Annex A4.8 and Annex A4.9)

Clans are groups consisting of multiple humans. They are formed when humans settle in a region where no other clans exist; a clan can only maintain one region. Clans all have an elder who acts as the group's leader, a culture and members. In a future update, the main occupation of the clan will be displayed, and it will be determined by checking what is the most common main occupation of all the members. This should help flesh out differences between clans.

A1.2 Chiefdoms V1

(For visual reference, see Annex A4.10, Annex A4.11 and Annex A4.12)

Another sociocultural entity are the chiefdoms; chiefdoms are organizations with similar features as clans. While a clan might have one culture and one region, a chiefdom can have multiple cultures and regions. This situation is possible because chiefdoms have not only humans as their members but can also have entire clans under their umbrella.

Chiefdoms are founded when a clan elder decides to conquer another region and enter into conflict with another clan. If the attackers or defenders win, the losing clan is subjugated to the winning clan resulting in the creation of a chiefdom.

In the world view, they are represented with a flag on the map. Ideally, the colour of the chiefdom would be displayed on its Chronicles page; unfortunately, a lack of time made it impossible for this iteration. We had an idea to help differentiate chiefdoms with more than just colours: to create a modular system like the portrait and environment to generate a unique flag for each chiefdom. However, it was scrapped for the same reason as the colours.

On their information tab, players can read about the foundation of the chiefdom: the year it was established and the land it was founded. There is also the current chief, the leader of the chiefdom, just like an elder is for clans. The tab would normally contain the cultures present in the chiefdom by going through every clan in the chiefdom and noting their respective culture. Again, more time was needed to implement in this iteration of the Chronicles.

Chiefdoms also possess a unique tab named the influence tab, which is an amalgam of things, the main one being the km²s the chiefdom covers. Additionally, this tab shows another system that is part of the simulation, the notion of superior and inferior chiefdoms. In the simulation, a chiefdom can conquer another and assimilate them. Essentially a protector and a tributary relationship.

The last chiefdoms tab is also a members tab; its purpose is the same as the one for clans. However, there is one difference. Because chiefdoms are composed of clans, a section is also dedicated to clans that are part of the chiefdom shown.

A1.3 Raids V1

(For visual reference, see Annex A4.13, Annex A4.14 and Annex A4.15)

In the simulation, humans can initiate raids, allowing them to loot other people for various reasons. Raids require two things, attackers and defenders, both of which can either be a chiefdom or a land. In the case of a land, they are presented as a village or town.

As well as the information tab, raids also have an attackers tab. It contains a list of all the raiders, a list of casualties in their rank and the raid leader who leads them; this person is the one who organizes the raid and asks people to join them. There are three reasons for someone to start a raid:

- Misery, the leader is in a dire situation and has recourse to raiding for subsistence;
- Expansion, the leader is ambitious and has recourse to raiding to expand dominance;
- Independence, a chief does not want to pay tribute anymore.

Likewise, there is a defenders tab: lands and chiefdoms defenders have a leader; in the case of km2s, it is often the clan elder, while in the case of chiefdoms, it is the chief. The raid's location is also shown on this tab, even though it is on the information tab. This is done to keep the tab's design consistent with the one for attackers. The same reasoning applies to the list of defenders and casualties.

A1.4 Cultures V1

(For visual reference, see Annex A4.16)

Culture dictates the behaviour of clans and their members. For instance, if a culture is matrilineal, children will take their mother's family name. If a culture is nomadic, the humans will roam instead of settling down. Cultures' influence applies to clans and humans. While chiefdoms can have multiple cultures, it is a by-product of having various clans under their control; the result is that all the clans will operate as they would, regardless of the overarching organization owning them. In the end, what dictates their behaviour is their culture, nothing else.

Because of the minimal information on cultures, only one tab is needed. This tab contains the language, which is a made-up word and has no effect on the simulation. People speaking different languages communicate with one another without any inconvenience.

The lineage, however, does affect the simulation. If the culture is matrilineal, every individual adhering to that culture will inherit their mother's family name.

Another factor in the simulation is the succession. In some cultures, succession can be based on the combat skills of a human. Whenever the clan's elder dies, the successor would be chosen for whoever has the highest value in their combat skill.

Lastly, there are two ways of life, sedentism and nomadism. If a clan is nomadic, they are likely to migrate over the course of a year, while sedentary clans are unlikely to migrate in a year.

A1.5 Clans V2

(For visual reference, see Annex A4.8 and Annex A4.9)

The clan page redesign includes adding an emblem, the foundation and main occupation, and moving the clan elders' history to another tab. The emblem was added to reflect the new direction of adding more images in the Chronicles. Unfortunately, at the time of playtests for the interface's second iteration, we could not make a modular emblem system akin to the system generating the portraits of humans. We did the next best thing we could, which was to show the colour associated with the community.

One piece of information was added, and another one was finished. The finished information is the main occupation; the information tab now shows which skill is the most prevalent among the members. As for the new information added, it is about the founding of the clan. It reveals who the founder was and in which region the clan was established.

Lastly, the history of previous elders has been removed from the information tab because a new tab was created, the influentials tab. The influentials tab was created for one reason. We wanted to give more entry points for pages such as the clans. These entry points are the humans that stand out from the clan members. These champions, as we call them, are the humans with the highest skills among all the members. There are at most seven champions: champion of gathering, champion of hunting, champion of combat, champion of theft, champion of healing and champion of charisma. However, a clan can have fewer than seven champions if there are no members with a level higher than zero in a skill. For example, if no one has more than zero in theft, then there is no champion of theft. In the second iteration of the Chronicles, a human can be the champion of multiple skills; however, we are still determining if it should stay as is or rule that a human could only be the champion of one skill.

As stated in the previous subsection, the history of elders is now shown on this tab. The decision to change the tab was twofold, to display more information in the influentials tab and because the history felt out of place. The information tab is viewed as an overview of the page, and the previous elders do not conform to that context; it is better suited for the other individuals that stand out in the clan.

As for the members tab, there is nothing much to say about the design of this tab. It serves the same purpose as before and looks identical to the population tab of land pages because they are one and the same.

A1.6 Chiefdoms V2

(For visual reference, see Annex A4.10, Annex A4.11 and Annex A4.12)

From the get-go, chiefdoms are planned to have a banner and a unique colour to represent them. For the first iteration, a lack of time prevented that implementation, and unfortunately, in the second iteration, there was also a need for more time to implement a modular system for banners. The unique colour was added the same way clans have their colour on their page, but otherwise, the information stayed the same between both versions of the chiefdom page. One thing to note is that there is an inconsistency between the information given for the foundation of chiefdoms and clans. While clans show the founder and the region's name, chiefdoms mention the year and the land. Until the writing of this paper, it was never apparent and will be changed for a future iteration of *Chroniqueur*. Ideally, both pages will mention the founder, the year and the land; knowing the land means that the region is redundant since players can see in which region a land is located. Additionally, regions are not visible on the world map and do not have a dedicated page in the Chronicles. Therefore, showing the land is an adequate alternative.

Technically the territories tab is not new; it was present in the previous iteration. However, it used to be named the influence tab. The reasoning when choosing that name was that players would select this tab if they wanted to see the influence of a chiefdom, influence being the reach of their control. During the playtest, all participants were confused by the name, and they felt it did not correctly reflect what would be shown on the page; this was a sentiment shared by some teammates as well. In short, this tab is not new but was instead renamed.

The territories tab evidently got the same treatment as the other pages, where the presentation is not a list with names but a grid with images. However, this version is negligibly different from the others because the images are slightly wider. This alteration was done because background environments are better shown as a panorama than portraits of characters, which do not require as much width to show the individual properly.

Unlike territories, hierarchy is a new tab, and its purpose is to show the organization of the chiefdom. The current chief, the one who controls the chiefdom, is at the top, and underneath them are the clans and all their members. Since a chiefdom can be composed of numerous clans, they are shown in a grid layout. However, clans are not the only groups that can be overseen by a chiefdom; other chiefdoms can also find themselves under a chiefdom. Chiefdoms under the control of another chiefdom are named inferior chiefdoms, while the one in control is called superior chiefdom. A chiefdom can have multiple inferior chiefdoms but can only be under the control of one superior chiefdom. In the hierarchy tab, inferior chiefdoms and superior chiefdom

are shown between the chief and the clans, and both sections operate the same way; if they are empty, their section is hidden to prevent useless extra spaces.

Lastly, the members tab is identical to the one for clans; they share the same layout and purpose.

A1.7 Raids V2

(For visual reference, see Annex A4.13, Annex A4.14 and Annex A4.15)

The first and second iterations of the raids' information tab are relatively identical, with only one difference; the groups involved are now shown. Because raids are inconsistent when playing, it is challenging to test their presentation with players. Inconsistent, in this case, refer to the fact that the game can run for hundreds of years and have no raids in its history. For this reason, raids were ignored for both playtest sessions; no participant had the opportunity to look at those pages. Instead, the changes done to the page were based on the team's feedback. The information tab provides what is expected minus one item, the groups involved. It was tedious to change to the attackers and defenders tabs to view the chiefdom or land affected by the raid. Adding both groups to the information tab should alleviate the problem of changing tabs. Additionally, a grid layout allows players to see lands' environment and chiefdoms' emblem, keeping with the new visual identity across pages and adding more images to the Chronicles.

Akin to the information tab, the attackers and defenders tabs have yet to be tested with participants. For this reason, their layout was changed to suit the new visual identity better, and each tab's origin was adapted from the groups' involved section of the information tab.

A1.8 Cultures V2

(For visual reference, see Annex A4.16)

The culture page got the same design as the layout for clans and chiefdoms because it possesses a small amount of information which leaves an empty space to fill on the right side, and just like them, there are plans to create an emblem for each culture generated. This page did raise some problems for participants: it is a dead-end, and the vocabulary is unfamiliar. Starting with the vocabulary, on the culture page, there are some terms that few participants knew what they meant; terms such as gerontocracy, sedentism, primogeniture and matrilineal, to name a few. No changes were made after this issue was brought up, as some participants mentioned how they could look up the definition of the words. However, the same issue was brought up again by the second group of participants. A solution would be to give some words a popup that would display their definition whenever a player hovers the word with their mouse cursor.

The other issue is the dead-end; once a player opens a culture page, they are forced to go back or search for a new page. There are no links that redirect to another page. An obvious solution is to add a list of clans and chiefdoms that share the culture on the page. Unfortunately, we needed more time to add those links for the second playtest session.

One last element to point out is the extra spacing between the list of chiefdoms and clans. This flaw went unnoticed until this paper's redaction, which is unfortunate but not dramatic.

ANNEX 2 | QUESTIONNAIRES AND TASKS

A2.1 Questionnaire Profile V1

General Questions:

1. Are you familiar with emergent narratives?
 - 1.1. No, I have never heard of this term.
 - 1.2. Yes, but only in name.
 - 1.3. Yes, I know what it is.
 - 1.4. Other: (*Specify*).
2. If you had to guess when was the last time you played a video game?
3. Tell me which is the closest answer to your situation. Do you play any video games:
 - 3.1. Yes, I play daily;
 - 3.2. Yes, I occasionally play every so often;
 - 3.3. Yes, but very rarely;
 - 3.4. No, I never play video games.
4. Have you ever played an emergent narrative game?
5. If you have, which one was it, how did you feel about it?
6. You are not obligated to answer this question. If you do not mind, could you tell me if you have any disability that may influence your experience while playing a video game?

They Play Video Games:

1. Would you consider video games to be your primary leisure activity?
2. On which platform do you play the most?
3. What types of games do you prefer to play?
4. Could you tell me your favourite video games or genre?

They do not Play Video Games:

1. What would you consider to be your main leisure activity or interest when you have free time?
2. What do you like about this activity?

A2.2 Playtest Tasks V1

Introduction:

1. First we have to place the save file in the folder I sent you
2. C:\Users\MyUserName\AppData\LocalLow\LabLabLab\Chroniqueur\SaveGame
3. Your first task is to load the world named Nupoint
4. I want you now to pause the simulation
5. The next task is to collapse the window on the left side of your screen
6. Hold the right-click button on your mouse to rotate the camera
7. You can use the scroll wheel to zoom and if you hold it you will be able to move the camera
8. There are 3 views, Map, Km2 and Chronicles, I want you to switch to the Chronicles view
9. This is the Home page, you can view its content and click on any character that interests you
10. Tell me some things about them
 - a. What is their name?
 - b. How old are they?
 - c. Where they are from?
 - d. Their best skill and the level?
11. Can you tell me what did this person do when they were 20 years old?
12. Does this person have siblings?
13. Choose someone else to view in their family
14. Actually, I change my mind, go back to the page you were
15. Are they part of a Clan?
16. I want you to search for a Clan, Fortecavallo or Lascimezzadro
17. Can you find me the elder of this clan?
18. What is the culture of this elder?
19. You will now search for the Casola Chiefdom
20. Is the Casola Chiefdom made up of clans?
21. Which regions does this chiefdom cover?

Embodying:

1. We are now at the second part of this playtest, you will need to embody someone with a quest
2. Find your quest in the Chronicles
3. Tell me how you think you can accomplish this quest
4. To learn more about our person of interest we need to meet people that have seen them.
We can do so by going to a village where our person of interest was last seen
5. Where have they been seen for the last time?
6. Show me where this place is on the map
7. Now that we know where our destination is, where is your character on the map?
8. If you want to reach this destination, you need to take initiative and travel
9. Pick who might join you
10. Moving will require food, the more food you have, the further you can travel, if you run out of food you will need to find more or you can continue moving but you will lose some health. Every time you move a day will past.
11. Now you can try to accomplish your quest

A2.3 Questionnaire Experience V1

General Questions:

1. Do you think you have found the answer?
2. Was the answer that you found satisfying?
3. For how long do you think you have played?
4. What do you remember from the characters you read about?
5. Did you read other pages than the one from your character?
6. *(If the previous answer is a yes)* Was there anything that caught your attention?
7. Do you find the goal of the playtest engaging?
8. What did you like about the experience?
9. What did you dislike about the experience?
10. *(If question 9 doesn't answer it)* Did it feel like the playtest was dragging? Did you find it boring at times?
11. *(If question 9 doesn't answer it)* Was the text uninteresting to read?
12. *(If they did not like the experience)* Would you consider the navigation of the application to be a reason why you did not enjoy the experience?
13. *(If question 9 doesn't answer it)* Do you feel like you are missing options to help you reach your goal?
14. *(If question 9 doesn't answer it)* Were there elements that felt unnecessary while playing?
15. Is there anything more you would like to tell me that was a problem for you?
16. *(If question 8 doesn't answer it)* Were the narrative elements appealing?
17. *(If question 12 doesn't answer it)* Did you feel like the navigation of the application suited your needs?
18. *(If question 8 or 13 doesn't answer it)* Were you satisfied by the options at your disposal to navigate the interface?
19. Have you found everything you were looking for?
20. Overall, did you have fun with the experience?
21. If this application was made public, would use it again?

A2.4 Questionnaire Profile V2

General Questions:

1. Are you familiar with emergent narratives?
 - 1.1. No, I have never heard of this term.
 - 1.2. Yes, but only in name.
 - 1.3. Yes, I know what it is.
 - 1.4. Other: (*Specify*).
2. If you had to guess when was the last time you played a video game?
3. Tell me which is the closest answer to your situation. Do you play any video games:
 - 3.1. Yes, I play daily;
 - 3.2. Yes, I occasionally play every so often;
 - 3.3. Yes, but very rarely;
 - 3.4. No, I never play video games.
4. Have you ever played an emergent narrative game?
5. If you have, which one was it, how did you feel about it?
6. You are not obligated to answer this question. If you do not mind, could you tell me if you have any disability that may influence your experience while playing a video game?

They Play Video Games:

1. Would you consider video games to be your primary leisure activity?
2. On which platform do you play the most?
3. What types of games do you prefer to play?
4. Could you tell me your favourite video games or genre?

They do not Play Video Games:

1. What would you consider to be your main leisure activity or interest when you have free time?
2. What do you like about this activity?

A2.5 Playtest Tasks V2

Introduction:

1. Your first task is to start the game
2. I want you now to pause the simulation
3. Tell me what is the first thing that caught your attention?
4. Hold the right-click button on your mouse to rotate the camera
5. You can also zoom with the sidebar on the right side of the screen or by using the scroll wheel on your mouse
6. If you hold the scroll wheel you will be able to move the camera
7. There are 3 views, World, Chronicles and Local, World view is as you can see the map, Chronicles view is what will be our focus next, and Local view will be shown later, right now it isn't usable
8. I want you now to switch to the Chronicles view
9. This is the Home page, from here you have an overview of the world generated
10. I want you to click on the Top 10s category
11. Click on one character that interests you
12. Tell me some things about them
 - a. What is their name?
 - b. How old are they?
 - c. Where are they from?
 - d. Their best skill and the level?
13. Can you tell me what did this person do when they were 20 years old?
14. Does this person have siblings?
15. Choose someone else to view in their family
16. Actually, I change my mind, go back to the page you were
17. Are they part of a Clan?
18. I want you to tell me more about this Clan:
 - a. How many Elders did they have?
 - b. Do they have a champion with 1 or more in a skill?
 - c. Can you find me the current elder of this clan?
 - d. What is the culture of this elder?
19. Is there a term that you do not know what it means on this page?
20. If there is a Chiefdom
 - a. You will now search for a Chiefdom
 - b. Is this Chiefdom made up of clans?
 - c. Which regions does this Chiefdom cover?

Embodying:

1. We are now at the second part of this playtest
2. You will need to embody someone with a quest
3. If the summary didn't load properly
 - a. Click on just go with the flow to pass one year
4. Where would you look to find your quest?
5. Your quest is shown at 2 places, the side panel and in your character's Chronicles
6. Tell me how you think you can accomplish your quest?
7. To learn more about our person of interest we need to meet people that have seen them.
We can do so by going to a village where our person of interest was last seen
8. Where have they been seen for the last time?
9. Show me where this place is on the map
10. Now that we know where our destination is, where is your character on the map?
11. If you want to reach this destination, you need to take initiative and travel
12. Pick who might join you
13. Moving will require food, the more food you have, the further you can travel, if you run out of food you will need to find more or you can continue moving but you will lose some health. Every time you move days will past.
14. Now you can try to accomplish your quest

A2.6 Questionnaire – Experience V2

General Questions:

1. For how long do you think you have played?
2. Did it feel like the playtest was dragging? Did you find it boring at times?
3. What do you remember from the character you played?
4. Do you remember something about the other characters you've seen?
5. Was there anything that caught your attention?
6. Did you find your quest engaging?
7. If they could finish the quest:
 - 7.1. Was the conclusion satisfying?
 - 7.2. What would you have like to have for a conclusion?
8. Were the narrative elements such as the text, images, etc. appealing?
9. Did you find the flow of narrative elements conscious/genuine/deliberate?
10. Was there any problems with the text be it uninteresting, frivolous, etc.?
11. What did you like about the experience?
12. Were you satisfied by the options at your disposal to navigate the interface?
13. What did you dislike about the experience?
14. Do you have any comments about the way you navigate the interface of the game? Any complaints or things that you liked?
15. Do you feel like you are missing options to help you accomplish your quest?
16. Were there elements that felt unnecessary while playing?
17. Is there anything more you would like to tell me that was a problem or a benefit for you?
18. If you had any expectations for this project: did it impress you, let you down or met your expectations?
19. Overall, did you have fun with the experience?
20. If this game was made public, would you use it again?

ANNEX 3 | CONDENSED RESULTS

A3.1 Condensed Results Interface V1

Good

- Two participants liked the amount of information, and one of them mentioned that it was not overwhelming because of the sections;
- One participant liked being able to explore the world like it was a history book, but also with actual characters;
- One participant also liked that because it doesn't really show exactly what happens, you can just imagine it;
- One participant found that the images alleviated a lot of the tenuous part of text-based games where you read a lot which they found nice;
- One participant really like the in-game wiki because it gave them a feeling of being some kind of detective;
- I told one participant about the redacted information, and they loved the feature;
- One participant believes the interface simply needs some polish since they liked the flow of it;
- One participant mentioned that the links are obvious that you can click on them. (Additionally, no participant had difficulties with the links);
- One participant found it nice that there was so much information that could be useful;
- One participant liked the fact that when travelling they had all the information about places;
- One participant found that the cursor for the character is pretty distinguished.

Ambiguous

- Four participants found the interface adequate once they understood how to use it;
- One participant felt that the navigation was fine for the complexity of the game;
- One participant believes if they were more familiar with the game they wouldn't have many problems;
- One participant assumed that everyone in the party shared the same energy since it's not shown, but they also wondered if it's important since the party shared the same hunger and food;
- One participant is unable to mention what might be missing in features since there are too many things to learn and memorize. They mentions that if I wasn't with them, they would probably just click randomly and get lost. They did mention that they learn from failure, so they would give a few tries to the game and try to learn more and more as they play;

- One participant felt a lot of information feels superfluous but that's because they're not given a sort of outline early, maybe a tutorial or something similar could help;
- For one participant, chronicles refer to a culture chronicling itself, but the game feels more like a chronicle written by God;
- For one participant, since there are so many options to view on characters it's difficult to find meaning in the other characters beyond yourself;
- One participant does not think there are too many buttons, they do feel that some of them clutter the UI because they are not used;
- When travelling one participant found the images to be much more helpful than the little bit of text describing the environment. Because of this, they started to gloss over the text and the name of places;
- One participant mentioned the wiki should probably have less content in order to make it more memorable or maybe spread it differently or something else, they are unsure how;
- One participant in their experience, felt that a lot of information was not necessary because it had nothing to do with their quest. But they don't think there are unnecessary elements;
- One participant would like to be able to see animals on the map kind of like Far Cry. It doesn't have to be really precise, like on the km², but just gives an overall idea that there are some predators in that region. (Maybe we could click on the image to open their wiki page?);
- One participant said that the icons might be too small, but then again they couldn't zoom with their mouse.

Missing

- Two participants mentioned that there should be a tab system/bookmark page;
- One participant didn't know they had a boat, they recommended an inventory this way they would know if they had a boat, food, a weapon, etc.;
- One participant believes the hunger meter is necessary, but they cannot think of something that was unnecessary;
- One participant assume things like the pause button would always be visible like in RollerCoaster Tycoon or The Sims;
- One participant could see the information about their character but not of their party members or their family in this case;
- One participant wished they could invite people to join their party;
- One participant mentioned a help page. (Made me think of the one in Cities Skylines);
- One participant pointed out the lack of notifications, you (Me) had to tell me that the red line was a raid;
- One participant mentioned the lack of options, we can't heal ourselves, defend ourselves, or scout ahead;

- One participant said that characters don't have a desire to survive skill. Population historically came from a need for offspring to help you manage your life but also a desire to keep the lineage going;
- One participant explained that since the embody mechanic is central to the experience, they proposed an embodied history so that you can easily embody previous characters you played;
- One participant wanted a tab containing characters they looked up previously;
- Two participants mentioned the lack of icons, one of them believes it would help them remember information;
- One participant mentioned that when visiting a village for instance you could make a popup with information about the place;
- One participant said it would be cool to have a quest journal that would list your main quest, side quests, list of recent actions like new people met, places visited, etc. This way you would have a history of what you did;
- (While sorting my notes for the interface, I read a comment mentioning more types of quests, I thought about a page that would contain the quest of individuals, this way you could choose which quest you want to do.);
- One participant was expecting to see faces in the family tree;
- One participant wants to have a page with a list of countries, towns, etc.;
- One participant wants an overview of places they're looking at, the same thing for animals and floras;
- One participant would like alternatives to the mouse wheel inputs when viewing the map. Buttons for zooming.

Bad

- One participant disliked the user interface since there are a lot of things that are hard to find;
- One participant felt that their first impression is that a lot of things are hidden;
- One participant found that Chronicles tabs and buttons such as embody shouldn't be grouped together;
- One participant disliked the most the user experience in the menus, it should be easier for players, and they shouldn't search so much to find what they are looking for;
- One participant found the world nice, but there is a discontinuation of graphics like the UI elements, the 3D world pixelization, the perceived higher resolution of water, the trees and flags resolution, the pixel art resolution and the font choice which is smooth. In short, there is a discontinuity in resolution/aesthetics;
- One participant remembered the name of one character and that they died at 60 years old but that's about it. Because there was so much information that they couldn't interact with it in a meaningful way nothing else struck them;

- One participant said that some texts like the “Got it” isn’t obvious that you must click them, changing the mouse on hover could be a solution. (Most participants had to be told they had to click this text);
- One participant found the text description when travelling to be quite repetitive;
- One participant said that having a dropdown menu for tabs isn’t ideal since they didn’t know there were multiple pages until I (Me) told them;
- One participant doesn’t think the text is uninteresting, however, things are highlighted the same way but they aren’t the same thing. (Referring to the links);
- One participant mentions how if they wants to see a country they would click on someone to see it;
- When one participant embodied someone they got a bunch of messages one after the other, they would have preferred if they were all grouped together in one big message. Kind of like a bullet list;
- One participant found that the flags are not obvious that they are chiefdom, they thought they were cities.

A3.2 Condensed Results Interface V2

Good

- The redesign of the Chronicles is a success, no one had major problems navigating the interface. Some of them even mention how it felt like a web page with the back and forth.

Missing

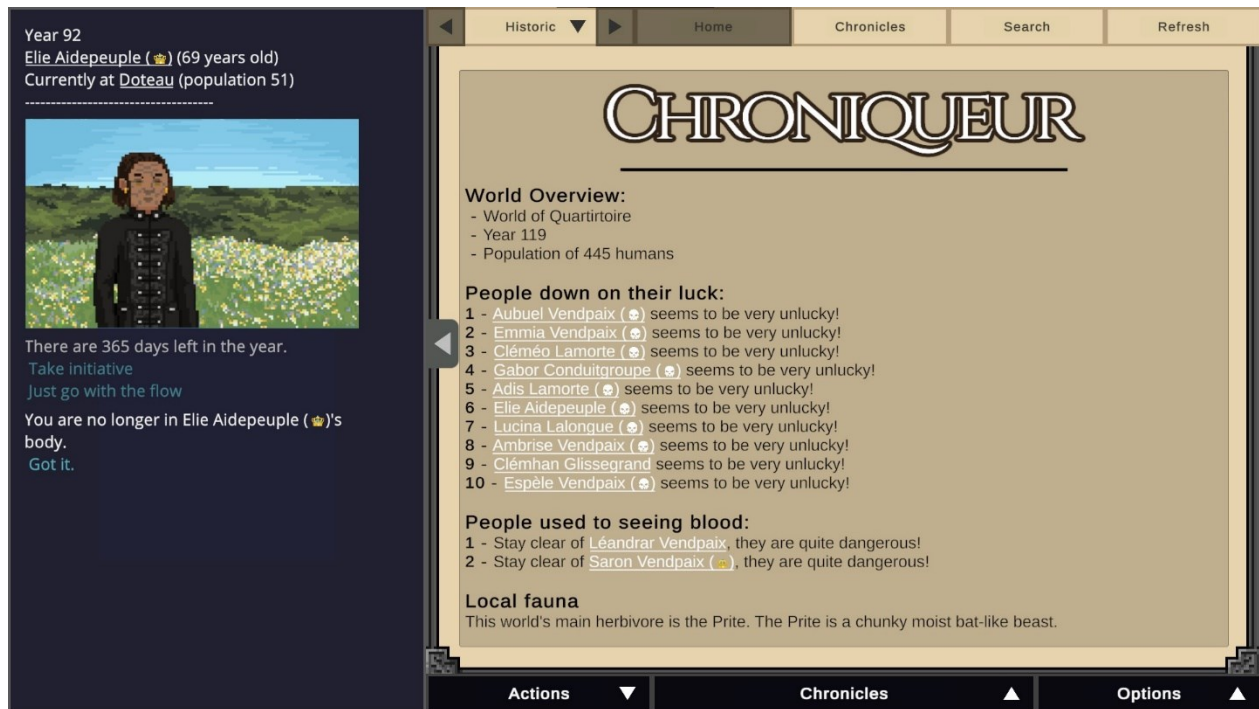
- Maybe having a glossary or being able to hover uncommon words to have a short description (matrilineal, patrilineal, gerontocracy);
- The quest and party button should be toggles instead of having to click on a close button;
- The quest and party button should have their ring change not just the icons.

Bad

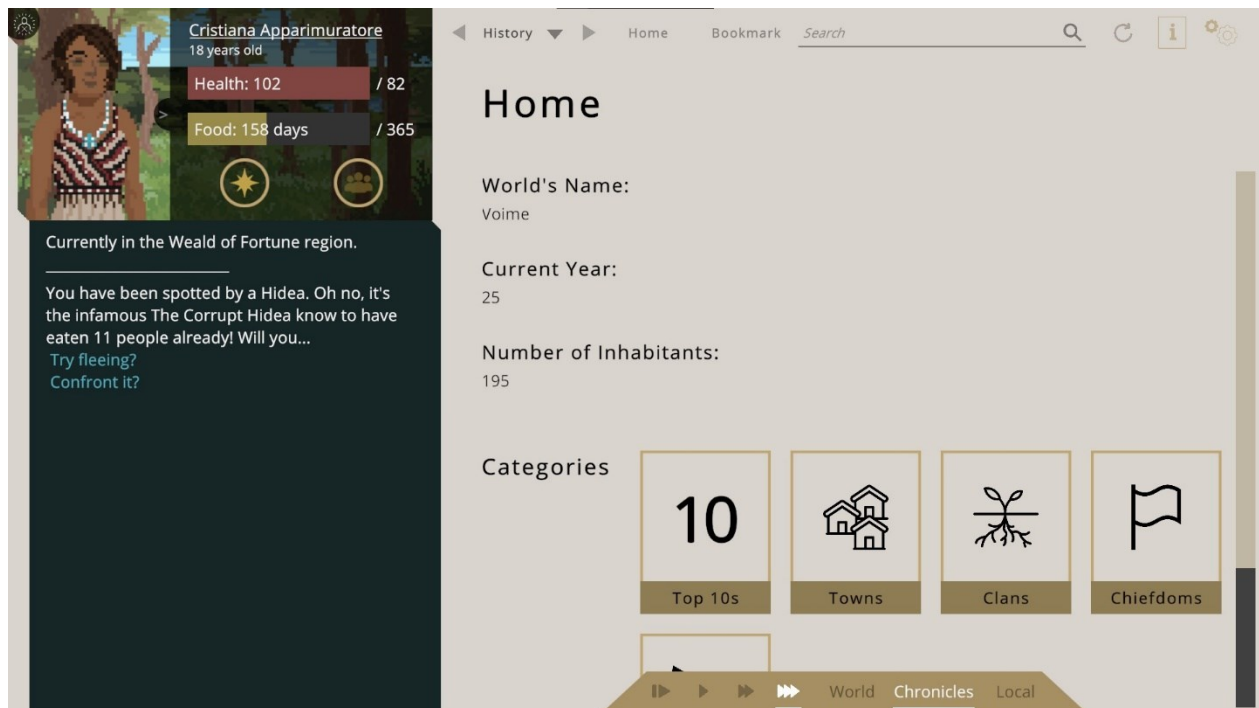
- Every participant had difficulties gauging if a skill is good or not. I explain that they are kind of like on a scale of 4, so 0 is amateur, 1 is beginner, 2 is advanced, 3 is expert and 4 is master. One of them recommended bars that filled up, so we would have 4 bars and fill them up to know when a character has reached a new level in their skill;
- One participant found that some buttons are really subtle, referring to text that change colour. If the buttons had more feedback and contrast it would be better;
- Events in the timeline that have floats, like food, should be rounded down or up to the nearest whole number;
- Sanity is the only indicator in the timeline that doesn't get rounded down or up to the nearest whole number;
- Text on the world map like the town names are using the built in text component. Switching them to textmeshpro will make them much clearer upon zooming in;
- The "their most notable trait is" text in the characters information page should not appear if they don't have any notable traits;
- The 4 options at the bottom panel (pause, play, fast play, very fast play) are all mutually exclusive. The last 3 are a toggle group, but the pause button is not part of that group. It is hard to know if the game is paused because the pause button doesn't look like its selected. If the player pauses the game, it should be highlighted like the rest of the options;
- Showing GetHurt in the Timeline is kind of pointless when you have Accident just above it;
- We should replace the embody text by a button with the icon and add a separator since one participant thought that the bookmark was the embody icon;
- The traveling arrows are under city labels which makes it very hard to travel;
- The prompt section is hard to read, the design isn't ideal (font spacing, weight, size, etc.).

ANNEX 4 | INTERFACE V1 AND V2 SIDE BY SIDE

A4.1 Home Page

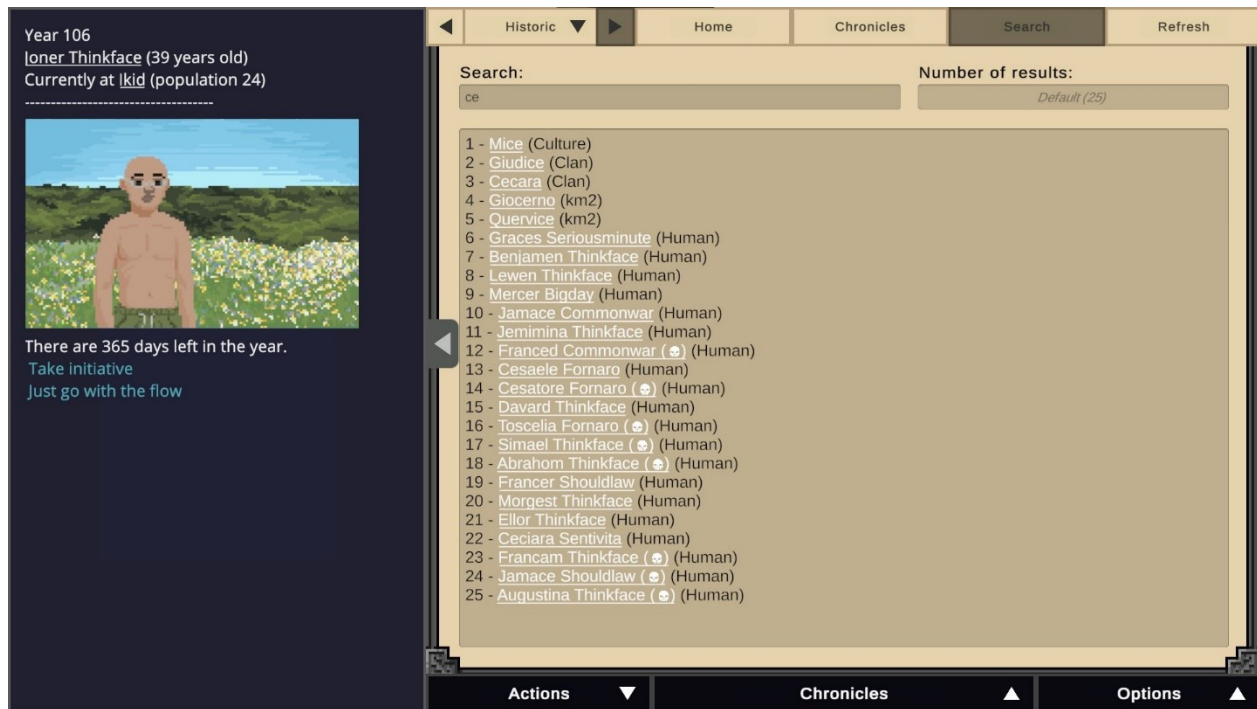


1 - Home Page V1

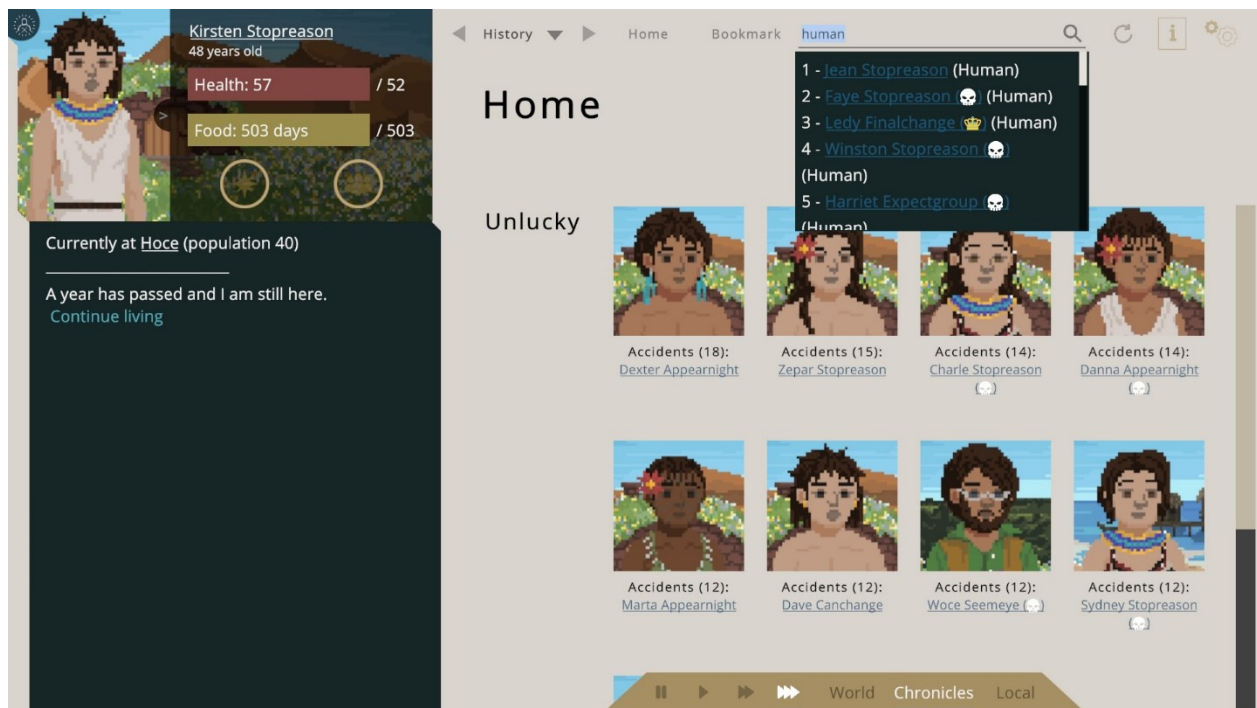


2 - Home Page V2

A4.2 Search Page/Bar



3 - Search Page V1



4 - Search Bar V2

A4.3 Human Information Tab

Year 120
 Danonin Vendpaix (👑) (51 years old)
 Currently at [Hoste](#) (population 16)

There are 365 days left in the year.
 Take initiative
 Just go with the flow

Information ▾ Danonin Vendpaix (👑)

Biography
 Danonin Vendpaix (👑), myself, am a man mostly known as an independent gatherer. I will be hard pressed to keep living for long and am a respected member of the clan. I currently look healthy and well rested.

People often say that I am just one of those people that no one can seem to remember.

When it comes to love, I prefer women.

My most notable trait is that I am relaxing and stout.

General Information
(Dating from the year 120)
 Location: Last seen at [Hoste](#).
 Birth: Born in 69 at [Doteau](#).
 Age: 51 years old.
 Main occupation: gathering, with a skill level of 1.85.
 Influence: Danonin Vendpaix (👑) has a normalized total influence of 41.07.
 Clan: Member of the [Nathin](#) clan.

Actions ▾ Chronicles ▲ Options ▲

5 - Human Information V1

[Jody Asklow](#)
 26 years old
 Health: 78 / 74
 Food: 43 days / 365

Currently at [Senllar](#) (population 2)

There are 365 days left in the year.
 Take initiative
 Just go with the flow

Information | [Timeline](#) | [Family](#) [Embody](#) 📖

Biography
 Jody Asklow, myself, am a young woman mostly known for my interest in gathering. I will be hard pressed to keep living for long and was just a humble clan member, with no great tales to my name. I currently have health and energy to spare.

People often say that I am a good neighbor.

When it comes to love, I prefer pretty much anyone.

My most notable trait is that I am .

General Information
(Dating from the year 45)
 Location: Last seen at [Senllar](#).
 Birth: Born in 19 at .
 Age: 26 years old.
 Main occupation:

Skills
 Gathering: 0.87
 Hunting: 0.32
 Fishing: 0
 Combat: 0

World | **Chronicles** | Local

6 - Human Information V2

A4.4 Human Timeline Tab

The screenshot shows the 'Human Timeline V1' interface. On the left, a sidebar displays 'Year 120', 'Danonin Vendpaix (👑) (51 years old)', and 'Currently at Hoste (population 16)'. Below this is a character portrait and a status box: 'There are 365 days left in the year. Take initiative. Just go with the flow.' The main panel is titled 'Timeline' and 'Danonin Vendpaix (👑)'. It shows 'Year 79' with stats: 'Age: 10 | Health: 98 | Sanity: 55.5 | Influence: 2862 | Location: Doteau | Food: 11 | Accident: 1 | Kill: 0 | Clan: Évitesale'. Under 'Significant Events', there is a 'Funeral' entry. Under 'Mundane Events', there are several entries including 'FindFood', 'NomadicLife', and multiple 'MeetPerson' events. At the bottom, there are navigation buttons for 'Actions', 'Chronicles', and 'Options'.

7 - Human Timeline V1

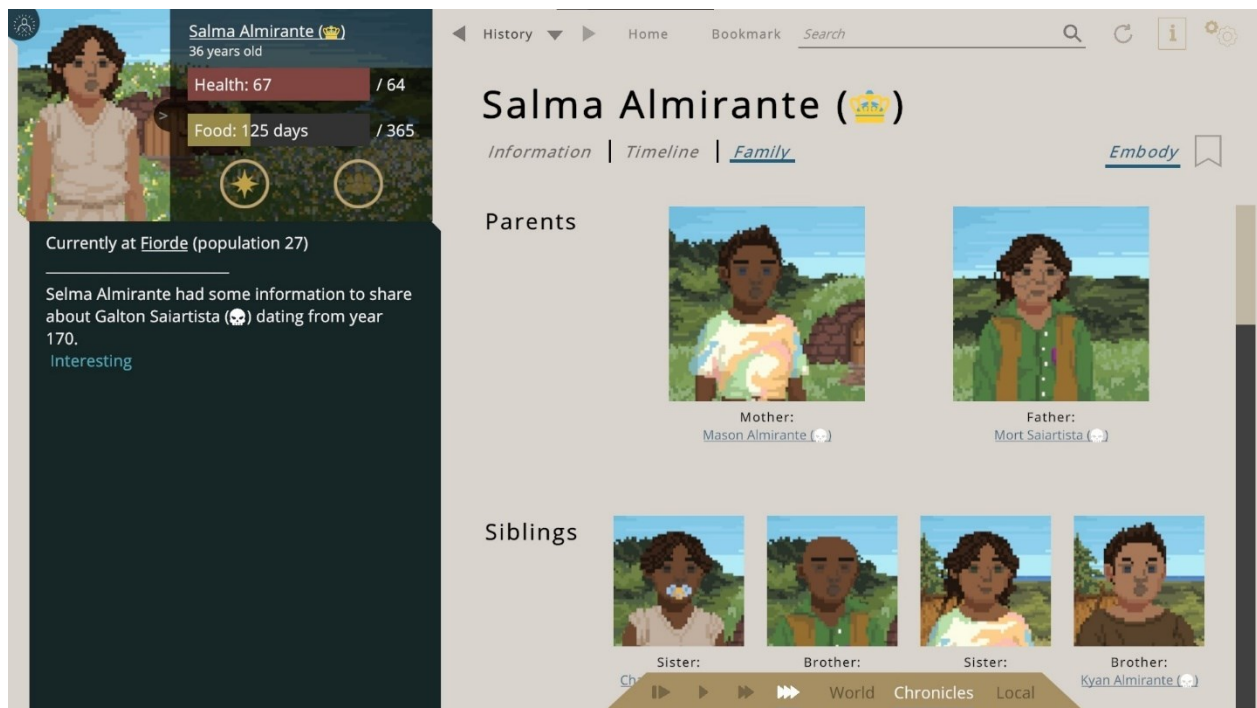
The screenshot shows the 'Human Timeline V2' interface. On the left, a sidebar displays 'Jamleur Seultravers (👑) 45 years old', 'Health: 56 / 55', and 'Food: 253 days / 365'. Below this is a character portrait and a status box: 'Currently at Vilstant (population 10). There are 365 days left in the year. Take initiative. Just go with the flow.' The main panel is titled 'Jamleur Seultravers (👑)' and includes tabs for 'Information', 'Timeline', and 'Family'. It shows 'Year 94' with stats: 'Age: 26 | Health: 78 | Sanity: 95.5 | Influence: 405 | Location: Choson | Food: 19 | Accident: 6 | Kill: 0 | Childrens: 2 | Clan: Aitre'. Under 'Significant Events', there are entries for 'FindFood', 'NomadicLife', 'Accident', 'GetHurt', 'HaveBaby', 'MeetPerson', and 'PhysicalHealing'. At the bottom, there are navigation buttons for 'World', 'Chronicles', and 'Local'.

8 - Human Timeline V2

A4.5 Human Family Tab

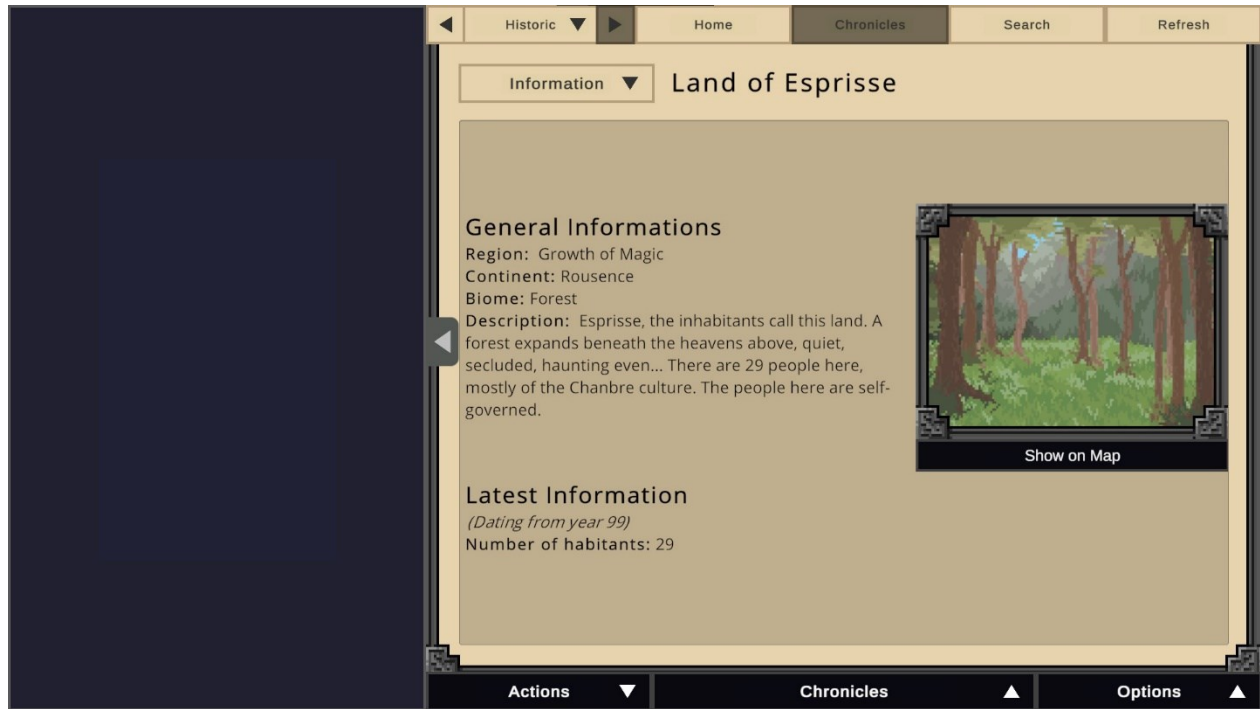


9 - Human Family V1

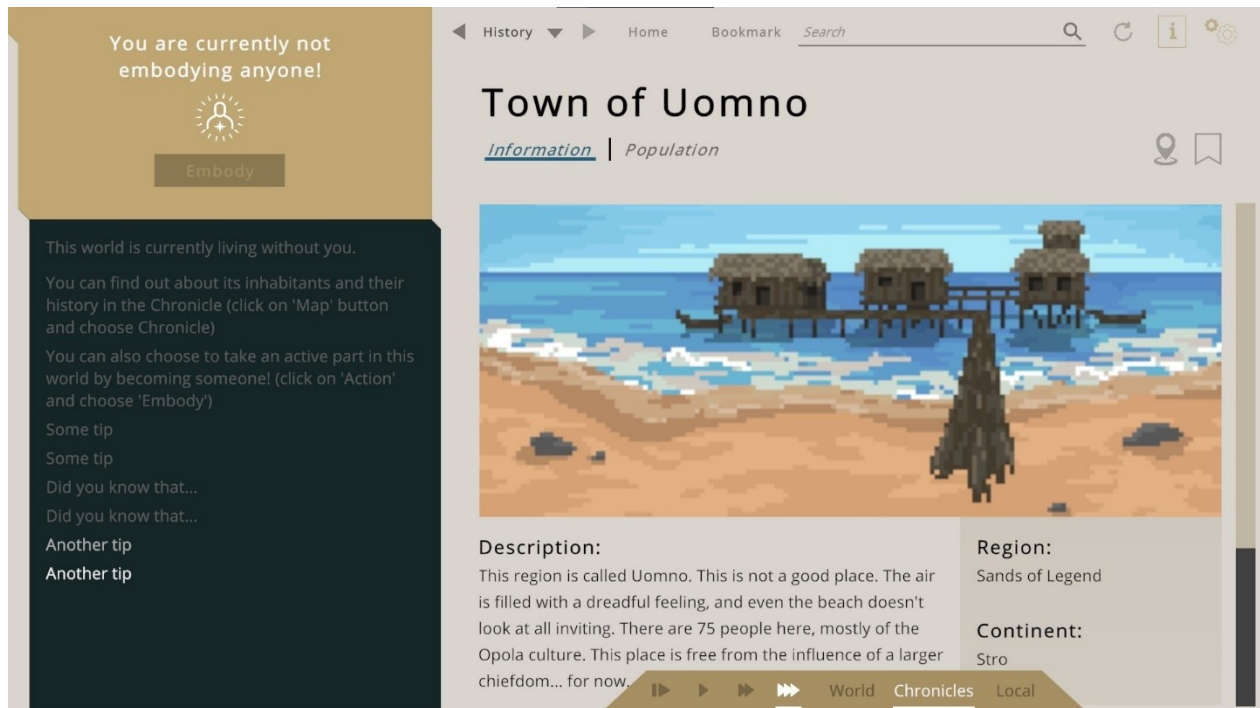


10 - Human Family V2

A4.6 Land Information Tab



11 - Land Information V1

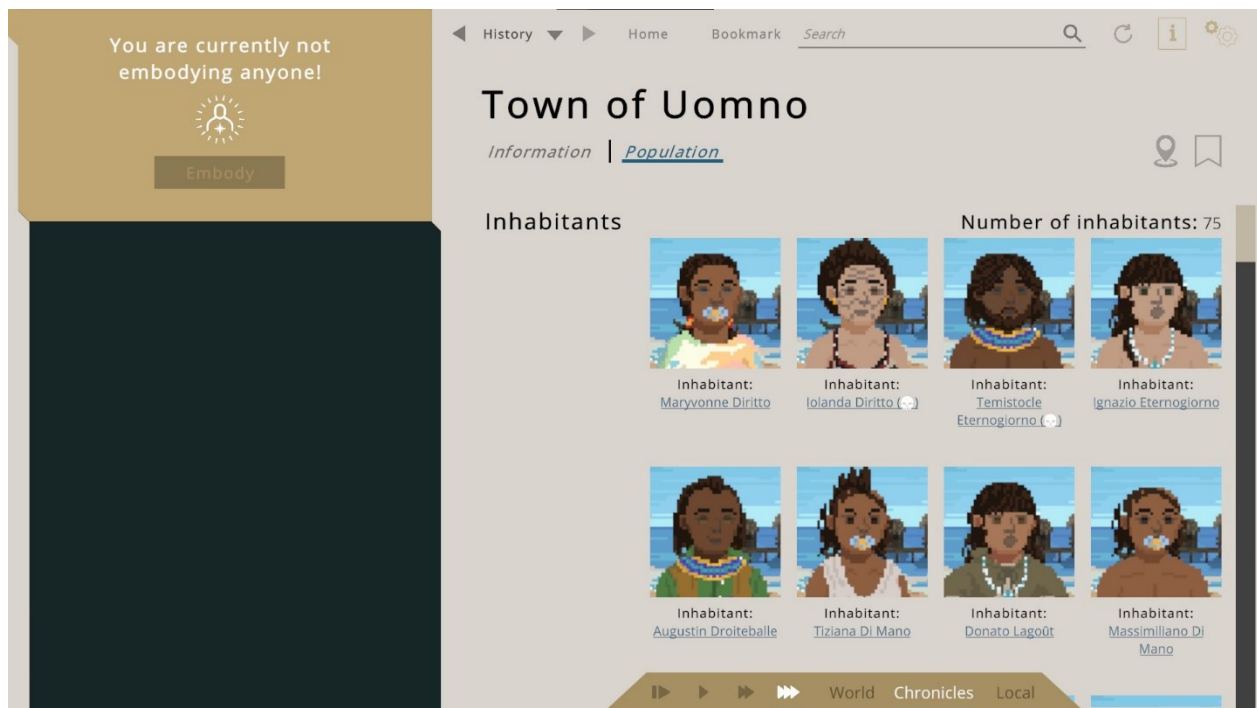


12 - Land Information V2

A4.7 Land Population Tab

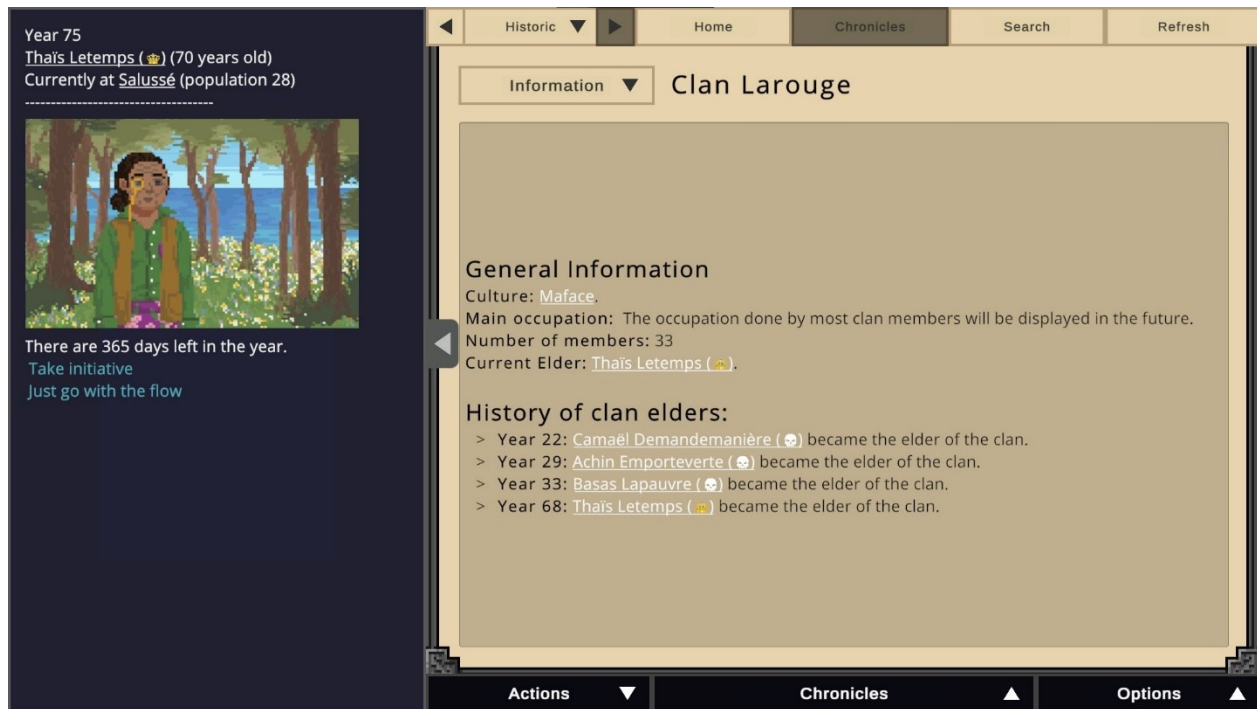


13 - Land Population V1

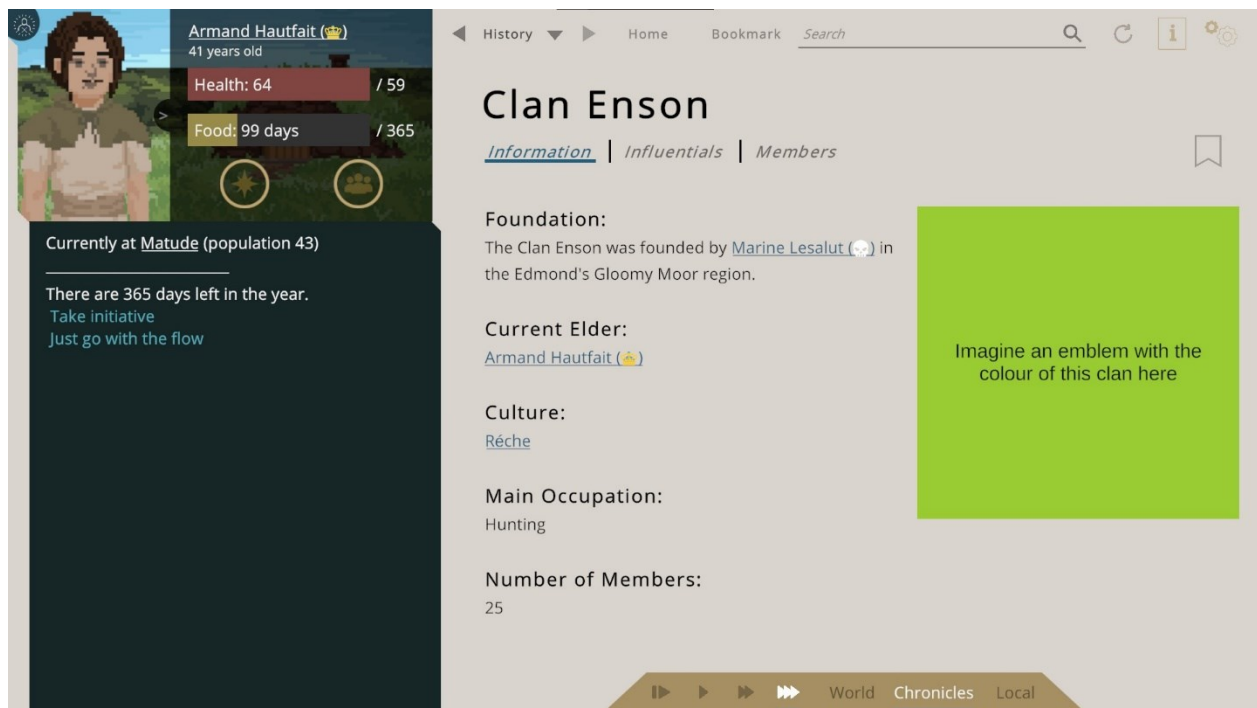


14 - Land Population V2

A4.8 Clan Information Tab

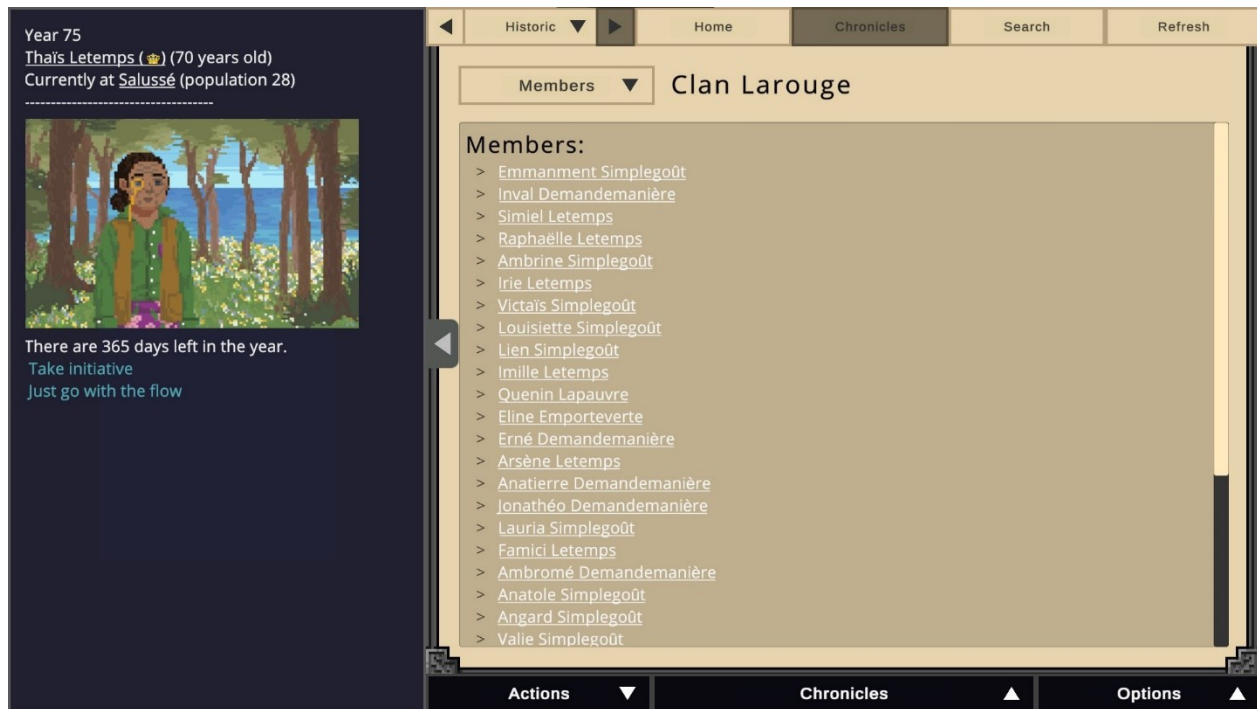


15 - Clan Information V1

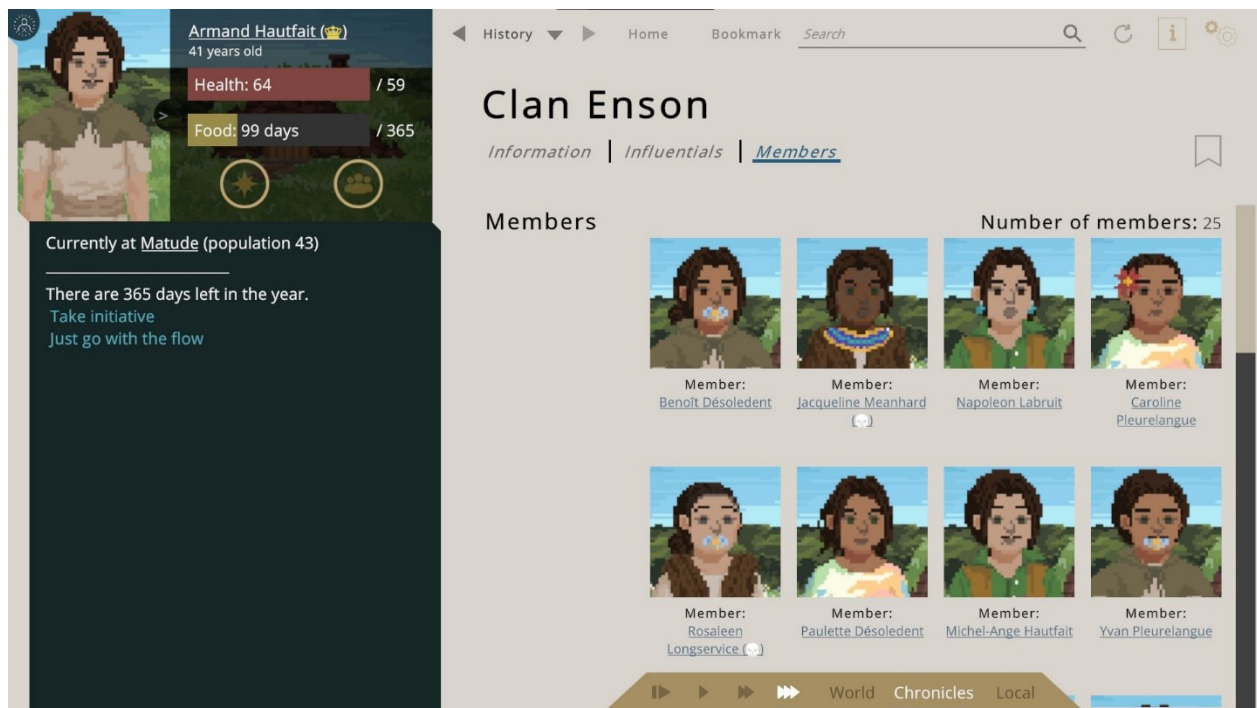


16 - Clan Information V2

A4.9 Clan Members Tab

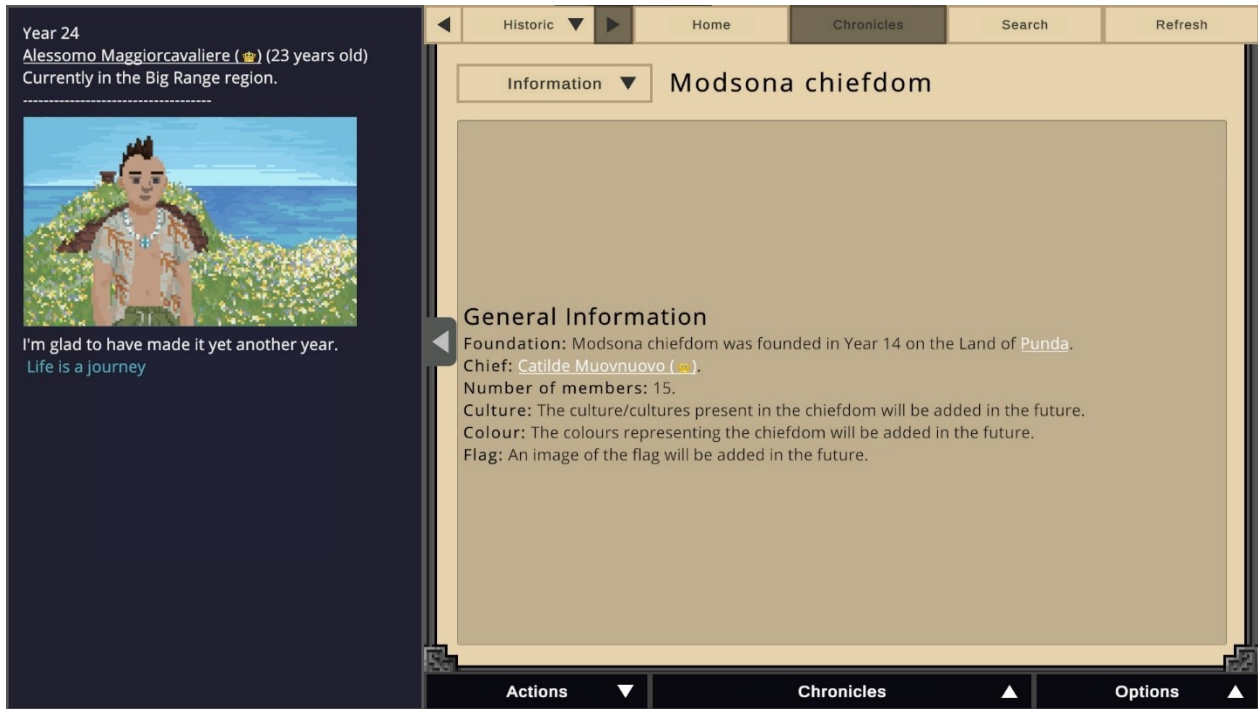


17 - Clan Members V1

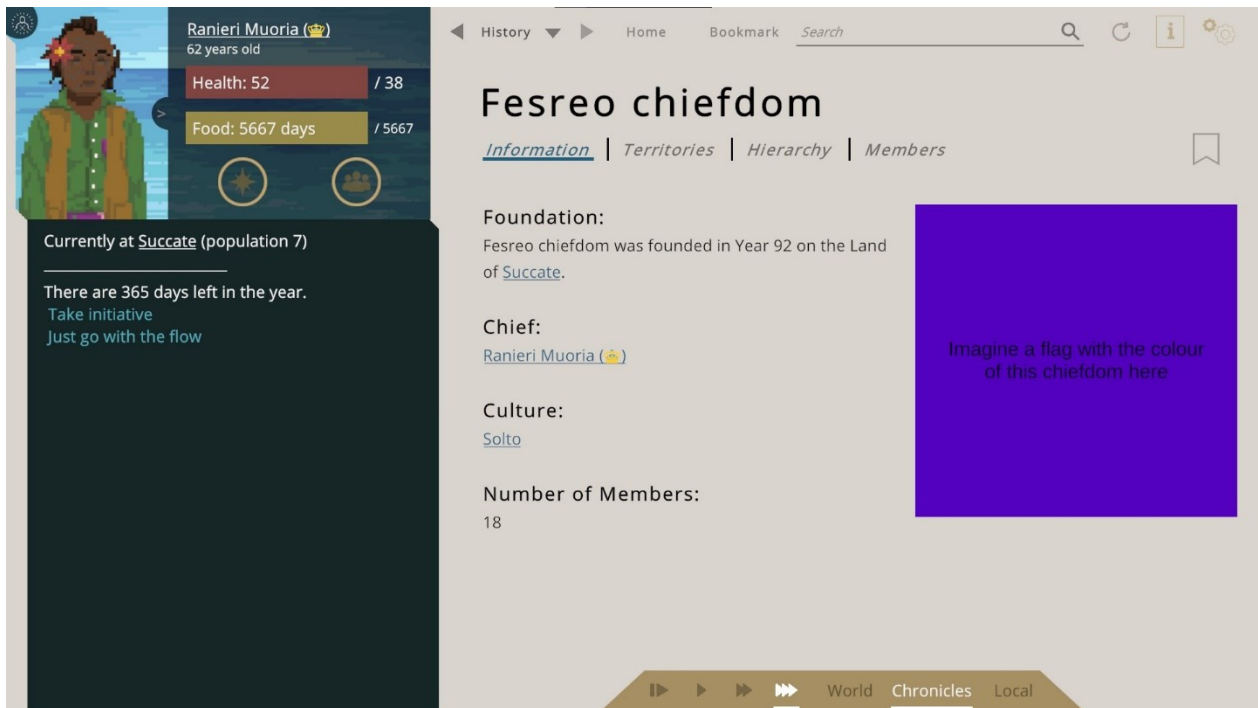


18 - Clan Members V2

A4.10 Chiefdom Information Tab

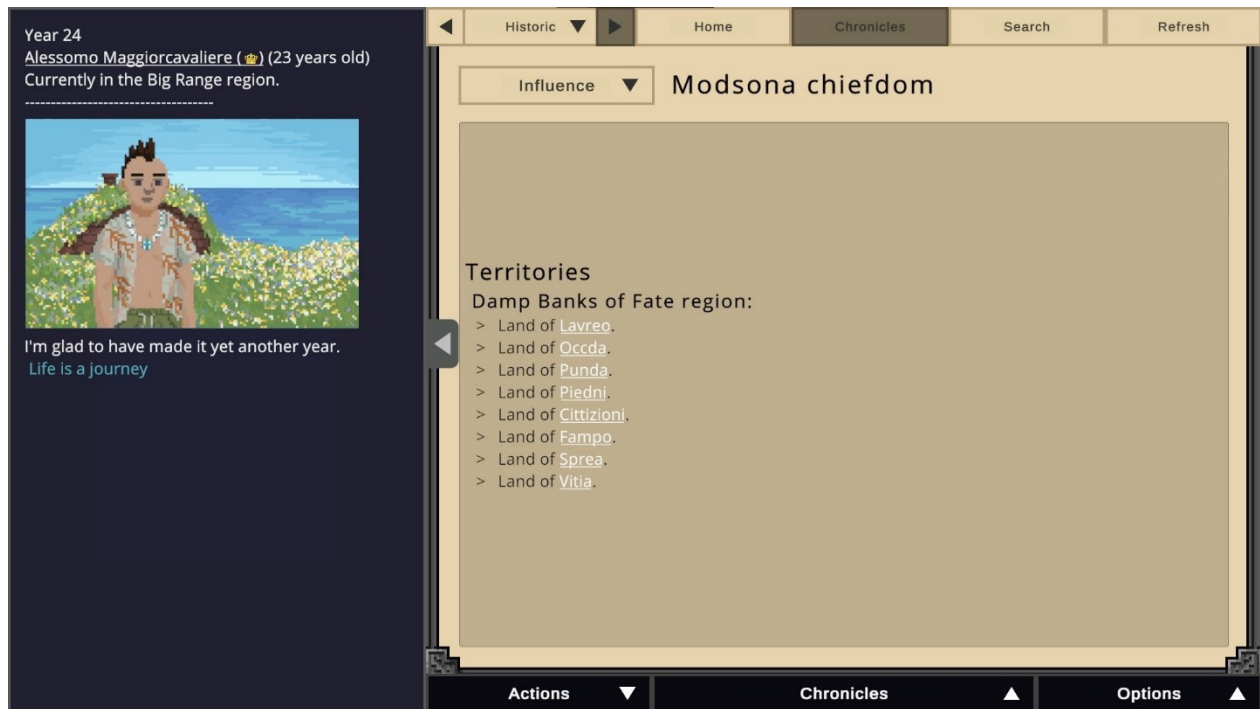


19 - Chiefdom Information V1

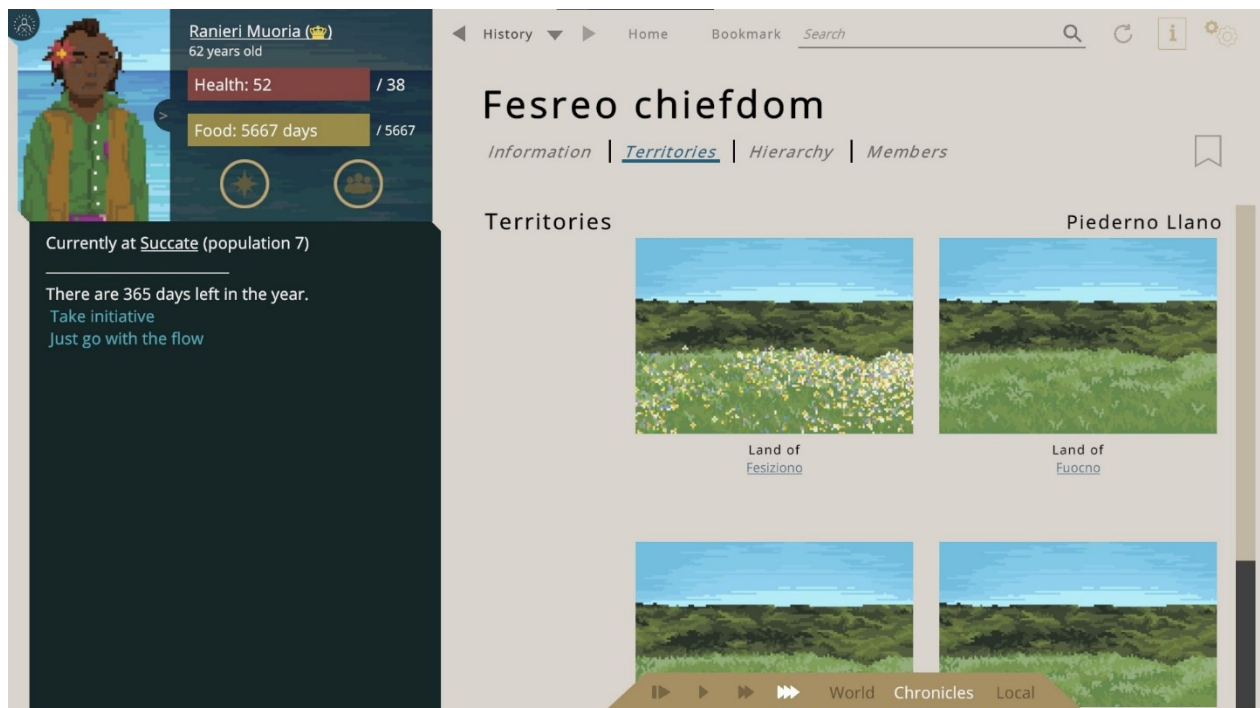


20 - Chiefdom Information V2

A4.11 Chiefdom Influence/Territories Tab

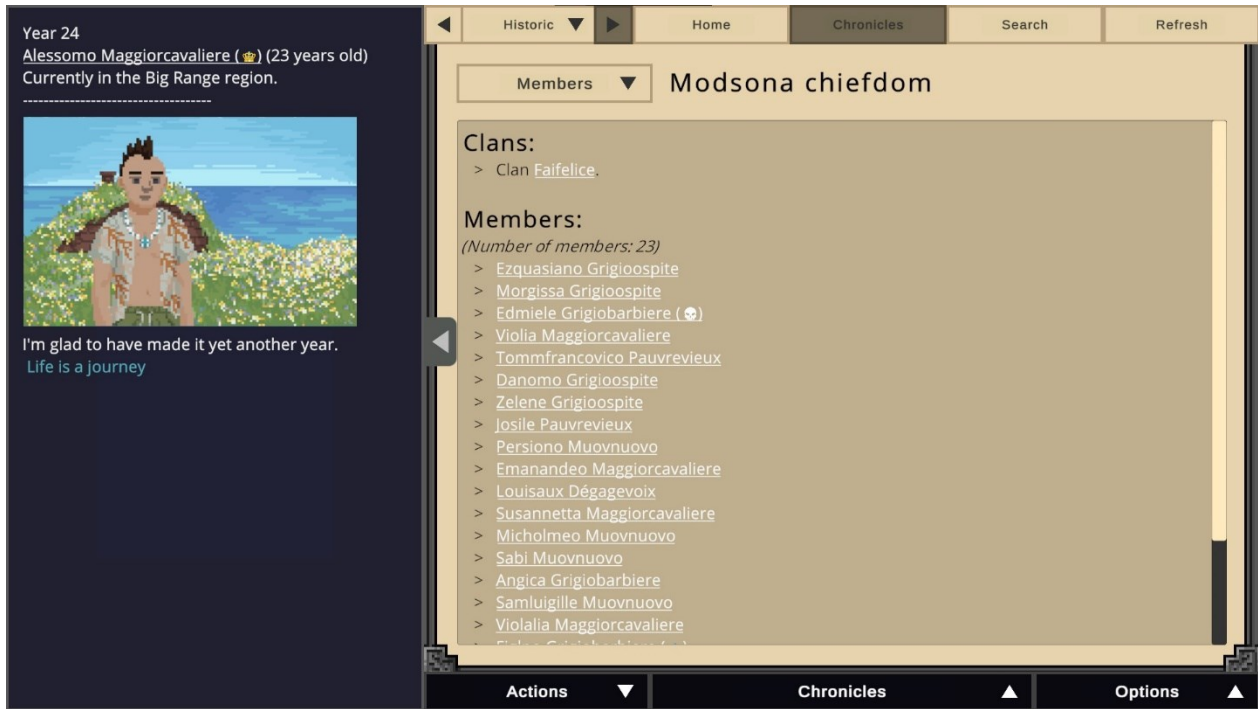


21 - Chiefdom Influence V1

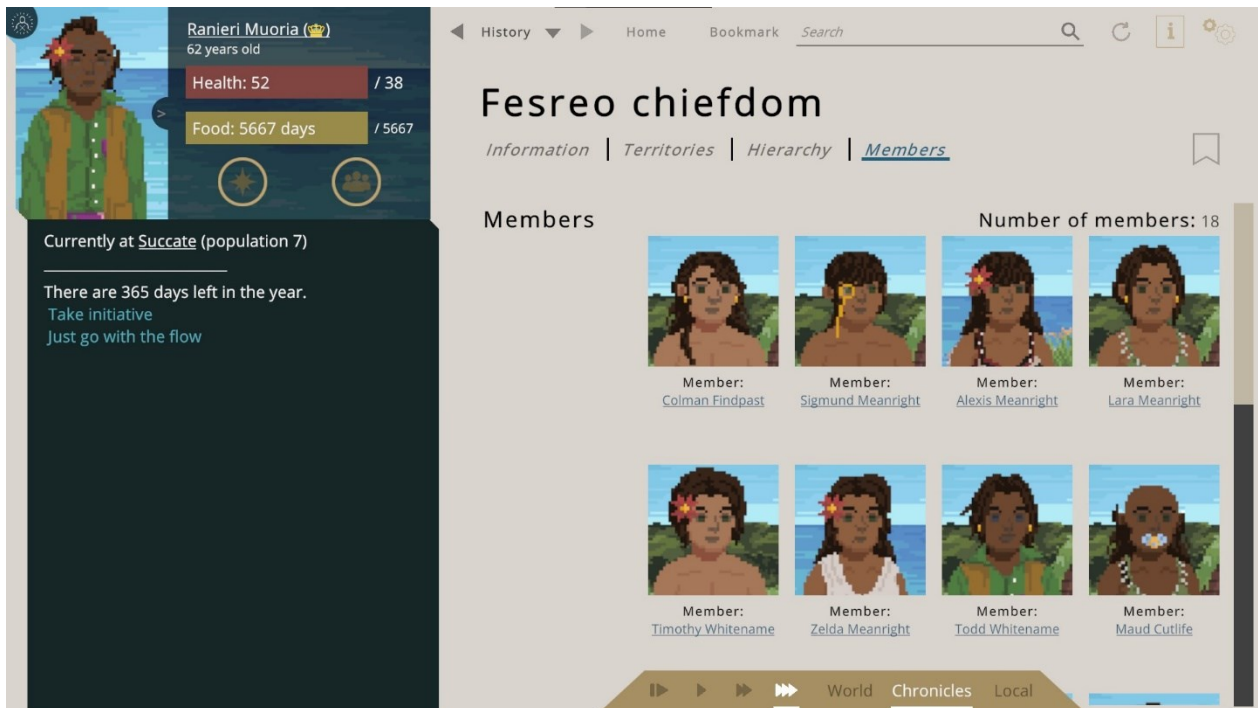


22 - Chiefdom Territories V2

A4.12 Chiefdom Members Tab

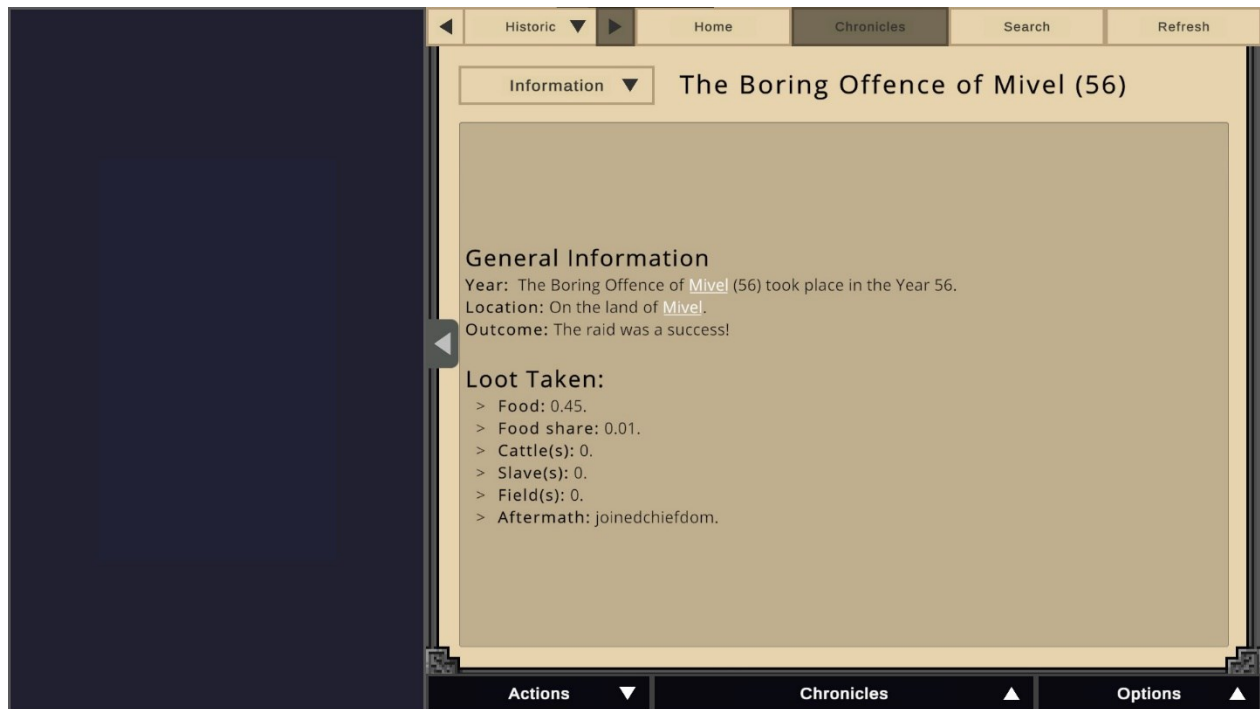


23 - Chiefdom Members V1

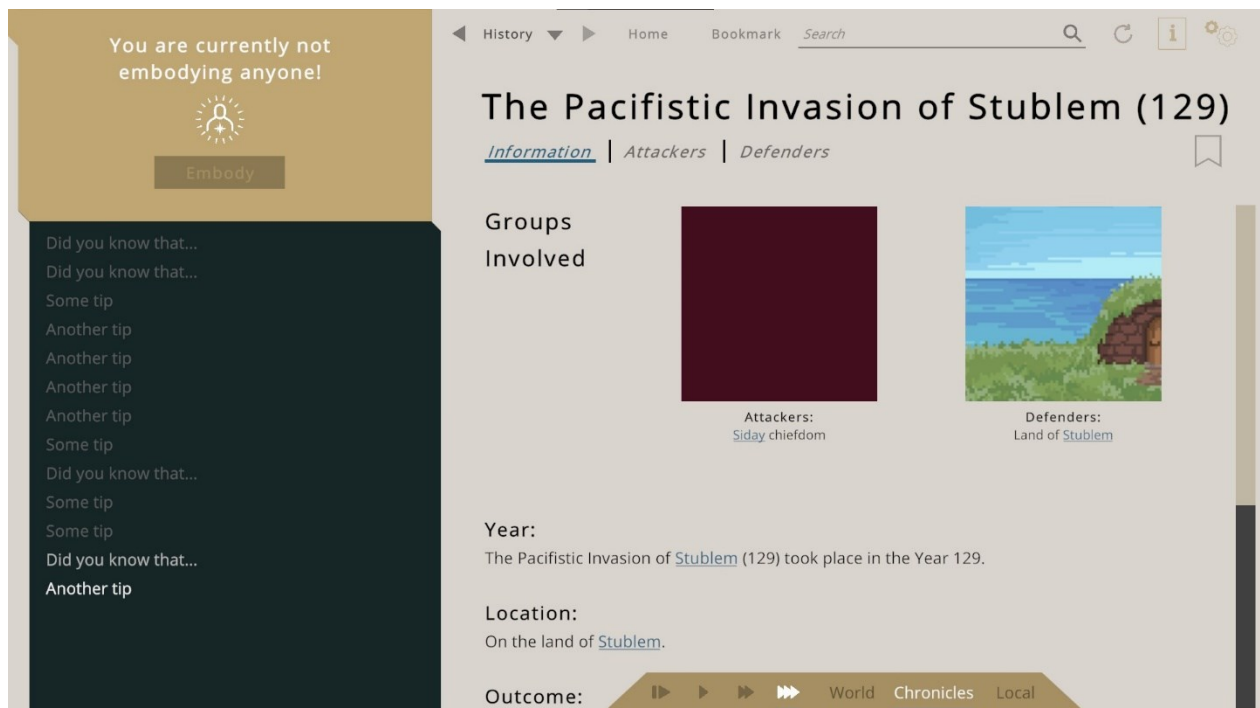


24 - Chiefdom Members V2

A4.13 Raid Information Tab



25 - Raid Information V1

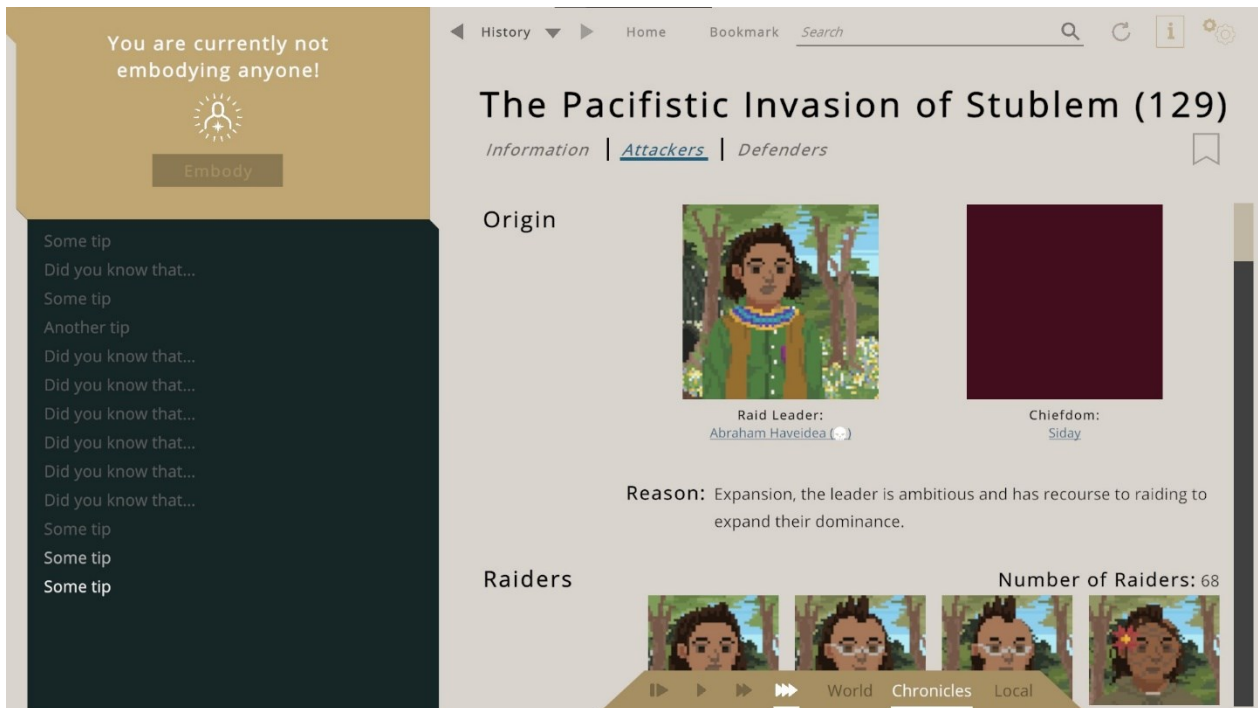


26 - Raid Information V2

A4.14 Raid Attackers Tab

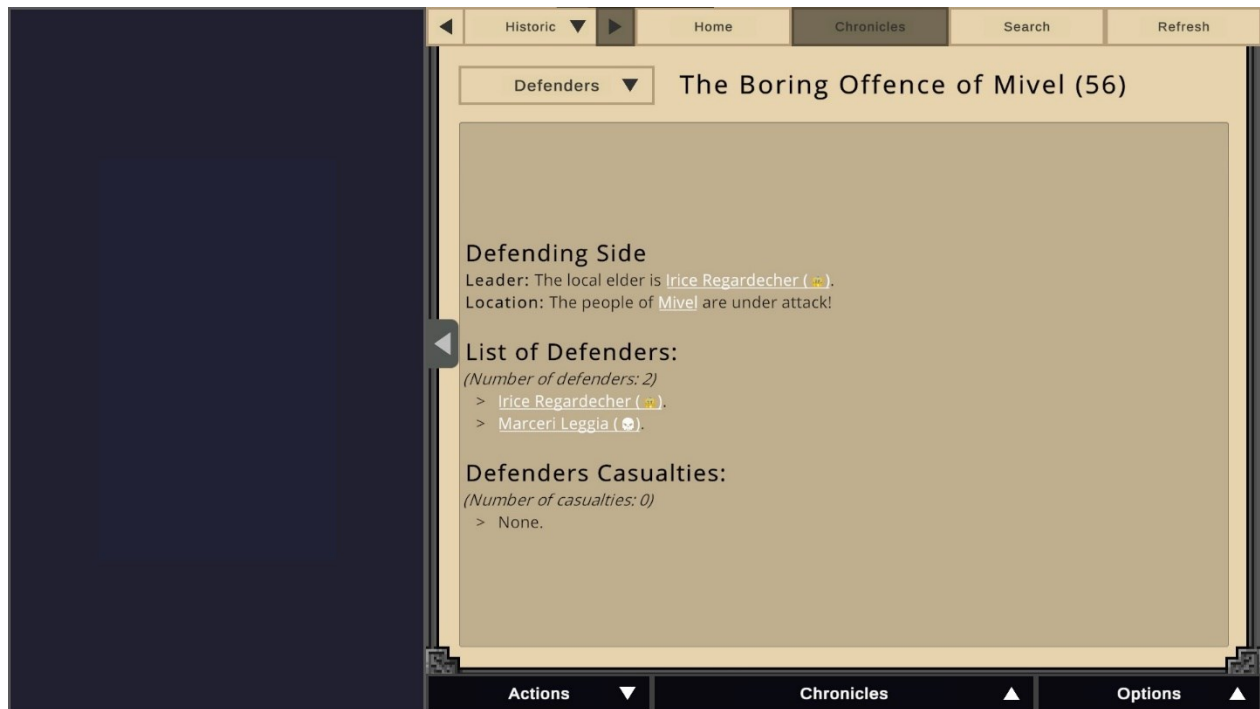


27 - Raid Attackers V1

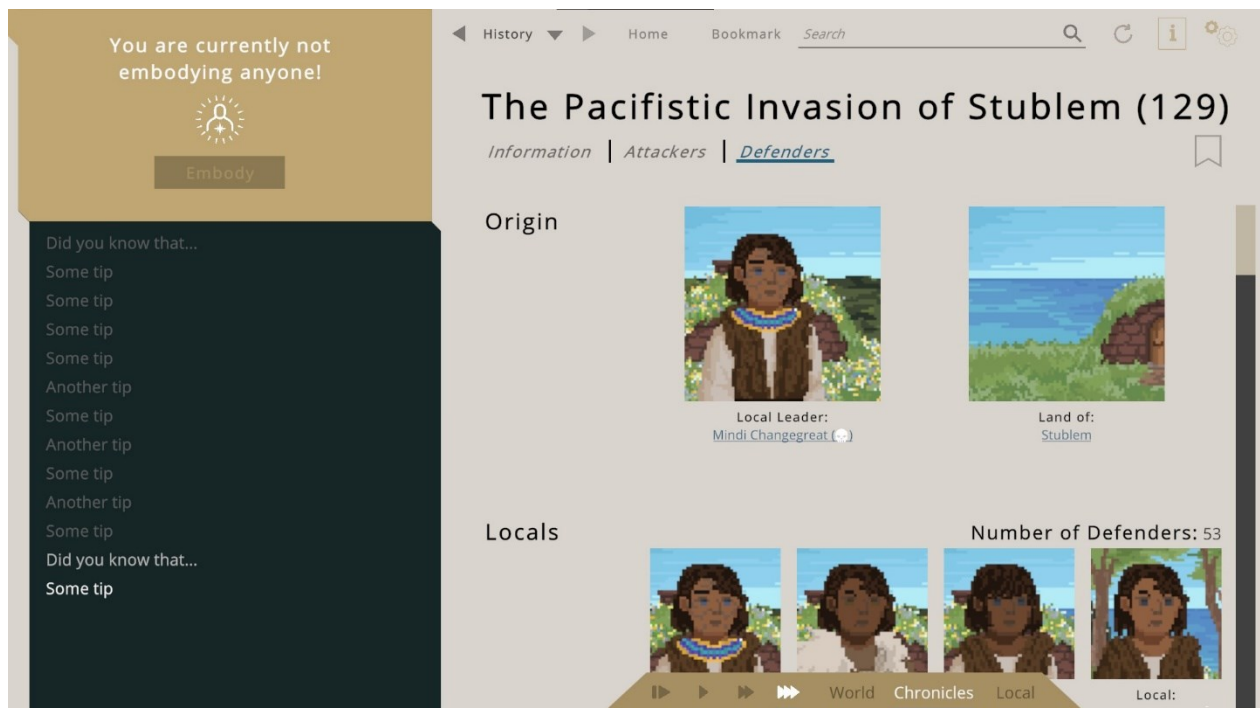


28 - Raid Attackers V2

A4.15 Raid Defenders Tab

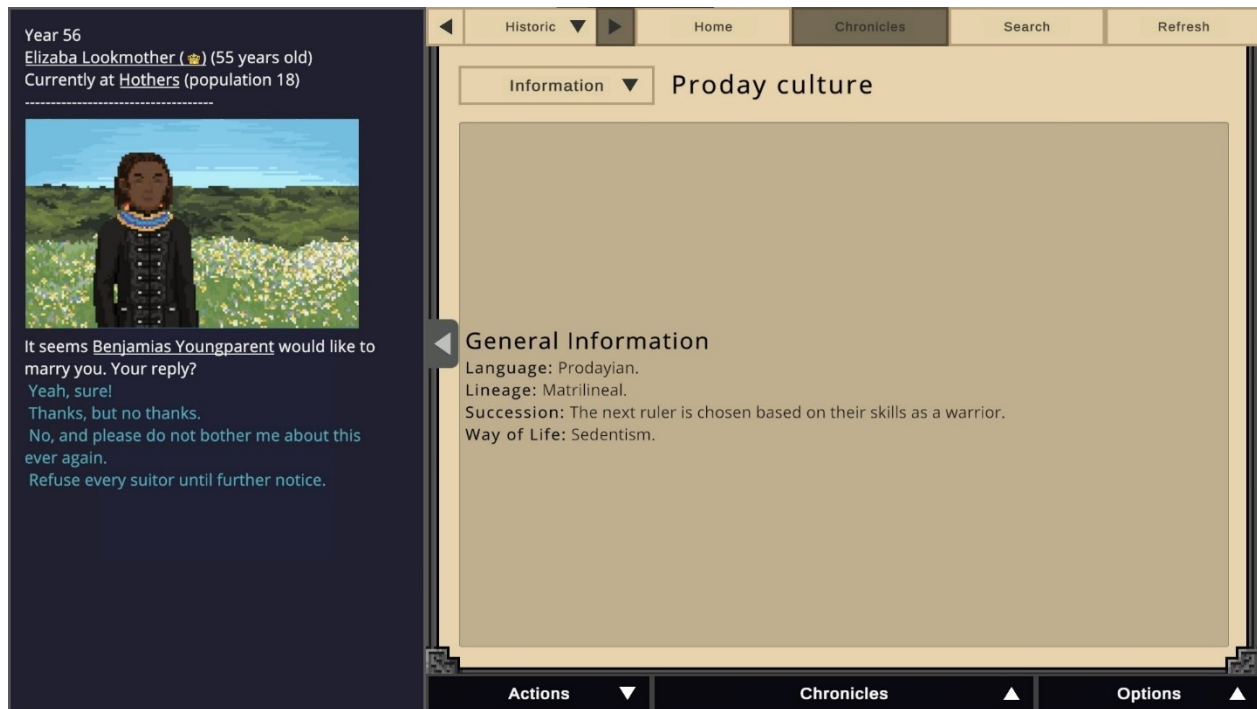


29 - Raid Defenders V1

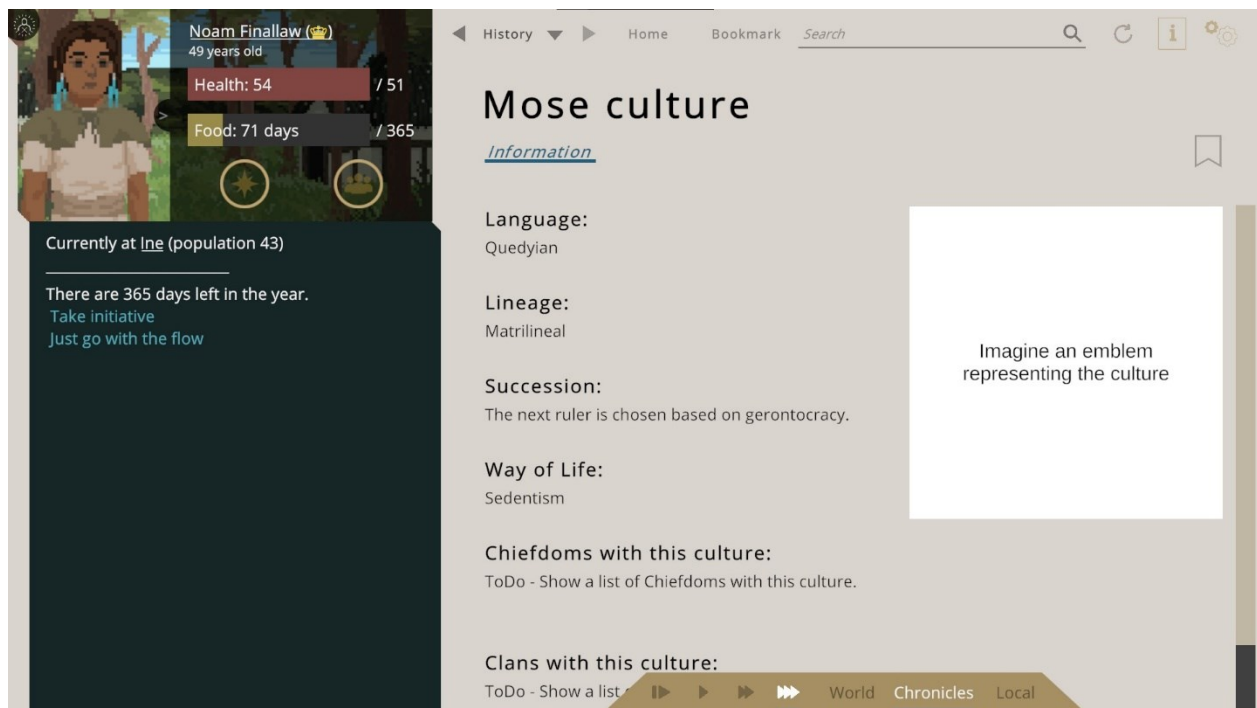


30 - Raid Defenders V2

A4.16 Culture Page



31 - Culture Page V1



32 - Culture Page V2