

“Digital storytelling as a framework for a new narrative in museums”

How can digital storytelling contribute to diversity and inclusion objectives of museums?

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Abstract

In their mission to shed their past as institutions aimed at reform and educating the public on art, museums want to be more accessible, more diverse, and more inclusive. A mission they incorporated in their, in 2022 updated, definition of *the museum*. Critically exploring their role as the authority in the field, they aim at creating a new narrative in participation with multi-variegated communities. Building on the notion that this role is still embedded in the stories these museums tell, often displaying a linear art-history, this thesis looks at how a tool such as digital storytelling contributes to building these new narratives. By exploring two multimedia museum apps on their capacity for telling non-linear and more diverse and inclusive stories, the thesis explored how the apps contribute to the museums' diversity and inclusion objectives. Two Dutch museums known for their digital innovation: the traditional national Rijksmuseum with a rich collection of Dutch art and the recently opened first publicly accessible Depot Boijmans Van Beuningen were selected. Both museums launched their multimedia app as tools which give the visitor a sense of being part of the collection and being more in control of the narrative. Systematically analysing both apps by using the walkthrough method and a textual analysis, this thesis focuses on how some content and technical elements comply with the ideology but at the same time other content and technical elements in the app, as well as the infrastructure behind the apps (the collection database), cause the app to still display a rather linear art-history. This thesis claims that although the museums use their apps to present the user and work with the user towards a more diverse and inclusive storytelling, technical limitations in the apps and gaps in the digital infrastructure still display a mostly linear art-history with stories lacking in diversity and inclusion.

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1. Introduction

In a *TED*-talk Hanna Mason-Macklin illustrates how in the much-acclaimed *Marvel* movie *Black Panther*, one of the first scenes describes a power-play between one of the main characters Killmonger and the curator of a fictional British museum.¹ Concerning an African artefact, the white female curator, coffee in her hand (which is usually not allowed within museums and shows her “rightful” place in this environment) displays her academic knowledge whereas the black visitor, who is eyed suspiciously by guards and curator alike, seems to know much more about its origins, knowledge stemming from family wisdom.² The fictive museum in *Black Panther* is no exception, many museums are considered old-fashioned and elitist and seen as places lacking in diversity and inclusion.³ Places where, according to Lisa Heinis, the dominant Western culture is in charge presenting audiences with a linear and one-sided view on art and art-history.⁴ As Tony Bennett explains, traditional museums in the Western world operate as the authoritative sender of knowledge in which the visitor is a passive receiver.⁵ In the last decades we have seen a shift in these roles and fixed patterns as cultural changes and the rise of the internet caused the museums to take a critical look at themselves and their position in society.⁶ The lack of diversity and inclusion in the museums has since been a major topic in this discourse. Following years of discussion and debate, the global organisation of museums ICOM finally updated its definition of a museum.⁷ Before 2022, the organisation defined a museum as:

“a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment.”⁸

The, in 2022 established, new definition added the distinctly more open and following part:

“Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the

¹ Hanna Mason-Macklin, *Museum in Progress: A tool to decolonize museums*, TED conferences, October 2019, https://www.ted.com/talks/hannah_mason_macklin_museum_in_progress_a_tool_to_decolonize_museum_exhibitions.

² Ibid.

³ Yuha Jung, “The Ignorant Museum: Transforming the Elitist Museum into an Inclusive Learning Place.” In *10 Must Reads: Inclusion, Empowering New Audiences*, (Boston: MuseumsEtc, 2014), 276.

⁴ Lisa Heinis, “A Cacophony of intersecting stories. Feminist art historical case studies in institutional critique,” *Vrije Brussels: Universiteit Brussel*, 2021, 13.

⁵ Tony Bennet, *The Birth of the Museum: History, Theory, Politics*, (New York: Routledge, 2018), 18.

⁶ Nina Simon, “Preface,” in *The Participatory Museum*, (Santa Cruz: Museum 2.0, 2010).

⁷ “Museum definition,” ICOM, accessed April 23, 2023, <https://icom.nl/en/activities/museum-definition>.

⁸ Ibid.

participation of communities, offering varied experiences for education, enjoyment, reflection, and knowledge sharing.”⁹

Where the museums used to tell stories from this dominant perspective, museum diversity fellow Makeba Clay states that the mission to foster inclusion and diversion translated into ideas about telling multi-variegated and multivocal stories.¹⁰

In this thesis, I explore how the use of digital storytelling in museums’ multimedia apps developed by museums contributes to the ICOM’s mission of becoming more diverse and inclusive. I focus on multimedia apps released by two museums in the Netherlands, the Rijksmuseum in Amsterdam, and Museum Boijmans Van Beuningen (Boijmans) in Rotterdam. Where the Rijksmuseum is a traditional national museum with a mostly classical collection of objects acquired during 800 years of Dutch history,¹¹ Boijmans launched a new type of museum by opening the world’s first publicly accessible storage building in November 2021: Depot Boijmans Van Beuningen (Depot).¹² Both museums are known in the Netherlands for their digital innovation as I know from my experience of working as a digital specialist for Boijmans for eleven years. The Rijksmuseum app, launched in 2018, offers visitors a way to explore the collection in several ways and contribute to the collection through the Rijksstudio.¹³ Boijmans launched the Depot app in November 2021 as a way to explore stories behind the artworks and allow the user to see what it feels like to be a collector.¹⁴ Both museums have put the wish to become more diverse and inclusive both internally and externally high on their agenda as can be seen on their websites and in the projects they conduct. I have chosen to explore two apps in order to see how, coming from a similar but also very different background, the traditional natural treasure museum versus the new conceptual depot, they incorporate their diversity and inclusion objectives into their digital concepts. By focusing on a storytelling product, other means to contribute to this mission such as diversifying the internal organisation or increasing digital accessibility have been left out of scope.

This thesis's theoretical part starts by explaining the shifting role of museums in the last two centuries. Museums did not exist before the 1800s. Still, as Tony Bennett explains, they were established by governments in the nineteenth and twentieth centuries as exponents of institutionalism, institutions able to exercise social and political power.¹⁵ Museums but also libraries, and galleries were seen as instruments to educate the public and improve their lives

⁹ “Museum definition,” ICOM, accessed April 23, 2023, <https://icom.nl/en/activities/museum-definition>.

¹⁰ Makeba Clay, “The transformative power of inclusive storytelling in museums,” accessed 24-11-2021, <https://www.aam-us.org/2020/02/05/the-transformative-power-of-inclusive-storytelling-in-museums/>.

¹¹ “About us,” Rijksmuseum, accessed February 20, 2022, <https://www.rijksmuseum.nl/en/about-us>.

¹² “Depot,” Museum Boijmans Van Beuningen, accessed February 10, 2022, <https://www.boijmans.nl/en/depot>.

¹³ “Your museum, your app,” Rijksmuseum, accessed March 1, 2022, <https://www.rijksmuseum.nl/en/whats-on/app>.

¹⁴ “Depot app,” Museum Boijmans Van Beuningen, accessed November 5, 2021, <https://www.boijmans.nl/en/depot/app>.

¹⁵ Tony Bennett, *The Birth of the Museum*, 18-19.

both physically and intellectually.¹⁶ Museums decided what was high culture and what the audience should see and should learn.

Bennet further illustrates the emergence of critical museum studies in the 1980s which saw the first debates on the role of museums as institutions rising from colonialism, sending stories to the audience instead of listening to them and providing us with a narrow and one-sided view of art and art-history.¹⁷ Diving further into art-history and storytelling, Lisa Heinis explains museums, although modernised, still tend to tell a linear art-history.¹⁸ As a former employee, I have witnessed how problems such as this one-sidedness and linearity, although widely recognised, are still difficult to overcome for most museums. They produce I argue a traditional museum cycle where the narrative is repeated over and over again. Therefore, museums should look at ways and tools with which they can break through this cycle and start narratives outside of this linear art-history. Digital storytelling, I argue, is such a tool which enables museums to establish new narratives.

Digital storytelling is at its core, a non-linear tool allowing the user to influence the flow of the story.¹⁹ Stella Sylaiou and Panagiotis Dafiotis explain how digital storytelling allows visitors to create their own stories and contribute to the stories told by the museum.²⁰ For this to be realised, the museum has to be open for more participation which is something Nina Simon argues they should do.²¹ Simon sees participation and collaboration as a way to make museums more dynamic, essential, and relevant.²² If digital storytelling allows for more diversity in the museum apps, the question arises whether the collection databases and archives are capable of delivering the diverse and inclusive content needed for this diversity. As I learned at museum conferences aimed at diversifying the collections, the design of the databases is not always ready to record diversity and inclusion thus making it hard to include this content in digital products. This is another angle which I explore by looking at the diversity of the online collection used in the apps.

Analysing the apps is realized by using elements of both a walkthrough method, introduced in 2015 by Ben Light, Jean Burgess, and Stefanie Duguay,²³ and a textual analysis as

¹⁶ Tony Bennett, *The Birth of the Museum*, 18-19.

¹⁷ Tony Bennet, *Museums, Power, Knowledge: Selected Essays (1st ed.)*, (London: Routledge, 2018), 2.

¹⁸ Lisa Heinis, "A Cacophony of intersecting stories. Feminist art historical case studies in institutional critique," Vrije Brussels: Universiteit Brussel, 2021, 13.

¹⁹ Selma Rizvic, Vensada Okanovic, and Dusanka Boskovic, "Digital storytelling," in *Visual computing for cultural heritage*, Edited by Fotis Liarokapis et al., (London: Springer, 2020): 347.

²⁰ Stella Sylaiou and Panagiotus Dafiotis, "Storytelling in Virtual Museums: Engaging a Multitude of Voices," in *Visual Computing for Cultural Heritage*, Edited by Fotis Liarokapis et al., (London: Springer, 2020), 369.

²¹ Nina Simon, "Preface," in *The Participatory Museum*, (Santa Cruz: Museum 2.0, 2010).

²² Ibid.

²³ Ben Light, Jean Burgess and Stephanie Duguay, "The walkthrough method: An approach to the study of apps," *New Media & Society* 20 (2016): 881.

explained by Bonnie Brennen.²⁴ The walkthrough method provides an extensive way to explore the intended and non-intended use of an app.²⁵ By exploring the app's vision and mission, provenance, and governance a researcher is able to establish the intended use. Using the app extensively, focusing on functionality, interface, community, and content, the researcher can track down the app's non-intended use. Because I want to explore how texts in the apps reflect the museums' diversity and inclusion missions, I will also use elements of a textual analysis, focusing on ideology and the dominant meaning in text, visuals, and video.²⁶ The walkthrough is accompanied by a small data analysis to provide an idea of the extent to which the apps show a more diverse side of the collection.

I have formulated the following research question: *How do museums such as the Rijksmuseum and Museum Boijmans Van Beuningen fulfill their diversity and inclusion objectives through their multimedia apps?* To be able to answer this question in the analysis the first sub-question relates to the apps' intended use and reads: *How are diversity and inclusion objectives of the Rijksmuseum and Museum Boijmans Van Beuningen connected to the concepts of their multimedia apps?* Sub-questions that will analyse the apps' unintended use are: *In what way do the apps paint a more diverse and inclusive picture of the museum's art collections? In what way do the apps allow the user to create their own narrative or even contribute to the narrative? In what way does the digital infrastructure in the museums allow for more diversity-driven storytelling?*

The thesis is constructed as follows: chapter two explains the theoretical framework. Chapter three explains the methodology used and describes the corpus I established. Chapter four contains the analysis of the apps based on the four sub-questions. I will conclude by reflecting on my research and offering possible follow-up research.

²⁴ Bonnie Brennen, *Qualitative Research Methods for Media Studies*, (New York: Routledge, 2013).

²⁵ Ben light et al., *The walkthrough method*.

²⁶ Bonnie Brennen, *Qualitative Research Methods for Media Studies*.

2. Museums and their storytelling

2.1. The origin of the museum as a form of linear storytelling

Referring to Foucault's work on the penitentiary system, Tony Bennet explains how museums were, just like prisons, asylums, libraries, and clinics established in the nineteenth and twentieth centuries as institutions of power and knowledge relations.²⁷ Where previously collections were owned by the elite and only displayed in cabinets of curiosities to small and select groups, the museums were open to the public.²⁸ Museums provided a place for governments to justify the practices of colonialism by providing ethnographic displays and by displaying the coloniser's power by showing their riches and wealth.²⁹ Bennett sees the museum as part of the new cultural technologies which emerged in the nineteenth and twentieth centuries and which were used to make populations governable by ways of surveying and self-regulating.³⁰ According to Bennett, museums sought and seek to "educate" the public and train it in proper public behaviour.³¹ Museums have since then been seen as the authority in their area and have always acted accordingly.³²

Debate on this authoritative role of museums emerged in the 1960s, which was labelled as "the new museology" in the 1980s and cumulated in the term "critical museum studies" which is now a substantial part of the art-history curriculum.³³ Bennett illustrates this history of museum studies using his home country Australia as an example where the debate first focused on breaking free from the tutelage of colonial England and class politics to feminist critique of male-centrism and multicultural critiques of White Australia to critique of the Indigenous Australians about the racist and colonial history of the museum.³⁴

I would say that this pattern is one that we also see in major Dutch museums. In its publication "Witness in stone, the royal tropical institute, A building as colonial legacy," the Dutch Tropenmuseum explains how we live with the past in the present and how museums choose which aspects of the past are remembered or forgotten.³⁵ Housed in the formerly named "Colonial institute", the museum is one of the many institutions to question their own past, by being more transparent about the buildings which house the collections or how the collection came into its possession.³⁶ Both the Rijksmuseum and Museum Boijmans Van Beuningen are,

²⁷ Tony Bennet, *The Birth of the Museum*, 57.

²⁸ *Ibid*, 59.

²⁹ *Ibid*, 47.

³⁰ *Ibid*, 69.

³¹ *Ibid*, 69.

³² *Ibid*.

³³ Tony Bennet, *Museums, Power, Knowledge*, 2.

³⁴ *Ibid*.

³⁵ Mark Schneiders and Wayne Modest, "Tense Dialogues," in *Witness in stone, the royal tropical institute, A building as colonial legacy* (Amsterdam: KIT, 2022), 7.

³⁶ *Ibid*.

like the Tropenmuseum anchored in this same Dutch history which is reflected in for instance the way the collection has been built and labelled. Thereby establishing a linear collection archive/database which they use to develop (online) stories about art and art-history that are also, as Lisa Heinis explains, quite linear.³⁷

Art history and art discourse are, according to Heinis, as much institutions as are the museums themselves.³⁸ Heinis states, using feminist art-historical case studies based on the Institutional Critique movement, how museums and galleries tend to display art-history in a linear form.³⁹ She explains how the power relations that exist in any society will always be visible in the way art history is written down.⁴⁰ The fact that white cis-gender males defined and still largely define the art, museums show and the stories they tell has established an existing framework on which these stories are being modelled.⁴¹ Bias in stories and collections such as titles and descriptions are copied again and again and used for telling new stories in which the same artists, events, and movements are highlighted.⁴² Heinis explains diversity will always be an exception in our museums as long as those hegemonic chronological stories keep being told within the same framework.⁴³ As a result, we, the audience, are usually only familiar with artists who are recorded in art-books and whose work has been shown most frequently, artists who almost always happen to be white male artists.⁴⁴

Online and digital possibilities for telling stories have expanded at an incredible rate in the last few decades, but according to Heinis the way the stories of these institutions are constructed remains a rather stable chronology of events.⁴⁵ Heinis further argues art historians have a responsibility to the artists when writing, but also, expanding upon a play on words by Donna Haraway, a response-ability. She says: "As an art historian, I have a response-ability to look, study, and contextualize art within a larger art historical narrative."⁴⁶ This larger historical narrative is something I will look for in the analysis. According to Heinis, museums should deconstruct time and history within their linear frameworks, embrace differences, and rebuild their narrative.⁴⁷ Both the authoritative role museums have always had plus the fact museums are part of this linear art-history have, I would argue, proven two major obstacles in diversifying museums and making them more inclusive. A third obstacle is the design and archival practices in collection databases.

³⁷ Lisa Heinis, *A Cacophony of intersecting stories*, 10.

³⁸ Ibid.

³⁹ Ibid, 4

⁴⁰ Ibid, 146.

⁴¹ Ibid, 13.

⁴² Ibid, 104.

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ Ibid, 11.

⁴⁷ Ibid, 147.

2.2. Digitising the collection

When digitisation of the collection started in the 1990s,⁴⁸ the same artists who were part of the linear art-history were digitised first, making them not only the usual subjects of exhibitions at the museums but also the first to appear in online collections.⁴⁹

These objects in the museum's canon, curator Bram Donders at Museum Boijmans Van Beuningen explained to me, were easier to put online as they had been documented better and photographed more than lesser-known works.⁵⁰ Donders is researching nineteenth-century female artists in the Boijmans collection, a limited subcollection which, he says, is possible to research because at least these objects were documented as made by female artists. Whereas with many other objects in the collection, especially prints and drawings, identifying gender or origin is very hard.⁵¹ Donders explains these lesser-known objects are maintained less and not documented, making it harder to digitise these objects.⁵² This digitisation problem produces, I argue a traditional museum-cycle in which many museums such as the Rijksmuseum and Boijmans find themselves: their exhibitions show their highlights, most often created by white male artists. The highlights are also the objects they digitise first and which they put prominently on their website. Subsequently, the audience, familiar with this canon, requests the highlights more frequently, both offline and online. I have visualized this linear cycle in figure 1.

⁴⁸ Trilce Navarrete, "A history of digitization in Dutch museums," accessed June 13, 2022, <https://trilcenavarrete.com/2015/09/25/a-history-of-digitization-dutch-museums/>.

⁴⁹ Ibid.

⁵⁰ Bram Donders, interview on project "Women artist in the nineteenth century" by author, Rotterdam, March 23, 2022.

⁵¹ Ibid.

⁵² Ibid.

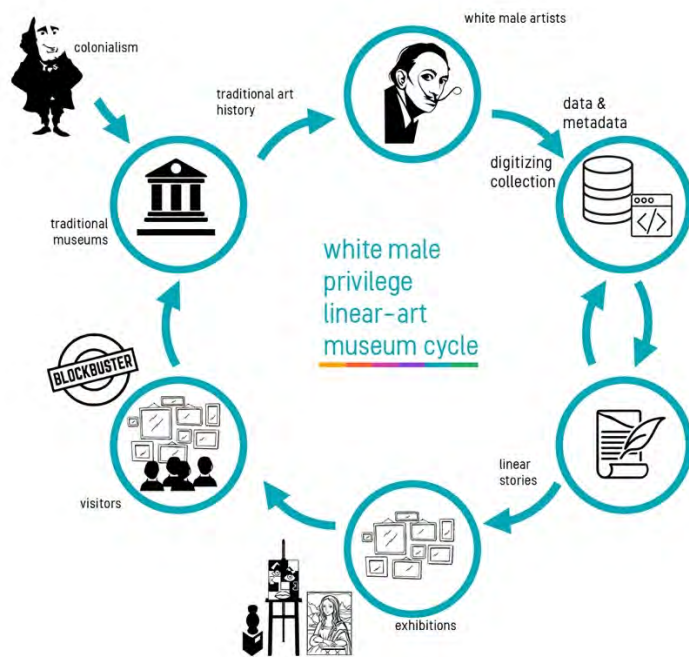


Figure 1 Marieke van Santen "The white male privilege linear-art museum cycle"

Through this cycle, problems surrounding the linear art-history Heinis talks of, are therefore often repeated in the online collection and subsequently in museum apps. For, in order to show lesser-known objects, these objects have to have been digitised in the first place.

Another issue museums face in their journey towards more diversity and inclusion is the design of the collection database and the way metadata has been registered. Eric Ketelaar states "the archiving produces as much as it records the event," it is the archivers who produce the archive."⁵³ Archivers not only document events but also construct events, influenced by social and cultural factors.⁵⁴ The same can be said about museum collection databases which reflect the museums' collection practices through the ages.⁵⁵ As in other archives, the legacy of colonization, racism, and biases, as in other archives, are visible in the collection databases.⁵⁶ A second hurdle towards a more diverse database is the fact that metadata such as gender, identity, or ethnicity was most of the time not recorded in the collection database, in fact, most of the collection databases do not even include fields to register such metadata.⁵⁷ This makes it difficult for museums to present visitors with filtered lists or advanced searches for, for instance, "female artists" or "black artists." The issues

⁵³ Eric Ketelaar, "Tacit Narratives: The Meaning of Archives," *Archival Science* 1, 134.

⁵⁴ Ibid.

⁵⁵ Lizette Graden, "Rethinking collection practice with Frances Lloyd-Baynes at Mia," accessed May 14, 2023, <https://www.museumnext.com/article/rethinking-collection-practice-with-frances-lloyd-baynes-at-mia/>.

⁵⁶ Ibid.

⁵⁷ Frances Lloyd-Baynes and Jeremy Munro, "She / he / they / us, The intersection of Museums, Documentation and Identity politics," KeyNote, *Collective Imagination* by Gallery Systems, Washington, November 15-19, 2021.

described in these first two subchapter brings me to the last subchapter in this theoretical framework where I will be looking at ways for museums to overcome these issues.

2.3. Making new stories

This chapter looks at how museums are able to break through the existing framework of linear art-history and linear storytelling (the traditional museum cycle). Theory on storytelling and on digital storytelling as tools for creating more diverse and inclusive stories in collaboration with the audience is explained by looking at chances as well as at challenges when using such a tool.

2.3.1. Storytelling and digital storytelling

One of the most used definitions of digital storytelling defines the concept as the use of digital platforms and interactivity for narrative purposes which enables the user to influence the flow of the story or even contribute to the story.⁵⁸ In traditional museums where, as we have seen, the visitor was put in a passive role, and the storytelling was linear, there seems little room for such a democratic concept.

However, as Stella Sylaioui and Panagiotis Daflotis state, since the beginning of New Museology museums have started to search for ways to connect more with their audience on an individual basis.⁵⁹ The paradigm shift that saw museums strive to become sites for shared meaning-making, opened the way for including voices other than the traditionally authoritative museum voice.⁶⁰ Just as new museology contributed to the changing role of the museum and its visitor, Nina Simon explains how the rise of participatory culture and the social web as well as a dramatic fall in visitors forced the museums to start looking at ways to reconnect with their audience and attract new audiences.⁶¹ As people grew accustomed to interactive, participative, and entertaining experiences, they did not want to just attend exhibitions in museums anymore.⁶² According to Simon a modern museum is a place where users can create (contribute), share (discuss and redistribute), and connect (socialize). Instead of delivering the same content to everyone, the museum should work with diverse, personalized, and dynamic content.⁶³ Engaging more with your audience by letting them interact with the story or even contribute to the story opens the way towards more diverse and inclusive storytelling.⁶⁴ According to Sylaloui and Daflotis such diverse and inclusive storytelling can technically be

⁵⁸ Selma Rizvic et al., *Digital storytelling*, 347.

⁵⁹ Stella Sylaiou and Panagiotus Dafiotis, *Storytelling in Virtual Museums*, 369.

⁶⁰ *Ibid*, 370.

⁶¹ Nina Simon, *The Participatory Museum*, preface.

⁶² *Ibid*.

⁶³ *Ibid*.

⁶⁴ *Ibid*.

supported through digital storytelling.⁶⁵ Digital storytelling provides a way for multimodal and immersive personal experiences allowing for more non-linear storytelling in which the audience is able to create their own narrative through interacting with the platform is even able to contribute to the narrative by providing input.⁶⁶ Just as in the day-to-day digital world, both Simon and Sylaiou and Dafiotis explain, visitors have evolved from passive consumers to critical aspiring producers.⁶⁷

What is storytelling? Storytelling is an old form of art as ancient drawings in the cave walls of Kaduka National Park, Australia or the ones in Lascaux, France show us.⁶⁸ Sylaiou and Dafiotis state that those drawings can be considered storytelling, stories communicating events and happenings.⁶⁹ Blending myths, facts, beliefs, feelings, and emotions, stories can educate and entertain listeners, even accomplishing better understanding and learning as stories are easier to remember as raw facts.⁷⁰ Storytelling is both subjective and objective which as Sylaiou and Dafiotis explain, makes storytelling like any other symbolic system, a means to represent meaning.⁷¹

According to Sylaiou and Dafiotis three types of storytelling allow the museum to communicate messages and allow the visitor to understand and empathize with the museum:

1. Direct storytelling (the museum tells about itself)
2. Indirect storytelling (visitors tell about their experience)
3. Participatory storytelling (mix of direct and indirect)⁷²

These three types of storytelling will be explored in the chosen apps where the existence of a mix of indirect and direct storytelling could indicate the visitor is involved in the storytelling. Another way of evaluating digital stories is by analysing how their use of audio, video, images, and text are put together to form a story.⁷³ The way the story is constructed, the tonality of the voice, length of texts, quality of imagery, quality of recordings, and how these different parts interrelate, are all part of the message the storyteller wants to get across.⁷⁴ Lastly, ethics are also important especially when the storytelling involves others or deals with sensitive issues.⁷⁵ These aspects of storytelling are explored in the analysis of the museum apps.

⁶⁵ Stella Sylaiou and Panagiotus Dafiotis, *Storytelling in Virtual Museums*, 371.

⁶⁶ Ibid.

⁶⁷ Ibid, 370.

⁶⁸ "Most important cave paintings in the world," The Collector, accessed July 13, 2023, <https://www.thecollector.com/most-important-cave-paintings-in-the-world/>.

⁶⁹ Stella Sylaiou and Panagiotus Dafiotis, *Storytelling in Virtual Museums*, 371.

⁷⁰ Ibid.

⁷¹ Ibid, 380.

⁷² Ibid, 371.

⁷³ Ibid, 372.

⁷⁴ Stella Sylaiou and Panagiotus Dafiotis, *Storytelling in Virtual Museums*, 377.

⁷⁵ Ibid.

Syaloui and Daflotis further explain that storytelling can create a sense of belonging to a community, one in which the visitor learns about their own heritage and at the same time learns more about cultural diversity and other ways of thinking.⁷⁶ Although I agree with the fact storytelling can provide a sense of belonging to a community or multiple communities, I see two possible obstacles for museums to create such communities. The first one being, as we have seen above, that other ways of thinking are not embedded within these primarily white organisations museums, so who is included in the community and who is not? And the second one being the fact that cultural diversity is not something that is embedded within the museum's art-historical archive so are they even able to show this cultural diversity? The second obstacle is further explained in the next paragraph.

2.3.2. Diversity-driven storytelling

As explained in the paragraph on digitising collections, the data in the collection database which is used for telling stories in museums, does not always offer a diverse and inclusive source for building a narrative. Works of art outside the canon are often not digitised and/or recorded and secondly, the terminology of titles, metadata, and descriptions tend not to have been diversified yet. Nor it is possible to record diversity terms such as gender and ethnicity for the simple reason these fields do not exist in the database.⁷⁷ At the same time, we have seen that the ones documenting the texts and constructing the stories were mostly white males creating an even further chance that records in the database show little diversity. What can museums do to develop more diversity-driven content? Curator Stephanie Archangel researches terminology in the collection database of the Rijksmuseum and how those terms influence the way users can search through the database both within the collection system as the online collection.⁷⁸ For instance, if a user wants to research the presence of Female Africans in the collection a search for "Black woman" or "African woman" would not yield the desired results as "Black" or "African" are usually not included in the titles of artworks. Whereas, if we include "Black" and "African" in the title, these titles would be shown on the collection online which from an ethical standpoint puts too much emphasis on the "Black" or "African." This is something the museum must consider: the extensiveness with which we want to be able to search in detail versus the way we want to use language on an online platform.

⁷⁶ Stella Sylaiou and Panagiotus Dafiotis, *Storytelling in Virtual Museums*, 372.

⁷⁷ Lisa Heinis, interview on terminology and the Boijmans TMS Collection database by author, June 27, 2022.

⁷⁸ Stephanie Archangel, The presence of female Africans in 16th – 17th century, in The Women in the Museum conference, Amsterdam, March 8, 2022, <https://www.rijksmuseum.nl/en/whats-on/lectures-symposiums/women-in-the-museum>.

Denise Murrell of the Metropolitan Museum of Art states that historically Black persons in a painting were not named or were objectified.⁷⁹ By doing research, we can try to track down the names of depicted Black persons as Murrell illustrates with the famous painting by Edouard Manet, "Olympia." In this painting we see a white and a Black woman, each depicted as equally important and central, signifying equal importance.⁸⁰ The Black model however does not have a name. Through research, museums can try to find names for these models and rewrite descriptions. In this case, photographs were found showing a regular Black model of the period, named Laure. The photographs also showed that Black and white women in the 19th century moved around in the same circles.⁸¹

A solution for the above-mentioned issues in museum archives is explained by The Minneapolis Museum of Art (MIA).⁸² The MIA redesigned the collection database, for instance documenting identity, pronouns, and gender, which enabled them to tell more diverse stories.⁸³ A short survey they conducted showed most museums had started to include gender in their database but had not started yet to adopt a more intersectional list than the traditional male/female list.⁸⁴ The MIA explains ethical issues surrounding documenting diversity arose, stating identity is sensitive and private, documenting identity can be invasive and presumptive, and a museum has to look at privacy and security while documenting more private information about artists.⁸⁵ On their website, MIA states they started to collaborate with other voices, such as artists or people on the street, to capture information in their database in order to create a much more diverse and democratic collection database.⁸⁶

While exploring the Rijksmuseum and Depot apps, this thesis looks at how their digital storytelling relates to the concepts of engaging storytelling as described by Sylaiou and Daflotis as well as how the content in the apps contributes to more diverse and inclusive non-linear art-history. I will look for participation features in the interface and contributions by and collaboration with users of the apps. I will analyse the construction of the collection shown in the apps, its terminology and content, and I will search for new stories and representation of the Other.

⁷⁹ Denise Murrell, "Retrieving Histories: Black Women Artists and Models in Early Modern Art (1860 – 1950)," in The Women in the Museum conference, Amsterdam, March 8, 2022, <https://www.rijksmuseum.nl/en/whats-on/lectures-symposiums/women-in-the-museum>.

⁸⁰ "Olympia (Manet)," Wikipedia, accessed November 3, 2022, [https://nl.wikipedia.org/wiki/Olympia_\(Manet\)](https://nl.wikipedia.org/wiki/Olympia_(Manet)).

⁸¹ Denise Murrell, *Retrieving histories*.

⁸² Frances Lloyd Baynes and Jeremy Munro, *She / he / they / us*.

⁸³ Ibid.

⁸⁴ Ibid.

⁸⁵ Ibid.

⁸⁶ "Documenting diversity how museums should identify art and artists," Minneapolis Museum of Art, accessed May 10, 2022, <https://new.artsmia.org/stories/documenting-diversity-how-should-museums-identify-art-and-artists/>.

3. Methodology for analysing the museum apps

This chapter describes the methodology used in the analysis part to provide answers to the research questions. The theoretical framework highlighted how diversity-driven digital storytelling can help museums in their quest to become more diverse and inclusive. For this to work, the museum has to look at who is writing the narrative, has to enhance the diversity of their digital data sources, and start collaborating with new audiences. The analysis structure is based on the walkthrough method introduced by Ben Light, Jean Burgess, and Stefanie Duguay.⁸⁷ The walkthrough method is combined with a textual analysis as explained by Bonnie Brennen.⁸⁸ The textual analysis approaches the app from three angles: participation and collaboration with the audience and artists (transcending the authoritative museum voice), documentation of diversity in its design and texts, and the presence of a non-linear art-history through digital storytelling.

The walkthrough method combines science and culture and provides an extensive way to explore an app or platform's intended and non-intended use.⁸⁹ As such, it is very suitable to approach the museum apps as a symbolic system, a means to represent meaning. Light et al. state that by dissecting an app, a researcher can unravel both the purpose and function of the app, its social-economic structure and revenue model, as well as the way it is used in practice by its users. The method is grounded in the principles of the Actor-Network Theory (ANT), developed by Bruno Latour, where social phenomena are approached as ecosystems in which actors (human or non-human) and networks interact with each other and mutually shape technical and social processes.⁹⁰ With the walkthrough method, the researcher is able to explore such an ecosystem. By using the walkthrough method, the researcher pays attention to the museum app's embedded sociocultural representations - its purposes and meaning and who are the ideal users - as well as to technical, contextual, and functional features. Thus, revealing to what extent each museum's endeavour to become more diverse and inclusive is embedded and revealed in the digital products they develop and how each museum approaches this endeavour.

The walkthrough method consists of several specific steps which are followed in this thesis, focusing on the ambitions of both museums to be more diverse and inclusive and how these ambitions are represented in the apps. Each step will be done twice, once for the Rijksmuseum app and once for the Depot app. The first step is describing the environment of

⁸⁷ Ben Light et al., *The walkthrough method*, 881.

⁸⁸ Bonnie Brennen, *Qualitative Research Methods for Media Studies*, (New York: Routledge, 2013).

⁸⁹ Ben Light et al., *The walkthrough method*, 881.

⁹⁰ *Ibid*, 886.

expected use which is done by looking at the app's vision, operating model, and governance.⁹¹ This gives the researcher a clear view of how the app is intended to function and how it should be used by an "ideal" user.⁹² The vision shows the app's purpose, usage, and target users can usually be found through promotional materials and policies. Articles about the app in the media, awards they might have won, and public discussion on the apps will help me further dissect the vision. In this case, I shall also look at what both museums state about diversity and inclusion on their website. The operating model investigates the app's business strategy and revenue sources. Are the apps free to use, or do they contain some revenue model? The governance part investigates how the app tries to manage and regulate users in order to have users comply with the app's vision and operating model.⁹³

Step two in the walkthrough method is the technical walkthrough and consists of three phases: how is the app deployed, how is its everyday use, and how can one delete the account and uninstall the app. I will install the app, register as a user, and follow its onboarding. After that I will use the app extensively while taking notes and capturing screenshots. I will explore the app's users and community. Lastly, I will unregister and de-install the app. While using the app, I will look at the way content is presented and how the interface guides the user in specific directions and content.

During these steps, I will use elements of a textual analysis to get more insight into the way the museum presents its collection from a post-colonial point of view. Textual analysis, Bonnie Brennen states, is all about language and what it represents.⁹⁴ We see texts as cultural artefacts, material documentary evidence used to make meaning and sense out of our lives⁹⁵. By evaluating the meanings found in written, visual, and spoken language, a researcher can decipher the socially constructed reality they represent.⁹⁶ The use of language, the tone of the language, specific recurring topics, themes, and frames can provide the researcher insight and enable the researcher to discover dominant patterns.⁹⁷ As Brennen further explains, the theoretical perspective of research influences the form the text of this research is analyzed.⁹⁸ If your theoretical framework deals with political economy, you will look for political aspects in your texts; if you use social feminism you will look at how women are represented.⁹⁹ In this research, which focuses on creating a new narrative transcending the classic museum framework, I will look for diversity and inclusion in the texts. I will explore how visuals, titles,

⁹¹ Ben Light, *The walkthrough method*, 890.

⁹² Ibid.

⁹³ Ibid.

⁹⁴ Bonnie Brennen, *Qualitative Research Methods for Media Analysis*, 203.

⁹⁵ Ibid, 204.

⁹⁶ Ibid.

⁹⁷ Ibid, 221.

⁹⁸ Ibid, 208.

⁹⁹ Ibid, 209.

metadata, and categories in the app contribute to a more diverse and inclusive picture of the museums and their collections in the apps.

Brennen also explains how ideology has always been a central concept in textual analysis as text patterns represent the dominant ideas of an individual, group, class, or society.¹⁰⁰ Unravelling the dominant meaning and patterns in a text is a means to deduct which ideas the creators want the receiver to take away from the text.¹⁰¹ Brennen explains that some receivers interpret texts as intended while others take their own views and experiences into account.¹⁰² Which relates to the walkthrough method where the researchers tries to identify the way the app is intended as well as its unintended use.

As stated, the walkthrough is accompanied by a small data analysis with which I want to establish the extent to which the apps offer a more diverse and inclusive picture of the objects in the collection.

3.1. Corpus

For the first part of the analysis, establishing the environment of expected use, I collected for each museum and their app: statements on websites and in articles, screenshots of the app in the stores, media exposure, business strategies, and terms of services.

For the technical walkthrough part of the analysis, I created the following corpus for each app:

- A small dataset of objects, makers, gender, and ethnicity.¹⁰³
- Screenshot sets of functionalities: onboarding, homepage, registering, and landing-pages.
- Screenshot sets of five representative stories.

In summary, the two steps in the walkthrough method - researching the environment of expected use and the technical walkthrough – combined with the textual analysis where the research dives into the content in each app, provide me with an extensive way to explore the apps in-depth for their ability to sustain the museums in their journey to be more diverse and inclusive through digital storytelling.

4. Analysing the museum apps

This chapter describes how I explored the museum apps following the steps described in the methodology chapter focusing on the research question *How do museums such as the*

¹⁰⁰ Bonnie Brennen, *Qualitative Research Methods for Media Analysis*, 211.

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ The dataset can be found in Appendix A.

Rijksmuseum and Museum Boijmans Van Beuningen fulfill their diversity and inclusion objectives through their multimedia apps?

4.1. Environment of expected use

The first step in the analysis establishes the environment of expected use and tries to answer the sub-question *How are diversity and inclusion objectives of the Rijksmuseum and Museum Boijmans Van Beuningen connected to the concepts of their multimedia apps?* Exploring the mission & vision, operating model, and governance reveals the concepts of the apps and the ideal user as intended by its makers.¹⁰⁴

4.1.1. Mission and vision

The Rijksmuseum states on its website that as the National Museum of Art and Design, it has a responsibility to speak to everyone within the Dutch society.¹⁰⁵ The museum recognizes that differences in perspectives and multiplicity of stories were not given much attention before and has started several programs to overcome these gaps in their organization.¹⁰⁶ The Rijksmuseum initiated projects such as the “Rijksmuseum Colonial Past multimedia tour” and “Women of the Rijksmuseum.”¹⁰⁷ The museum also started a special group tasked with critically assessing terminology used throughout the museum.¹⁰⁸

The Rijksmuseum app was launched in 2018 and is recommended in a video on the website as a tool with which the visitor can discover things they wouldn’t see without the app.¹⁰⁹ An article in the Dutch newspaper Trouw quotes the internet manager of the museum, Peter Gorgels, describing the app as “The Rijksmuseum in your pocket” giving the user access to the entire collection, tours, wayfinding, and a ticket webshop.¹¹⁰ He also states the museum chose to make the collection as accessible as possible because the collection “belongs to us all.”¹¹¹ Gorgels explains technology has progressed so much that it was now possible to “put the entire collection in an app; even contributing to the content (tours by users) in the app or cropping images of artworks for others to see are allowed.”¹¹² These statements show the

¹⁰⁴ Ben Light et al., *The walkthrough method*, 890.

¹⁰⁵ “Inclusivity,” Rijksmuseum, accessed June 5, 2022, <https://www.rijksmuseum.nl/en/about-us/what-we-do/inclusivity>.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ “Terminology,” Rijksmuseum, accessed March 1, 2022, <https://www.rijksmuseum.nl/en/research/our-research/overarching/terminology>.

¹⁰⁹ “Your Museum, Your app,” Rijksmuseum, accessed March 1, 2022, <https://www.rijksmuseum.nl/en/whats-on/app/>.

¹¹⁰ Sandra Kooke, “Hoe het mobieltje steeds minder stoorzender, en steeds meer cultuurverrijker wordt,” accessed June 12, 2023, <https://www.trouw.nl/cultuur-media/hoe-het-mobieltje-steeds-minder-stoorzender-en-steeds-meer-cultuurverrijker-wordt~bb276816/>.

¹¹¹ Ibid.

¹¹² Ibid.

concept of the Rijksmuseum app is connected to the museum's objectives of recognising different perspectives and telling multivocal stories as stated on its website.

Boijmans opened the Depot in November 2021.¹¹³ The Depot is the world's first publicly accessible art storage facility where the museum's entire art collection is preserved and taken care of.¹¹⁴ At the Depot, visitors are offered a behind-the-scenes view of how a museum works.¹¹⁵ As a former employee, I know that increasing diversity and inclusion is high on the agenda. At the time of conducting this analysis, these objectives are not published on the website yet although some projects which have been published on the website relate to these objectives. For instance, "Unpacking Boijmans" looks at the provenance of objects and the background of the collectors whose contributions helped the museum collection to grow.¹¹⁶ Or the project "Family of Objects" where the collection, in co-creation with the public, is investigated in terms of family relationships.¹¹⁷ This last project makes intensive use of the Depot app. The app I would say can be seen as an extension of the concept of the Depot, opening up the museum to the audience and asking it to contribute to the stories.

Both apps can be easily found online on the museum-websites and in app stores. The Rijksmuseum app is recommended on cultural and traveller websites such as the Conde Nast Traveller guide which states the Rijksmuseum is "The Dutch answer to the Louvre."¹¹⁸ Cultural platform iCulture stated in 2018 that the Rijksmuseum tends to lead the way with the development of multimedia apps and has done so again by launching this app offering real-time navigation through the building.¹¹⁹ The app won several awards, including the Dutch Interactive Award and the European Design Award.¹²⁰

The Depot and the Depot app were discussed extensively in the media. The New York Times states that the Depot is an example for other museums as they all face problems with being unable to share their entire collection with the public.¹²¹ The article quotes Sjarel Ex, the former director of the museum explaining how the Depot is all about the public and bringing the

¹¹³ "About the depot," Museum Boijmans Van Beuningen, accessed June 15, 2022, <https://www.boijmans.nl/en/depot/about-depot>.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

¹¹⁶ "Unpacking Boijmans," Museum Boijmans Van Beuningen, accessed January 2, 2023, <https://www.boijmans.nl/en/exhibitions/unpacking-boijmans>.

¹¹⁷ "Research programme Family of Objects," Museum Boijmans Van Beuningen, accessed November 10, 2022, <https://www.boijmans.nl/en/collection/research/Family-of-Objects>.

¹¹⁸ "Rijksmuseum," Conde Nast Traveler, accessed March 10, 2022, <https://www.cntraveler.com/activities/amsterdam/rijksmuseum>.

¹¹⁹ Gonny van der Zwaag, "Vernieuwde Rijksmuseum-app," accessed March 10, 2022, <https://www.iculture.nl/nieuws/rijksmuseum-app-14-rondleidingen/>

¹²⁰ "Rijksmuseum-app tweemaal in de prijzen," Q42, accessed March 10, 2022, <https://blog.q42.nl/twee-prijzen-voor-rijksmuseum-app-7310bccdc911/>.

¹²¹ Nina Siegal, "Museums throw open the storage rooms, letting in the public," *New York Times*, December 18, 2019, <https://www.nytimes.com/2019/12/18/arts/design/museum-storage.html>.

outside in.¹²² A quote which relates to the new museology as described by Bennet.¹²³ The quote also relates to the more open and accessible museum the museums aim for in their joint (ICOM) definition.¹²⁴ The app was nominated for several web- and interactive tools awards, eventually winning a silver Webby award¹²⁵ and a Dutch Interactive Award.¹²⁶

For what seems to be the ideal user, both museums address the visitor who wants to be surprised by the collection and who aims to explore the museum, the collection, and its stories at his, her, or their own pace selecting things they are most interested in. As such both apps can provide a platform for creating new stories together with the visitors which can contribute to a more non-linear art-history.

4.1.2. Operating model

Exploring the operating model of both apps by looking at business strategies and revenue sources reveals underlying economic and political interests for developing the app.¹²⁷ Museums in the Netherlands are generated by subsidies from the government or cities, sponsoring from companies or foundations, and own income through entrance tickets, activities, restaurants, and museum shops. Although some ten years ago multimedia tours were often on sale at museums on special multimedia devices, difficulties such as insufficient Wi-Fi or technical restraints have been overcome in the last couple of years enabling museums such as the Rijksmuseum and Boijmans to offer their apps free of charge to use on a smartphone. Apps are often developed with the support of sponsors or art foundations, which is the case in the two apps in this research. Both apps, I would say, are not directly based on a commercial revenue model but are, as we saw in the mission and vision paragraph, aimed at enhancing, personalising, and enriching the visitor's museum experience.

4.1.3. Governance

The last part in establishing the environment of expected use looks at how the museums try to regulate and manage users by setting rules about using the app and explain the use of data in terms and conditions documents and privacy policies.¹²⁸ Both apps do not have any terms and conditions, or privacy policies written for the apps themselves. The Rijksmuseum app offers

¹²² Nina Siegal, *Museums throw open the storage rooms, letting in the public*.

¹²³ Tony Bennet, *Museums, Power, Knowledge*, 2.

¹²⁴ Museum definition," ICOM, accessed April 23, 2023, <https://icom.nl/en/activities/museum-definition>.

¹²⁵ "The Depot wins a Webby award," Museum Boijmans Van Beuningen, accessed May 6, 2022, <https://boijmans.pr.co/en-WW/213935-Depot-app-wins-webby-award>.

¹²⁶ "Depot app wint zilveren Dutch Interactive Award," Museum Boijmans Van Beuningen, accessed December 21, 2022, <https://www.boijmans.nl/nieuws/depot-app-wint-zilveren-dutch-interactive-award/>.

¹²⁷ Ben Light et al., *The walkthrough method*, 890.

¹²⁸ Ibid, 891.

links in the app to the Terms and Conditions (ToC) and Privacy Policy on the website on the homepage.¹²⁹ The Rijksmuseum's ToC states that the museum reserves the right to remove user-generated content from the Rijksstudio without prior notice or explanation if the museum the content is offensive or objectionable which means the museum is always in control. The museum also refers to an external printer for conditions on printing any of the art available. The Depot app does not contain a privacy or ToC function although a link to the rather general privacy policy page on the website can be found when installing the app from the Apple or Google store.¹³⁰ Both museums' privacy policies refer to data obtained when purchasing a ticket or registering, stating they do not sell any data to third parties but are sometimes required to share data for instance when dealing with online payments. Light et al. state the length, maturity, and complexity of ToC's and privacy policies provide a good example of the governance of any app,¹³¹ in this case however there is not much to find indicating a perhaps not so high level of maturity for both apps.

Concluding this exploration of the expected environment the mission and vision shows both museums extensively talks about opening up the museum and the collections to the public and are definitely using their multimedia apps, although not stated in the apps themselves, in this endeavour. The operating model and governance for the museum apps appear less important in the environment of expected use.

4.2. Technical walkthrough

The second part of the analysis is the technical walkthrough and consists of installing the app, registering, using it daily, and closing it.¹³² While performing these steps, I will focus on the sub-questions: *In what way do the apps paint a more diverse and inclusive picture of the museum's collections, exhibitions, and activities (sub-question two)? In what way do the apps allow the user to create their own narrative or even contribute to the narrative (sub-question three)? In what way does the digital infrastructure in the museums allow for more diversity-driven storytelling (sub-question four)?*

¹²⁹ "Terms and conditions," Rijksmuseum, accessed June 3, 2023, <https://www.rijksmuseum.nl/en/footer/terms-and-conditions>; "Privacy Policy," Rijksmuseum, accessed June 3, 2023, <https://www.rijksmuseum.nl/en/footer/terms-and-conditions>.

¹³⁰ "Privacy Policy," Museum Boijmans Van Beuningen, accessed June 10, 2023, <https://www.boijmans.nl/en/privacystatement>.

¹³¹ Ben Light et al., *The walkthrough method*, 890.

¹³² Ibid, 891.

4.2.1. Onboarding and register

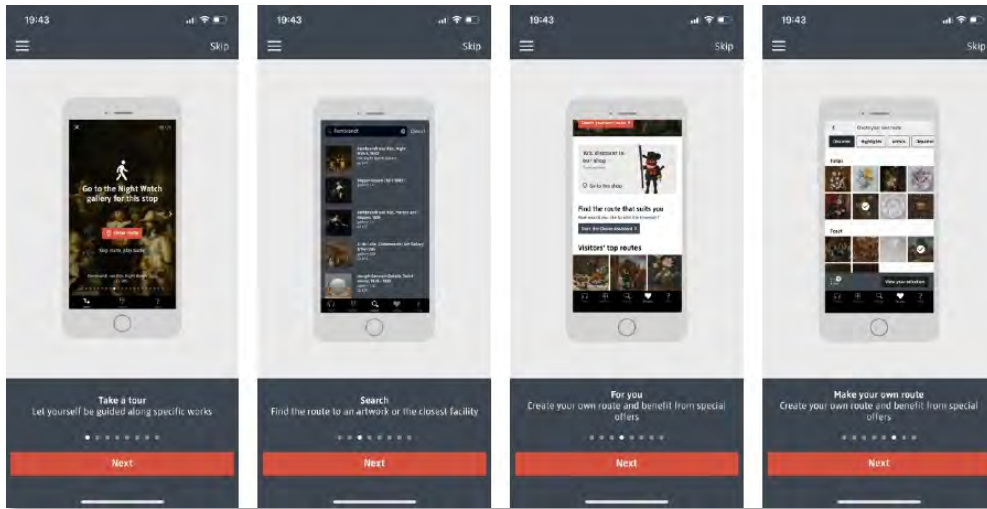


Figure 2 Rijksmuseum app: onboarding

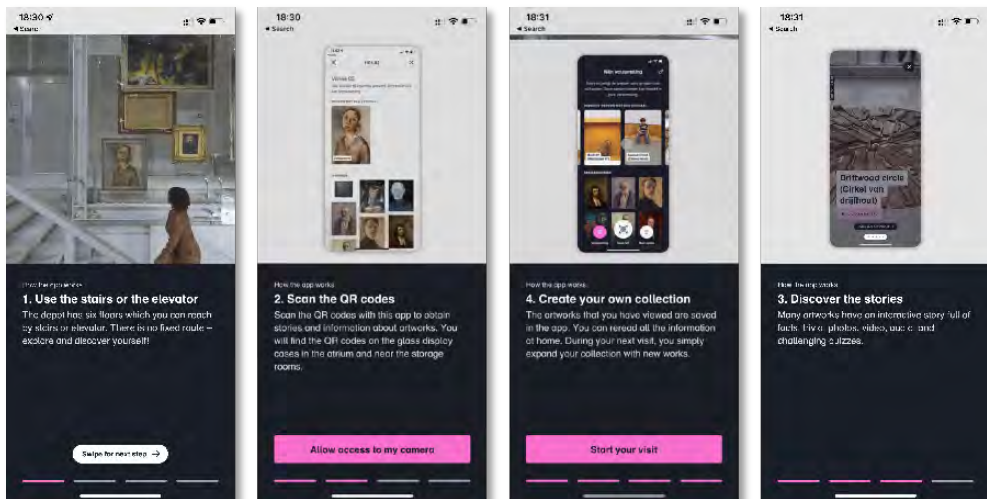


Figure 3 Depot app: onboarding

Both the onboarding of the Rijksmuseum app and the onboarding of the Depot app consists of a set of cards the user swipes through (figure 2 and 3). The tone of voice is direct, inviting users to browse and explore the museums and collections. Quotes such as “there is no fixed route – explore and discover yourself (Boijmans)” and “create your own route (Rijksmuseum)” are examples of a less authoritative voice in which the museums try to invite the user into their world. This initial introduction to the apps corresponds with the more open attitude the museums aspire for in their diversity and inclusion objectives, and in the ICOM definition.

4.2.2. Data in the apps

As stated in the corpus, a small dataset of artworks and artists in the apps was created to identify the ratio for male/female/non-binary and white/non-white artists depicted in the app.

As gender and ethnicity are not available in the app, this metadata was added manually. The complete dataset as well as justification for how the dataset was prepared can be found in Appendix A. The results give us an idea of the collection's diversity in the app.

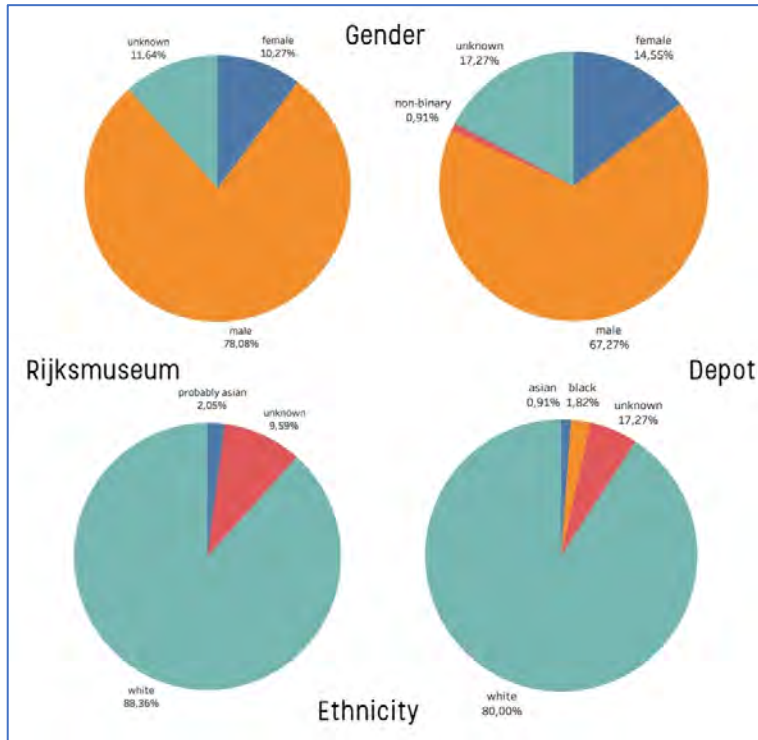


Figure 4 Data for gender and ethnicity in both apps

Figure 4 shows percentages for gender and ethnicity in both apps. As we can see in both apps male white artists prevail with a percentage of women of 14,55% in the Depot app and 10,27% in the Rijksmuseum app. Percentages for white artists are 80% and higher with the other 20% consisting mainly of ethnicity “unknown” because ethnicity could not be established at the time of capturing the data. Although as can be seen later on in this analysis both museums try to create more diverse content, this small count of data in the apps indicates they still have a long way to go when it comes to painting a more diverse and inclusive picture of the collection as asked in sub-question two.

4.2.3. Everyday use of the Rijksmuseum app

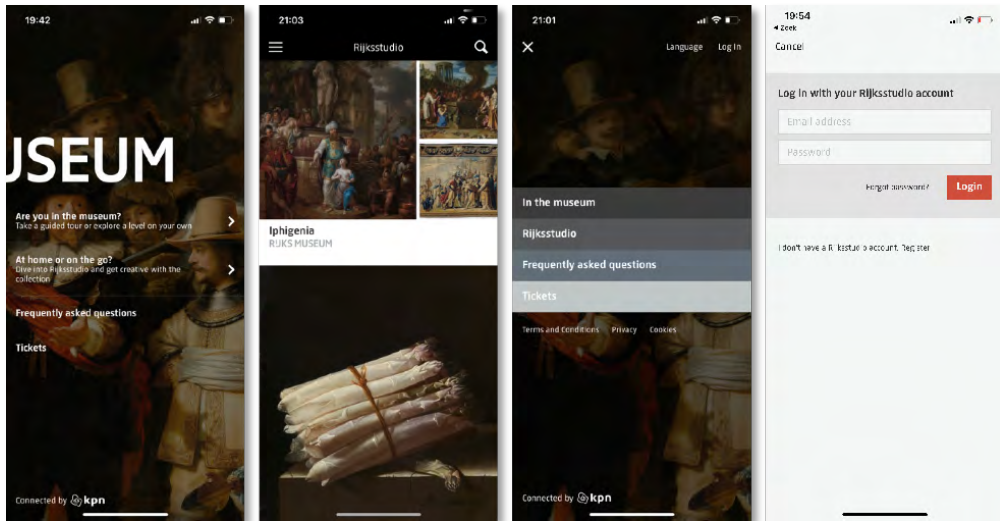


Figure 5 Rijksmuseum app: homepage and register

The homepage of the Rijksmuseum app consists of four prominent links with the top two leading to landing-pages: “Are you in the museum” and “At home or on the go?” (figure 5). The two other links, the Frequently Asked Questions, and the ticket webshop, open functions on the website of the museum. The homepage is simple and clear with just these four links, this means other functions such as the language switch are not easy to find.

By registering in the Rijksmuseum app, a user registers for the module Rijksstudio (figure 7), originally launched in 2012 on the website. The profile the user creates does not apply to other functions in the app. The login function is rather difficult to find in the app. Only after visiting one of the landing-pages and returning to (a slightly different) homepage, the user sees the login link. This “second” homepage suddenly has more links such as the language switch and the login link, but also privacy and terms and conditions links. As such the community part of the app is a bit hard to discover and limited to a tool (Rijksstudio) which is not a native app function. I’ll get back to the Rijksstudio tool later in this chapter.

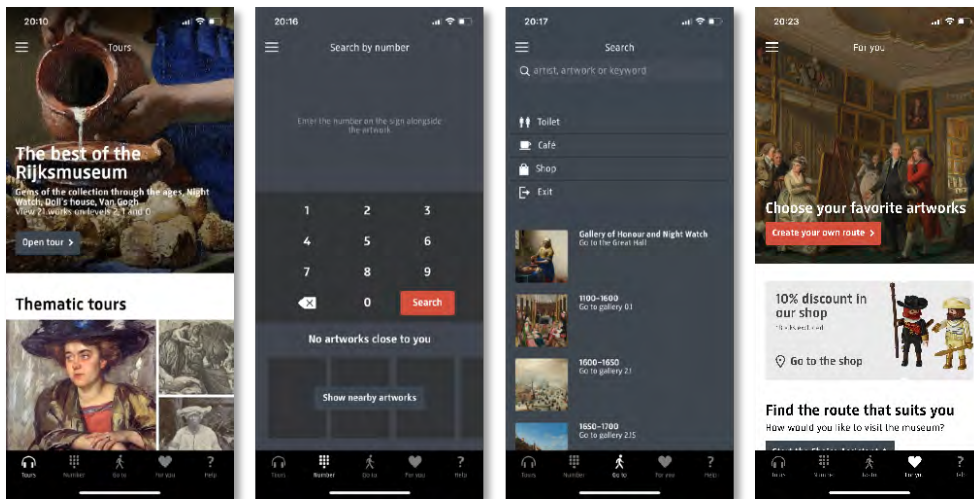


Figure 6 Rijksmuseum app: *Are you in the museum?*

The “Are you in the museum?” landing-page contains several functions (figure 6). The first one offers thematic tours varying from “The best of the Rijksmuseum” and “Highlights gallery of honour” to audio tours such as “Soundtrack by Doppelgang,” to tours accompanying exhibitions on show in the museum. Exhibition tours are also available in the “For you” function. The fourteen thematic tours rotate when new exhibitions are opened, and others are closed. Even though this ensures the app stays up to date, the audience misses out on activities and exhibitions specifically organized to address diversity, inclusion, and the colonial history of the museum because recent closed tours such as “Women on paper” and “Rijksmuseum & Slavery disappeared from the app.” At the time of writing this analysis, there are no thematic tours dealing with these topics available. This omission seems to be caused by technical limitations in the app as the thematic tours revolve around another prominent function, the wayfinding which would malfunction when the objects shown in the app are in fact not on show in the museum. A positive side effect however of these “diversity” exhibitions is the fact that lesser-known objects have been digitised and been made available in the Rijksstudio. For instance, for the exhibition “Women on paper” drawings and prints by female artists were digitised and described in the database and subsequently added to the Rijksstudio, diversifying the online collection. The audio tours, where the museum asked young DJs to create a set of objects accompanied by just music, show the museum incorporates other stories told by non-regular curators, establishing more dynamic stories as explained by Simon.¹³³ A thematic tour consists of ten to twenty objects with videos and instructions on how to go to that stop. Not all objects are accompanied by a video, in which case text panels are available which as we will see later are sometimes a bit

¹³³ Nina Simon, *The participatory museum*, preface.

dated. The video stories, linear stories without any interaction, present a direct form of storytelling.¹³⁴

The “number” and “go to” functions on the “Are you in the museum?” landing-page give the user the option to read a story by typing in the number displayed next to an object or to find objects in the museum by following a route. Both functions relate to the strength of digital storytelling as a means for the visitor to follow various and unexpected routes or even create a totally new route as described by Sylaiou and Daflotis.¹³⁵

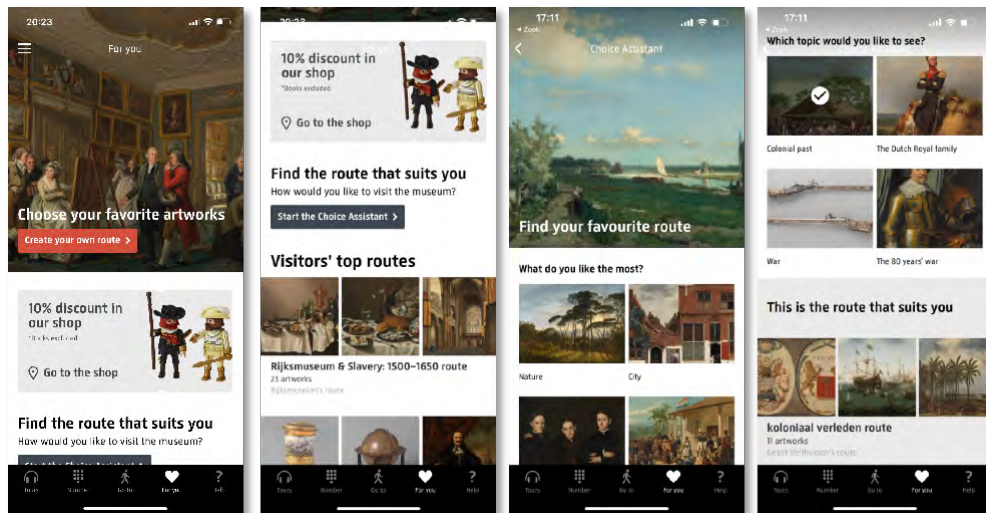


Figure 7 Rijksmuseum app: For you & choice assistant

The “For you” landing-page (figure 7) shows a bit of an eclectic list of functions such as visitors’ top routes, a link to the webshop, and an option to create your own route. For this analysis, I focused on the “choice assistant” function which offers tours based on themes chosen by the user. For instance, choosing “people, people, women” in the choice assistant function presents the user with the tour “women” made by a Rijksstudio user. Where I expected to see works by female artists, the tour solely consists of portraits of women depicted by male artists. In the eighteen months I used the app extensively the result in the choice assistant was always the same, are there no other tours relating to women? Or is the result hardcoded in the app? The promise of a more diverse collection, the selection process offers, is not fulfilled here.

Next selecting “history, colonial past” in the choice assistant offers the user the route “koloniaal verleden.” It was again made by a user showing that this function shows a form of participatory storytelling. There are a few peculiarities though as the tour is in Dutch and of the eleven selected objects only half contain a “new” story which describes the colonial past of the Netherlands. The other objects contain panel texts such as describing the accomplishments of

¹³⁴ Sylaiou and Daflotis, *Storytelling in Virtual Museums*, 371.

¹³⁵ Ibid.

the nowadays considered very brutal governor-general J.P.Coen or describing a scene in Suriname with “Indians.” These seem to be old descriptions probably not researched by the terminology workgroup discussed in paragraph 2.3.2 yet and therefore not adapted in the collection database yet. This problem occurs in other tours and sets (a collection of objects not on display in the museum) created by users around a topic for the accompanying texts do not always match the topic of the tour. As such there is, referring to Brennen, a mismatch between the ideology of the texts created by the museum itself and the ideology of the actual texts in the app.¹³⁶ This mismatch also shows part of the unintended use of the app, showing more linear art-history than the museum intended.

A further survey into titles and metadata shows a painting by Daniel Vertangen from the Slavery & Rijksmuseum tour.¹³⁷ The painting was originally titled “Portrait of Jan Valkenburgh, ” a title which is still used on other websites such as Wikipedia¹³⁸ or Europeana.¹³⁹ In the app, the title has been changed to “Jan Valkenburgh and an Enslaved Servant,” a clear example of how the museum aims to make its collection database more inclusive.¹⁴⁰ As for metadata providing the user with the possibility to search for gender or ethnicity, such an option could not be found. The digital infrastructure of the museum shows some possibilities for telling more diverse and inclusive stories but there are some technical issues and choices made by the museum that prevent the user from seeing these stories. The content in the app also shows the museum has only just started altering metadata and descriptions.

¹³⁶ Bonnie Brennen, *Textual analysis*, 211.

¹³⁷ “Portrait of Jan Valckenburgh and an Enslaved Servant,” Rijksmuseum, accessed May 15, 2023, <https://www.rijksmuseum.nl/en/search/objects?q=valckenburgh&p=1&ps=12&st=Objects&ii=1#/SK-A-4969,1>.

¹³⁸ “Daniel Vertangen – Portrait of Jan Valkenburgh,” Wikipedia, accessed May 15, 2023, [https://nl.wikipedia.org/wiki/Daniel_Vertangen#/media/Bestand:Jan_Valckenburgh_\(1623-1667\)_by_Daniel_Vertangen.jpg](https://nl.wikipedia.org/wiki/Daniel_Vertangen#/media/Bestand:Jan_Valckenburgh_(1623-1667)_by_Daniel_Vertangen.jpg).

¹³⁹ “Portrait of Jan Valkenburg,” Europeana, accessed June 25, 2023, https://www.europeana.eu/en/item/90402/SK_A_4969.

¹⁴⁰ Frances Lloyd Baynes and Jeremy Munro, *She / he / they / us*.

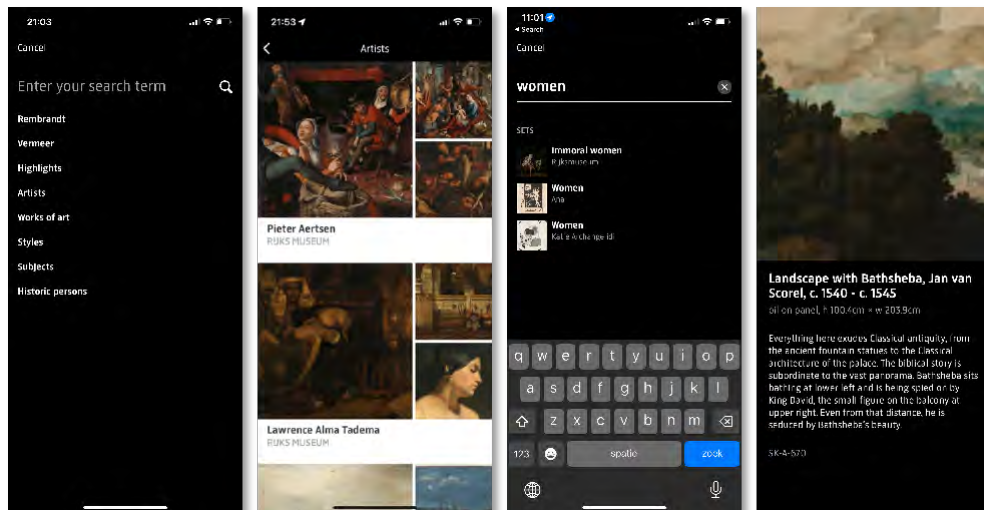


Figure 8 Rijksmuseum app: Rijksstudio

The second main function on the homepage of the app called “At home or on the go?” takes the user to the Rijksstudio (figure 8) which is an online collection module aimed at, as the museum states, democratising the collection by offering users the opportunity to create their own masterpieces.¹⁴¹ In the Rijksstudio a user can browse through the collection and see sets of objects the museum or other users created.. It is not possible to create a set in the Rijksmuseum app, creating sets can only be done on the website as the module is a stripped-down version on the module on the website. By integrating the Rijksstudio the museum has included a form of community building as promised in the app although the interaction possibilities are rather limited and do not give the user the full experience as the original website-module does. The Rijksstudio does however contribute to the sense of building new stories together (sub-question three) as stories by the museum and stories by users are presented as equally important. Next, I used the search function in the Rijksstudio which presents the user with suggestions (in the form of a list) to narrow down the search (figure 8, left panel). A quick number count in the lists yields the following results. The list named “artists” consists of 104 male white artists and three male Asian artists but no female artists. The set “historic persons” offers fifteen white male persons and two female white persons. This function in the app seems not to have been updated yet to paint a more diverse picture.

A search typing “women” in the Rijksstudio search field yields three results of which the top result is called “immoral women,” a set made by the museum. Just like the set “women” the choice assistant produced, this set does not contain any female artists but solely consists of women portrayed by male artists. The “immoral women” set depicts women as seductive and temptresses, often naked and being spied on, having to choose between vice and virtue. It

¹⁴¹ Peter Gorgels, “Rijksstudio: your own masterpiece,” in *the annual conference of Museum and the Web, Portland 2013*, <https://mw2013.museumsandtheweb.com/paper/rijksstudio-make-your-own-masterpiece/index.html>.

reminds us of what art critic John Berger states about women being depicted as objects, surveyed by a (moralizing) male spectator.¹⁴² Berger published his book in 1972 but the Guerilla Girls project which counted the percentage of works by female artists on show in the Metropolitan Museum of Art versus the percentage of portraits containing naked women in 1989, 2004, and 2012 (4% female artists, 76% female nudes) shows not much has changed since then.¹⁴³

Concluding this technical walkthrough of the Rijksmuseum, the app shows progress in the journey towards a new narrative by providing more diverse and inclusive content which relates to sub-question two. By involving the user in giving them the option to create their own routes or to contribute to the content in the app, this function relates to the participatory museum Simon introduced.¹⁴⁴ The audio tours made by DJs are, I would argue, a good example of how the museum paints a more diverse and inclusive picture and builds new narratives with non-museum-professional curators, relating to both sub-questions two and three. As for sub-question four, we saw examples of content where titles and metadata were adapted to newer standards for more inclusive and diverse content. We also saw how the temporality of certain content (the “Rijksmuseum & Slavery” tour and the “Women on paper” route), the presence of linear art-history (the “Immoral women” tour), and the mismatch of “old” and “new” content produces some flaws in the overall picture of a more diverse and inclusive museum. The Rijksstudio offers some community building but is limited in interaction and possibilities which seem to stem from the fact the module is a stripped-down version of the (original) Rijksstudio module on the website.

¹⁴² John Berger, *Ways of seeing*, (London, Penguin Group: 1972), 47.

¹⁴³ Do women still have to be naked to get into the met museum,” Guerilla Girls, accessed February 29, 2021, <https://www.guerrillagirls.com/naked-through-the-ages>.

¹⁴⁴ Nina Simon, *The participatory museum*.

4.2.4. Everyday use of the Depot app

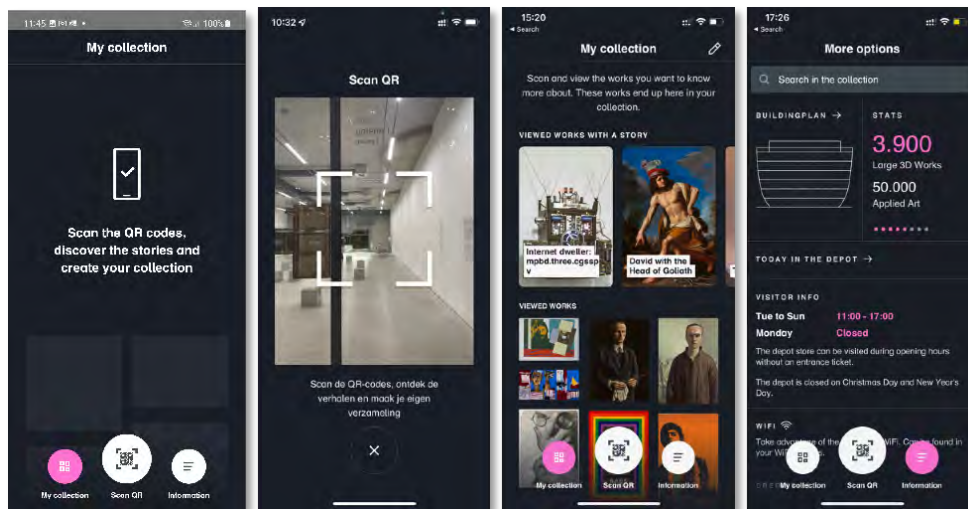


Figure 9 Depot app: homepage and landing pages

The Depot app also sports a simple and clear homepage (figure 9, left image). There are three buttons at the bottom which refer to “my collection” (homepage), “scan QR”, and “information.” The text on the initially empty “my collection” page invites users to walk around and start scanning artworks in which they are interested. This relates to the app’s concept of exploring the depot and creating your own route. The options to scan QR-codes in a random order and the “my collection” button give the user a sense of being in control of the narrative as can be, according to Sylaiou and Pangiotus, the strength of digital storytelling.¹⁴⁵ Both the text on the screen and the option to randomly scan objects contribute to an answer to sub-question two, allowing the user to create their own narrative. The Depot app knows no possibilities to register or create a profile. Its first version, launched in November 2021, did not offer any participation with the user yet. With the Family of Objects project, which started in June 2022, the museum started to ask the audience for input to give them a voice in the project. This project will be discussed later in this chapter.

The “information” landing-page shows a collection of minor functions such as an activities calendar, a map of the building, a search function, and a language switch. The building maps are static and as such are quite different from the more interactive navigation function as we saw in the Rijksmuseum app. As I know from statistics gathered in the time I worked for Boijmans, these statistic pages are not used very often, indicating they do not offer added value to the user.

¹⁴⁵ Sylaiou and Dafiotis, *Storytelling in Virtual Museums*, 372.

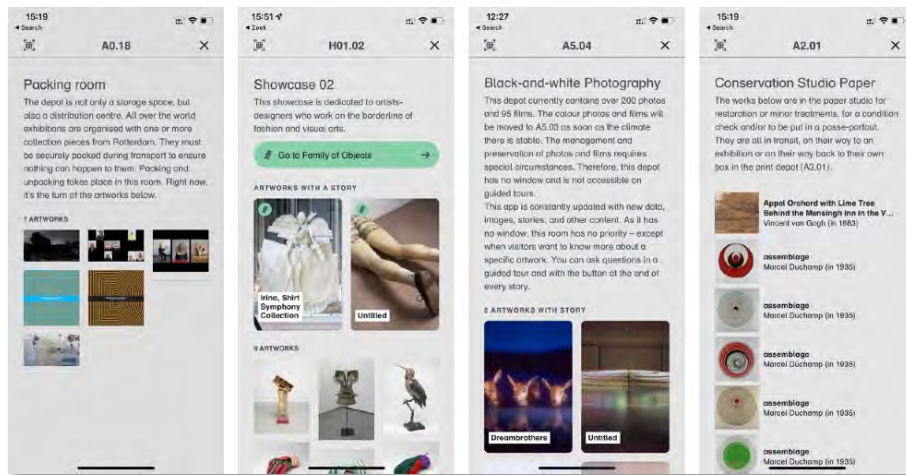


Figure 10 Depot app: screenshots locations.

Scanning a QR code produces a landing page for locations such as a showcase, a depot, or one of the studios where sub-collections are managed (figure 10). Texts describing the packing room and the paper conservation studio show how the museum emphasizes the Depot as the “back-office” of the museum. There are two sorts of thumbnails: larger ones for objects for which a story has been developed, and smaller ones for objects with only metadata available. The hierarchy in the interface is clear, the user is drawn to the large thumbnails offering the interactive and enriched stories surrounding an object. Metadata such as gender and ethnicity are not included in the details of an object. A limitation of the app is the fact a user always has to go to a physical location to scan a QR code to get access to objects in the collection which means access to the entire collection is limited. Because scanning a location produces a limited set of objects, it is also harder to explore other objects in the app and to look for connections, this makes the app more suitable as a guide accompanying your visit than a fully functional museum app. The information page does contain a function for searching the entire collection, this function is however rather hidden, and it is not immediately clear what the function does. The app was launched with the opening of the Depot in November 2021 and, as the Depot is paperless, it is clear that it relies heavily on its function of guiding the visitors through the building. This function works as it should be, the fact however that is hard to explore connections in the collection or get access to the entire collection in the app does not comply with the concept of the Depot providing the audience access to the entire collection and giving them the means to explore the building and the collection in whatever way they want. The rest of the analysis focuses on the enriched stories in the app as they form the most important function in the app. A story is constructed of about 15-20 cards that the user swipes through.

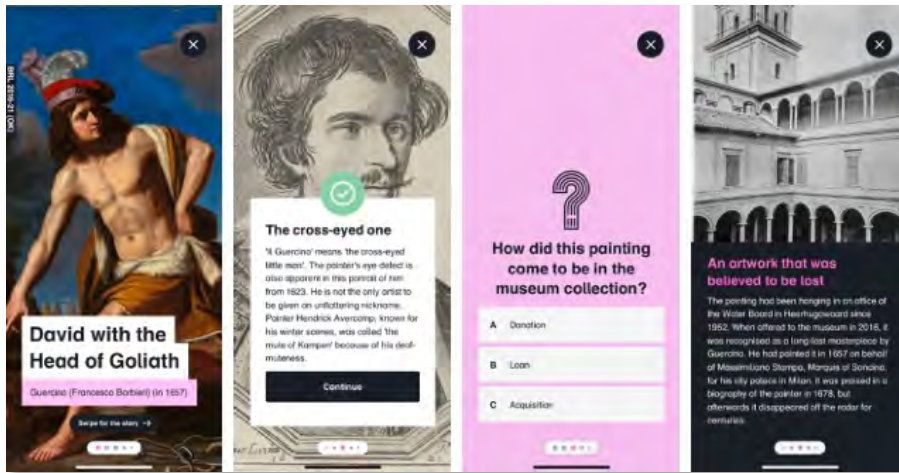


Figure 11 Depot app: Story Guernico - David with the head of Goliath.

Figure 11 shows four cards out of the eighteen in this story for a work by Guernico. The order in which the cards are presented defines the story. The story presents a rather direct form of storytelling because the museum is doing the telling here. Interaction is however available in which the user is challenged with quizzes and discussion cards. The cards are inviting, colourful, and informative, containing text, images, audio, video, quizzes, and statements to discuss with a fellow visitor. At the end of the story, you can re-watch it, open the artwork's details (such as metadata) or ask a question to the curator. The content provides you with behind-the-scenes facts and figures and, I would say, invites the user to get to know the work and the artist in quite a new and innovative way presenting facts we usually do not see in stories about art-history. Facts such as the origin of Guernico's name (his cross-eyed appearance), how the painting was lost and found again, and how through a loan the piece came into possession of the museum. The content is compelling and evokes interest in the stories behind the collection. As such it complies with the concept of the app as a means to discover the stories behind the collection and offers a more non-linear art-history. The story also complies with what Sylaiou and Dafiotis state about exploring technical possibilities of digital storytelling to get the audience more involved.¹⁴⁶

¹⁴⁶ Sylaiou and Dafiotis, *Storytelling in Virtual Museums*, 369.

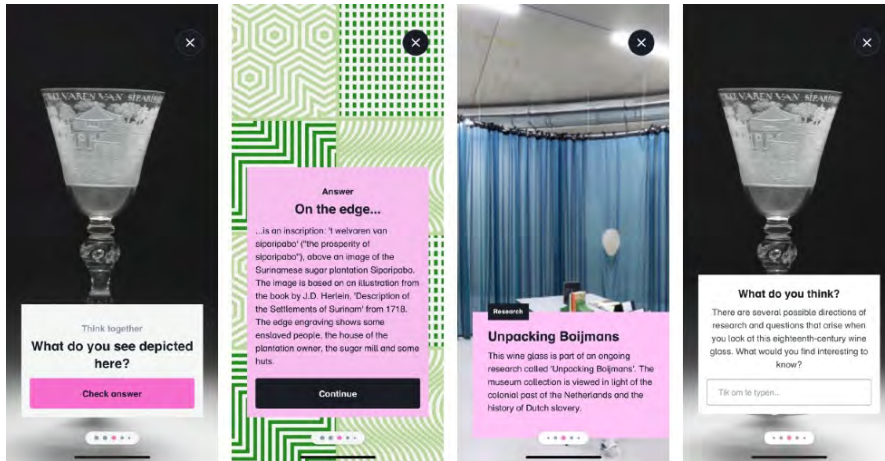


Figure 12 Depot app: story Goblet

The story “Goblet” describes a wine glass depicting enslaved people in the Surinam sugar plantation “Siparipabo” (figure 12). Although, as seen in the small data analysis, most stories are about male artists, the museum tries to include newer stories by writing stories about female artists or objects in relation to the colonial past. The “Goblet” story was part of an exhibition and project “Unpacking Boijmans” where the relationship between colonialism and slavery within the museum’s collection is researched.¹⁴⁷ The goblet story also uses an input card where the museum asks the visitor what they think could be a research direction for this object. It is not clear for the visitor what the museum tends to do with the input which I would say does not improve the sense of participation. As with the Rijksmuseum app, this story disappeared when the exhibition “Unpacking Boijmans” finished. Objects analyzed in this project were however digitised and provided with new descriptions and metadata which means the project does contribute to diversifying the online collection.

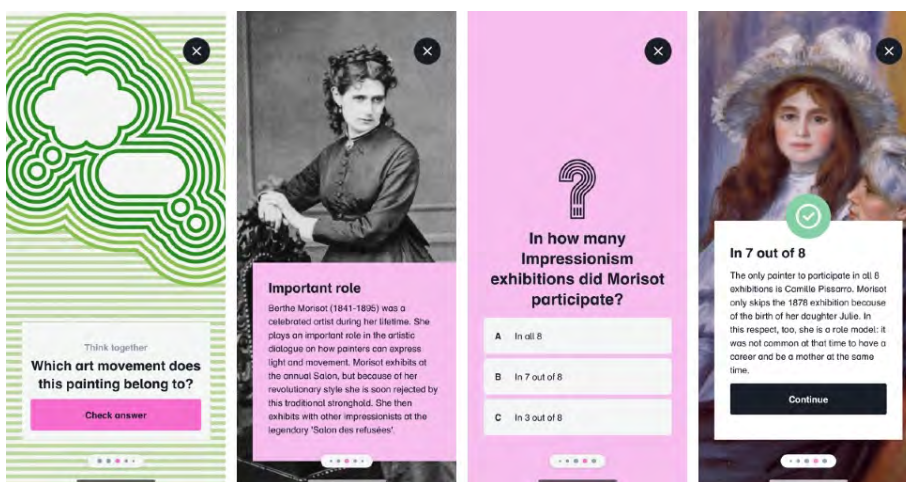


Figure 13 Depot app: story Berthe Morisot – Pivoines

¹⁴⁷ “Unpacking Boijmans,” Museum Boijmans Van Beuningen, accessed January 2, 2023, <https://www.boijmans.nl/en/exhibitions/unpacking-boijmans>.

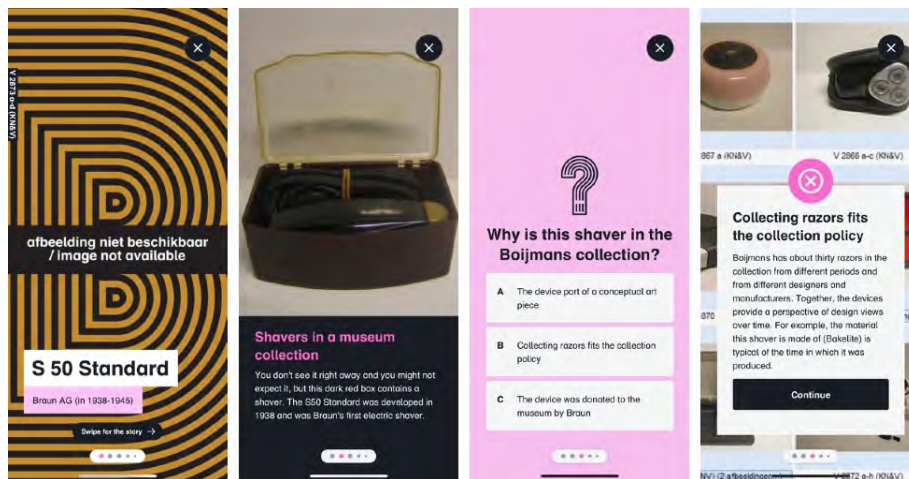


Figure 14 Depot app: story S50 standard

Figure 13 and 14 show stories for Berthe Morisot and the Braun razor S50 standard. Berthe Morisot was an important member of the impressionism movement. In the story, Morisot's role in the movement is highlighted as well as the fact that she had a career and was a mother at the same time which was quite unique at the time. Just as with the acquirement of an artwork by female surrealist Leonora Carrington in 2019,¹⁴⁸ the museum, known for its important surrealism and impressionist collections, shows they want to expand these collections with female artists who belonged to these movements and were overlooked as artists.¹⁴⁹ The story about the Braun razor S 50 standard shows how stories about unusual objects in the collection are highlighted in the app, objects that were rarely displayed in the museum. The design collection for instance contains devices such as an electric razor, an artist's colouring box, or a prototype for a new bicycle. The story about the razor explains why the museum collects artefacts such as razors. Here we see how the app tries to tell stories other than the ones usually told in Boijmans or other museums. The stories about Berthe Morisot and the razor show the app highlights more diverse elements in the collection and explain how they came into possession of the museum. Giving us an answer to sub-question one which asked how the apps paint a more diverse and inclusive picture.

¹⁴⁸ "Boijmans verworft droomschilderij Leonora Carrington," Vereniging Rembrandt, accessed June 25, 2023, <https://www.verenigingrembrandt.nl/nl/nieuws/boijmans-verwerft-droomschilderij-leonora-carrington>

¹⁴⁹ "Berthe Morisot," Museum Boijmans Van Beuningen, accessed June 25, 2023, <https://www.boijmans.nl/en/news/berthe-morisot>.

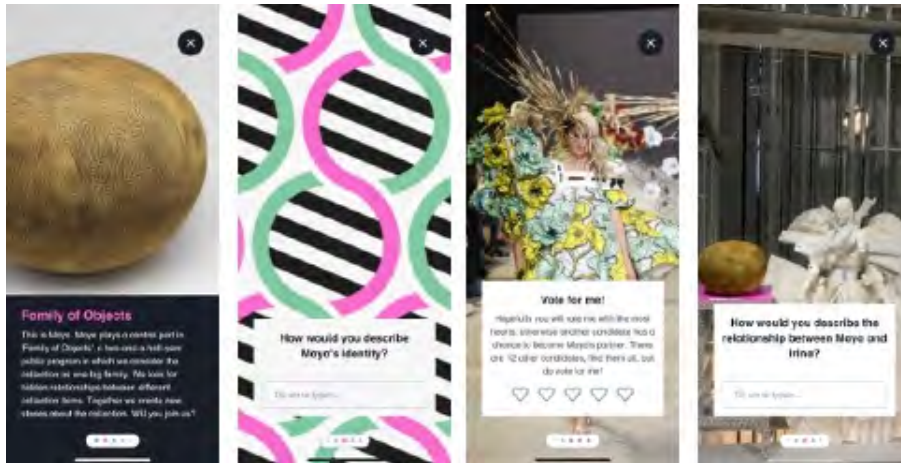


Figure 15 Depot app: Family of objects project

As for interaction and participation with the audience, the Family of Objects project, started in June 2022, introduced two new cards asking the user to write input or rate and object (figure 15).¹⁵⁰ The project aims at investigating, in co-creation with the public, the collection in terms of family relationships.¹⁵¹ Schools in Rotterdam were asked to select partners for a mother object (chosen by the museum), and visitors of the Depot could rate those partners. In the end, the mother object and the chosen partner were even married at the Depot.¹⁵² Family of Objects is an example of participatory storytelling where museum and audience develop a new narrative in dialogue with each other. And, as such, forms a start to answering sub-question three about how the apps allow users to contribute to the narrative. Furthermore, this addition to the app offers the user ways to discover unusual connections in the collection which as we saw was not possible before.

Concluding the technical walkthrough of the Depot app, we have seen the content created by the museum paints a more diverse and inclusive picture which relates to sub-question two. As the Depot app revolves around stories which form a limited subset of the collection and does not include content created by users, keeping the ideology consequent in the text seems easier to do. This fact also causes the terminology in the app to be adapted to new diversity and inclusion standards as “old” content is hard to find. As such sub-question four is hard to answer by exploring the app. As for sub-question three, I would say this part is for now lacking in the app. Yes, the visitor can create their own narrative by creating their own route, contributing to the narrative however is still limited although a project as Family of Objects tries to change that.

¹⁵⁰ “Family of Objects,” Museum Boijmans Van Beuningen, accessed June 24, 2023, <https://www.boijmans.nl/index.php/en/collection/research/Family-of-Objects>.

¹⁵¹ Ibid.

¹⁵² Ibid.

4.2.5. Closure of the apps

This last part of the technical walkthrough reports on closing accounts and de-installing the apps, hereby looking at how users are perhaps locked into using the apps. As no paid subscriptions are involved there are no functions available to discontinue the app. The Rijksmuseum app does not warn the user that their account for the Rijksstudio will not be disabled by deleting the app, further evidence that the Rijksstudio module was not truly designed for the app. Both apps do warn the user that all collected data (favourites) will be deleted but do not encourage the user to keep using the apps. In this way there is no locked in use and both apps can be easily deleted from the smartphone.

5. Conclusion

This research looked at digital storytelling as a tool for museums to contribute to their diversity and inclusion objectives as secured in the 2022 ICOM definition of a museum. Museums want to be more accessible and open to a diverse and inclusive audience. Museums want to participate and collaborate more with their audience, something that can technically be supported using digital storytelling as we saw in the theoretical chapter of this thesis. Both the Rijksmuseum and Boijmans are in transition from traditional institutions echoing an authoritative and linear voice to more open places where they aim to collaborate more with their audience thereby focusing on the openness and shared ownership of the collections. Both museums are using their apps as tools supporting these ambitions.

A small count of gender and ethnicity showed male white artists still prevail in the apps. Apart from the issues with the collection database, technical and logistic limitations in the app influence this outcome. Issues such as the disappearance of tours containing more diverse content from the app (both apps) and outdated search and filter options (Rijksstudio, Rijksmuseum). Objects digitised for these tours remain however available in the online collection, causing the collection to (slowly but gradually) becoming more diverse and inclusive. The Rijksmuseum app shows a more participatory form of storytelling than the Depot app as content users of the Rijksstudio created are used in other parts of the app. At the same time though this module containing “old” and not yet updated content causes the storytelling itself to display a linear art-history as we saw in the tours about women. This unintended use of the app mismatches with the ideology of the diverse and inclusive museum. The presence of user-generated content makes the Rijksmuseum app feel less curated. The Depot app shows a more direct form of storytelling as there is not much interaction or collaboration with the audience yet. The content in the main function, the stories, rhymes with the ideology of showing a more diverse and inclusive side of the museum and its collection. Within the Depot app, however, the

editor is more in charge making it easier for Boijmans to present this sub-collection containing new content making this app more curated. Although both museums state that they want to provide their audience access to the entire collection, digitally it is primarily the Rijksmuseum that fulfills that promise. Looking at the digital infrastructure of both museums, neither of them redesigned their database yet to include for instance metadata as gender or ethnicity. Titles, description, and metadata is being worked on in projects the museums undertake.

Overall, the analysis showed that the Rijksmuseum and Boijmans are using their multimedia apps to present the user with a more diverse and inclusive storytelling. The ideas and methods that were laid out in the theoretical framework and enable the museums to make new stories are implemented by both museums in different ways, to varying degrees, and with varying results. The temporality of some content in the app and the fact that the digital collection is still lacking in diversity and inclusion can mean however that the overall picture painted in the apps is still that of the linear art-history as it was traditionally written.

This research focused on how a museum program such as digital storytelling can contribute to the diversity and inclusion objectives of museums. It did so by exploring the content-side of digital storytelling through museum apps and the way these apps included more participation and collaboration with audiences. Thus, creating a more diverse and inclusive environment which should appeal to a more diverse and inclusive audience. By doing so other means which can contribute to diversity and inclusion objectives and could be explored in follow-up research were left out of scope. For instance, other digital communication tools, increasing (digital) accessibility, or diversifying the museum organization are important ways museums should look at. Concrete outcomes, such as an increase in audience diversity, have not been included in this thesis but could be examined by tracking audience statistics or conducting interviews with the public.

6. Bibliography

- Archangel, Stephanie. "The presence of female Africans in 16th – 17th century." In the "Women in the Rijksmuseum" conference. Amsterdam. March 8, 2022.
<https://www.rijksmuseum.nl/en/whats-on/lectures-symposiums/women-in-the-museum>.
- Bennett, Tony. *Museums, Power, Knowledge: Selected Essays (1st ed.)*. London: Routledge, 2018.
- Bennett, Tony. *The Birth of the Museum: History, Theory, Politics*. New York: Routledge, 2018.
- Berger, John. *Ways of seeing*. London: Penguin Group, 1972.
- Brennen, Bonny. *Qualitative Research Methods for Media Studies*. New York: Routledge, 2013.
- Clay, Makeba. "The transformative power of inclusive storytelling in museums."
Accessed 24-11-2021. <https://www.aam-us.org/2020/02/05/the-transformative-power-of-inclusive-storytelling-in-museums/>.
- Conde Nast Traveler. "Rijksmuseum." Accessed March 10, 2022.
<https://www.cntraveler.com/activities/amsterdam/rijksmuseum>.
- Europeana. "Portrait of Jan Valkenburg." Accessed June 25, 2023.
https://www.europeana.eu/en/item/90402/SK_A_4969.
- Graden, Lizette. "Rethinking collection practice with Frances Lloyd-Baynes at Mia." Accessed May 14, 2023. <https://www.museumnext.com/article/rethinking-collection-practice-with-frances-lloyd-baynes-at-mia/>.
- Gorgels, Peter. "Rijksstudio: your own masterpiece." in The annual conference of Museum and the Web, Portland 2013. <https://mw2013.museumsandtheweb.com/paper/rijksstudio-make-your-own-masterpiece/index.html>.
- Guerilla girls. "Do women still have to be naked to get into the met museum." Accessed February 29, 2021, <https://www.guerrillagirls.com/naked-through-the-ages>.
- Heinis, Lisa. *A Cacophony of intersecting stories. Feminist art historical case studies in institutional critique*. Brussels: Vrije Universiteit Brussel, 2021.
- ICOM. "Museum definition." Accessed April 23, 2023. <https://icom.nl/en/activities/museum-definition>.
- Jung, Yuha. "The Ignorant Museum: Transforming the Elitist Museum into an Inclusive Learning Place." In *10 Must Reads: Inclusion, Empowering New Audiences*. 138–159. Boston: MuseumsEtc, 2014.
- Ketelaar, Eric. "Tacit Narratives: the Meaning of Archives."
Archival Science, nr. 1 (2001): 131–41. <http://dx.doi.org/10.1007/BF02435644>.
- Kooke, Sandra. "Hoe het mobieltje steeds minder stoorzender, en steeds meer cultuurverrijker wordt." Accessed June 12, 2023. <https://www.trouw.nl/cultuur-media/hoe-het-mobieltje-steeds-minder-stoorzender-en-steeds-meer-cultuurverrijker-wordt~bb276816/>.

- Light, Ben, Jean Burgess and Stephanie Duguay. "The walkthrough method: An approach to the study of apps." *New Media & Society* 20 (2016): 881–900.
<https://doi.org/10.1177/1461444816675438>.
- Lloyd Baynes, Frances and Jeremy Munro. "She / he / they / us, The intersection of Museums, Documentation and Identity politics." KeyNote, Collective Imagination by Gallery Systems, Washington. November 15-19, 2021.
- Mason-Macklin, Hanna. Museum in Progress: A tool to decolonize museums, TED conferences. October 2019.
https://www.ted.com/talks/hannah_mason_macklin_museum_in_progress_a_tool_to_decolonize_museum_exhibitions.
- Minneapolis Museum of Art. "Documenting diversity how museums should identify art and artists." Accessed May 10, 2022. <https://new.artsmia.org/stories/documenting-diversity-how-should-museums-identify-art-and-artists/>.
- Murrel, Denise. "Retrieving Histories: Black Women Artists and Models in Early Modern Art (1860 – 1950)." in the "Women in the Museum" conference. Amsterdam, March 8, 2022.
<https://www.rijksmuseum.nl/en/whats-on/lectures-symposiums/women-in-the-museum>.
- Museum Boijmans Van Beuningen. "Aout the depot." Accessed November 5, 2021.
<https://www.boijmans.nl/en/depot/about>.
- Museum Boijmans Van Beuningen. "Artworks." Accessed March 12, 2023.
<https://www.boijmans.nl/en/collection/artworks>.
- Museum Boijmans Van Beuningen. "Berthe Morisot." Accessed June 25, 2023.
<https://www.boijmans.nl/en/news/berthe-morisot>.
- Museum Boijmans Van Beuningen. "Depot." Accessed November 5, 2021.
<https://www.boijmans.nl/en/depot/app>.
- Museum Boijmans Van Beuningen. "Depot app." Accessed November 5, 2021.
<https://www.boijmans.nl/en/depot/app>.
- Museum Boijmans Van Beuningen. "Depot app wint zilveren Dutch Interactive Award." Accessed December 21, 2022. <https://www.boijmans.nl/nieuws/depot-app-wint-zilveren-dutch-interactive-award/>.
- Museum Boijmans Van Beuningen. "Privacy Policy." Accessed June 10, 2023.
<https://www.boijmans.nl/en/privacystatement>.
- Museum Boijmans Van Beuningen. "Research programme Family of Objects." Accessed November 10, 2022. <https://www.boijmans.nl/en/collection/research/Family-of-Objects>.
- Museum Boijmans Van Beuningen. The Depot wins a Webby award. Accessed May 6, 2022.
<https://boijmans.pr.co/en-WW/213935-Depot-app-wins-webby-award>.
- Museum Boijmans Van Beuningen. "Unpacking Boijmans." Accessed January 2, 2023.

- <https://www.boijmans.nl/en/exhibitions/unpacking-boijmans>.
- Navarette, Trilce. "A history of digitization in Dutch museums."
<https://trilcenavarrete.com/2015/09/25/a-history-of-digitization-dutch-museums/>.
- Q42. "Rijksmuseum-app tweemaal in de prijzen." Accessed March 10, 2022.
<https://blog.q42.nl/twee-prijzen-voor-rijksmuseum-app-7310bccdc911/>.
- Querelle, Jean. "Will the museum world finally end its identity crisis." Accessed April 23, 2023.
<https://heritagetribune.eu/europe/will-the-museum-world-finally-end-its-identity-crisis/>
- Rijksmuseum. "About us." Accessed February 20, 2022.
<https://www.rijksmuseum.nl/en/about-us>.
- Rijksmuseum. "Inclusivity" Accessed December 2, 2021.
<https://www.rijksmuseum.nl/en/about-us/what-we-do/inclusivity>.
- Rijksmuseum. "Portrait of Jan Valckenburgh and an Enslaved Servant." Accessed May 15, 2023.
<https://www.rijksmuseum.nl/en/search/objects?q=valckenburgh&p=1&ps=12&st=Objects&ii=1#/SK-A-4969,1>.
- Rijksmuseum. "Search." Accessed December 2, 2021.
<https://www.rijksmuseum.nl/en/search/>.
- Rijksmuseum. "Terms and conditions." Accessed June 3, 2023,
<https://www.rijksmuseum.nl/en/footer/terms-and-conditions>; "Privacy Policy,"
Rijksmuseum, accessed June 3, 2023, <https://www.rijksmuseum.nl/en/footer/terms-and-conditions>.
- Rijksmuseum. "Your museum, your app." Accessed March 1, 2022.
<https://www.rijksmuseum.nl/en/whats-on/app>.
- Rizvic, Selma, Vensada Okanovic, and Dusanka Boskovic. "Digital storytelling." in *Visual computing for cultural heritage*. Edited by Fotis Liarokapis et al. London: Springer, 2020.
- Schneiders, Mark and Wayne Modest. "Tense Dialogues." In *Witness in stone, the royal tropical institute, A building as colonial legacy*. Amsterdam: KIT, 2022.
- Siegal, Nina. "Museums throw open the storage rooms, letting in the public." *New York Times*, December 18, 2019. <https://www.nytimes.com/2019/12/18/arts/design/museum-storage.html>.
- Simon, Nina. *The Participatory Museum*, Museum 2.0. 2010.
<http://www.participatorymuseum.org/>.
- Sylaiou, Stella and Panagiotus Dafiotis. "Storytelling in Virtual Museums: Engaging a Multitude of Voices." in *Visual Computing for Cultural Heritage*. Edited by Fotis Liarokapis et al. London: Springer, 2020.
- The Collector. "Most important cave paintings in the world." Accessed July 13, 2023.
<https://www.thecollector.com/most-important-cave-paintings-in-the-world/>.

Vereniging Rembrandt. "Boijmans verwerft droomschilderij Leonora Carrington." Accessed June 25, 2023. <https://www.verenigingrembrandt.nl/nl/nieuws/boijmans-verwerft-droomschilderij-leonora-carrington>

Wikipedia. "Daniel Vertangen – Portrait of Jan Valkenburgh." Accessed May 15, 2023. [https://nl.wikipedia.org/wiki/Daniel_Vertangen#/media/Bestand:Jan_Valckenburgh_\(1623-1667\)_by_Daniel_Vertangen.jpg](https://nl.wikipedia.org/wiki/Daniel_Vertangen#/media/Bestand:Jan_Valckenburgh_(1623-1667)_by_Daniel_Vertangen.jpg).

Wikipedia. "Olympia (Manet)." Accessed November 3, 2022. [https://nl.wikipedia.org/wiki/Olympia_\(Manet\)](https://nl.wikipedia.org/wiki/Olympia_(Manet)).

Zwaag, Gonny van der. "Vernieuwde Rijksmuseum-app." Accessed March 10, 2022. <https://www.iculture.nl/nieuws/rijksmuseum-app-14-rondleidingen>.

7. Appendix A

Appendix A consists of the two datasets I created, recording gender and ethnicity for some 150 artists in both museum apps. To establish gender and ethnicity, I explored biographies in books, biographies in the collection databases, and biographies on websites. Where I could not be certain about gender and/or ethnicity, I recorded “unknown.” I am aware of the fact that such a dataset can never be one hundred percentage accurate as gender or ethnicity was and is hardly recorded in the database.¹⁵³ As Bram Donders explained lots of research has to be done on objects in museums’ collection databases to explore the background of artists and the context they lived and worked in.¹⁵⁴ A classification as “white” or “black” is in itself problematic as they are not absolute classifications, in this thesis these terms were only used to establish a modest insight in the current ratio male/female/non-binary and white/non-white artists presented in the researched museum apps.

The data analysis is also limited because other classification of artists/art aspects such as class, level of education, impairments were not taken into account.

¹⁵³ Bram Donders, interview on project “Women artist in the nineteenth century” by author, Rotterdam, March 23, 2022.

¹⁵⁴ Ibid.

Maker	Title	Gender	Ethnicity
A.R. Penck	Ohne Titel (A und Knochen) (Zonder titel (A en botten))	male	white
Agata Cieslak	The Conversation	non-binary	white
Alvanor Duser	The Holy Family	male	white
Alicia Framis	Collection Art. Dog in Palais de Tokyo in Paris	female	white
Anne Marie Blaupot ten Cate	Self Portrait	female	white
anonymous	Fluted glass	unknown	unknown
anonymous	humpen	unknown	unknown
anonymous	Italian Drawing Booklet, front of the leather binding with collector's mark DD	unknown	unknown
anonymous	Portrait of Gutz von Berlichingen	unknown	unknown
anonymous	Saint Martin on Horseback with the Beggar	unknown	unknown
anonymous	Valentine	unknown	unknown
anonymous	jug	unknown	unknown
anonymous	dash	unknown	unknown
anonymous	Casket with a print pasted inside the lid	unknown	unknown
anonymous	Fluted glass	unknown	unknown
anonymous	Holy Barbara	unknown	unknown
anonymous	humpen	unknown	unknown
anonymous	Italian Drawing Booklet, front of the leather binding with collector's mark DD	unknown	unknown
anonymous	Maya dressed	unknown	unknown
anonymous	Portrait of Gutz von Berlichingen	unknown	unknown
Atalief Kleef-Gelders	Judas bij de hogepriesters en bevelhebbers	unknown	unknown
Axel van der Kraan	Conference Table	male	white
Barnd Hendrik Theer	One of Seven Sheets with Studies from a Lost Drawing-Book: Four Landscapes with Herons and Cattle	male	white
Bert-Jan Pot (various)	Gloves	male	white
Berthe Morisot	Pivoines	female	white
Boris van Berkom	Venus Pop Grotto	male	white
Braun AG	S 50 Standard	unknown	unknown
Carolein Smit	HuBERTUSKOP	female	white
Carolein Smit	sculpture	female	white
Cesar	Compression de bicyclette	female	white
Charlotte van Pallandt	Shring nude with an apple	female	white
Christo	Shrs Wrapped on Tallor Mannequin	white	white
Christopher Wood	Untitled (Zonder titel)	male	white
Clara Oldenburg	Soft washstand	male	white
Co Westerk	Gramophone player	male	white
Co Westerk	Semi-closed Eyelid	male	white
Co Westerk	Drawing	male	white
Cyprien Gaillard	L'Ange du foyer (Vierte Fassung)	male	white
Deborah Remington	Seneca (Seneca)	female	white
Duane Hanson	Seated Child	male	white
Dwight Marica	Space Object	male	black
Eduard Hermans	Chandelier little house on krisses	male	white
Erhard Aldorfer	Horseman with Two Courtesans on Horseback	male	white
Erna Aaltonen	Maya	female	white
Etienne Sittouas	Cupboard 'Carlton'	male	white
Folbert de Jong	Meet me and Mr. Beefy	male	white
Francesco Guardi	The Entrance of the Canal Grande with the Santa Maria della Salute	male	white
Francis Limonin (I)	Crucifixion	male	white
Frans de la Haye	bicycle	male	white
Frans de la Haye	prototype	male	white
Fritso Kramer	lightwell	male	white
Gerrit Rietveld	Zigzagchair	male	white
Gilbert & George	Quater	male	white
Gio Ponti	Traume Architektur	male	white
Giovanni Battista Piranesi	Veduta in Prospettiva di un antico Vaso di Marmo	male	white
Guercino	David with the Head of Goliath	Male	white
Hans Bol	The Month February (Pisces)	Male	white
Herman Brothower	Untitled	Male	white
Helmuth Simits	Chandelier	male	white
Henk Tas	Dreambrothers	male	white
Henry Toulouse Lautrec	May Belfort	male	white
Herman Biefing	Carroll in Cologne	male	white
Jacob Wiermansz.	Lidded vase	male	white
Hogepsteijn			
Jacoba van Heemskerck	Composition in Colour No. 106	female	white
James Lee Byars	Letter to Rudt Fuhs	male	white
Jan Hufwilt	House and a Windmill 'between the Muysertpoort and Weesperpoort along the Wall' in Amsterdam	male	white
Jan Hufwilt	View of the Dilapidated Rampart of Amsterdam on the City Side Between the Muysertpoort and Weesperpoort	male	white
Jan Stöker	Church Service in the Nieuwe Kerk in Amsterdam (after a painting by Emanuel de Witte)	male	white
Jan Toorop	Affiche "Delftsche slaaije"		
Jan van Munster	Portrait I	male	white
JC VAN DER HEYDEN	Chesterboard	male	white
Jean-Michel Basquiat	King of Egypt II	male	black
Jheronimus Bosch	The Pedlar	male	white
Jim Dine	A.R. at Oberlin No. 5 (A Thing of Kikka) (A.R. in Oberlin nr. 5 (ets van Kikka))	male	white
Joan Miró	Peinture poème (Musique, Seine, Michel, Bataille et moi)	male	white
Johan Thom Prinsler	Christ with the Instruments of the Passion (Herz Jesu)	male	white
John Kramling	The Square Car		
Josephus Augustus Knip	Study of Two Trees in the Sabina Region (North of Rome)	male	white
Josiah Wedgwood & Sons Ltd.	vellouse	unknown	unknown
Karel Appel or JC VAN DER HEYDEN	painting	male	white
Lidy Jacobs	Miena	female	white
Lorenz Helmle	lantern	male	white
Lucie Rie	Tall narrow bottle	female	white
Mark Rothko	Grey, Orange on Maroon, No. 8	male	white
Martin Margiela	Gilet en porcelaine	male	white
Martine Stig	Sara, Najla	female	white
Martine Stig	Sara, Najla & Friend	female	white
Martine Stig	Zanab	female	white
Matthew Barney	Cremaster 4	male	white
Maurotto Cattelan	Untitled	male	white
Miro	Peinture poème (Musique, Seine, Michel, Bataille)	male	white
Nam June Paik	Internet dweller: mpbd three cpsw	male	asian
Nicolas Flémenan	Self-portrait	male	white
Nicolaas Pietersz.	Koeliekop	male	white
Berchem			
Nicolas Schöffer	Lux 11	male	white
Piet Mondriaan	Composition No. II	male	white
STUBAI - Tooling industries	Ice pick	unknown	unknown
Studio Wieki Somers	Frozen Vase	female	white
Suzie Robertson	Greta	female	white
Sylvie Zijmans	The Tolerator	female	white
Theo Colenbrander	Chest	male	white
Thomas Grünfeld	Mist IV	male	white
Viktor & Rolf	rina, V&R Symphony Collection	male	white
Viktor & Rolf	Look II, Van Gogh, Girls, Haute Couture Collection	male	white
Viktor & Rolf	The DREAM ON (Look 10), NO collectie	male	white
Walter Dahn	Selbstporträt, teils kubistisch	Male	white
Walter de Maria	A computer which will solve Every Problem in the World / 3-12 Polygon	male	white
Water van Bravendock	The Box	male	white
Willem Bastiaan Tholen	Papermaking by Hand in the Paper Mills of Apeldoorn: Coucher and Vatman at Work	male	white
Willem Steenink (r.)	Seated woman Painting in an interior	male	white
Willem van Mieris	Bacchanal Scene with a Drunken Satyr (preliminary drawing for a relief on a garden vase)	male	white
Willem van Mieris	Venus en Adonis, naar een terracotta sculptuur van Francis van Bossuit	male	white
Xavier Toubes	Abandon 7	male	white
Aino Mansio-Aalto	Böjgebäck	male	white

Dataset Depot app where gender and ethnicity were added to artworks on show in the Depot