

MAKERERE



UNIVERSITY

**DESIGNING A DIGITAL REPOSITORY OF ORAL HISTORY FOR THE
NDERE CULTURAL CENTRE**

GROUP 29

KOBUSINGYE LEAH

2300724085

23/U/24085/PS

ZIRIDAMU FRED

2300718718

23/U/18718/PS

NAIKOBA JOVIA

2300725004

23/U/25004

MUSIIMENTA DENISE

2300724998

23/U/24998

ARINANYE TUKAHIRWA

2300700247

23/U/0247

SUPERVISOR: Ms. CHRISTINE KICONCO

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DECLARATION

We the undersigned declare that this is our original work and has not been previously submitted for any award at any institution or university. All the sources of information consulted have been acknowledged.

NAME	REGISTRATION NUMBER	SIGNATURE
KOBUSINGYE LEAH	23/U/24085/PS	
ZIRIDAMU FRED	23/U/18718/PS	
NAIKOBA JOVIA	23/U/25004	
MUSHIMENTA DENISE	23/U/24998	
ARINANYE TUKAHIRWA	23/U/0247	

APPROVAL

This project was completed under the supervision of Ms. Christine Kiconco.

SIGNATURE



.....
Ms. CHRISTINE KICONCO

29th July 2026

DATE

.....

Department of Records and Archives Administration, East African School of Library and
Information Science, College of Computing & Information Sciences, Makerere University

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LIST OF ACRONYMS

CDs	Compact Discs
CSS	Cascading Style Sheets
DVDs	Digital Versatile Discs
HTML	HyperText Markup Language
ICH	Intangible Cultural Heritage
MFA	Multi-factor authentication
SPSS	Statistical Package for Social Sciences
SDGs	Sustainable Development Goals
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization

ABSTRACT

The Ndere Cultural Center is a custodian of Uganda's rich intangible heritage, housing extensive collections of traditional songs, dances, oral histories, and unique musical instruments from diverse ethnic groups. However, these cultural assets face threats from physical deterioration and restricted global accessibility. This project aimed to create a digital repository for the Center to help preserve and make its oral history archives easier to find. The objectives included identifying and categorizing the Center's oral history collections; assessing existing preservation practices; note challenges in current archival systems; set requirements for a digital repository; and design a solution for secure, accessible, and sustainable storage and retrieval of audio-visual materials. The study used a mixed methods approach collecting both quantitative and qualitative data from 71 individuals including performers, administrators, curators. Data was collected through questionnaires, interviews, observations and document analysis. Quantitative data was analyzed with SPSS, while qualitative data was examined using thematic analysis. The results showed that storing materials mainly on CDs and DVDs makes them hard to access and more likely to be lost. Most respondents supported creating an online platform to improve access. In response, the research team built a digital repository using Greenstone Digital Library software, which includes keyword and advanced search, filters, user authentication, and metadata tagging. The study found that a digital repository will help protect historical archives, support education, and encourage more people to connect with their heritage. The team recommends regular updates to the repository, ongoing staff training, and partnerships with government, academic, and cultural organizations to secure technical, financial, and professional support.

CHAPTER ONE: INTRODUCTION AND BACKGROUND

1.1 Introduction

This chapter introduces the project by outlining its background, purpose, goals, research questions, scope, and reasons for its importance. The project responds to the urgent need to preserve the oral history archives at the Ndere Cultural Center in Kampala, Uganda. Since oral traditions hold cultural memory, identity, and values, the project focused on creating a digital repository to protect, organize, and share the Center's audio-visual records of music, dance, and storytelling. The project addressed challenges such as the decay of old media, outdated technology, and generational gaps in passing down culture. By using modern digital tools, it aims to protect Uganda's intangible cultural heritage for the future.

1.2 Background

The background covers the historical, conceptual, theoretical, and contextual setting.

1.2.1 Historical Background

Oral history has national, regional, and worldwide significance, with the objective of making heritage accessible (Magara et al., 2024). Oral history is viewed as an invaluable tool for capturing individual experiences and cultural testimonies, offering insights that illuminate and transform societies (Oyelami & Akande, 2026; Izu, 2024). Mahto and Mahawar (2025) describe oral tradition as an essential means of human communication that transmits cultural knowledge, beliefs, art, and customs through speech.

Historically, human societies relied exclusively on oral transmission to maintain cultural identity, laws, and genealogies. Oral history has been captured in a wide variety of forms: poems, riddles, legends, rhymes, proverbs, recitations, epic narratives, genealogies, and life histories (Kiplagat et al., 2024). Magara et al. (2024) situate its origins in the earliest river valley civilizations and, later, in the Indus Valley, where communities preserved collective memory, governance structures, spiritual knowledge, and cultural identity entirely through spoken forms. In these pre-literate societies, the spoken word was the primary and authoritative medium of social life.

Globally, several declarations, international treaties, and related documents support oral history as documentary heritage. The United Nations 2030 Agenda for Sustainable Development, Goal 11, supports strong cultural identity, which is needed to build cultural heritage, the Memory of the World program, and Documentary Heritage. The United Nations Educational, Scientific and Cultural Organization (UNESCO) provides guidelines for the preservation and safeguarding of documentary heritage (Magara et al., 2024). UNESCO also issued the Universal Declaration on Cultural Diversity (2001) and the Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005).

At the continental level, the African Union's Agenda 2063 explicitly aims for an Africa with a strong cultural identity, common heritage, values, and ethics (Kiplagat et al., 2024). According to Magara et al. (2024), the key cultural actions under this agenda include completing the Encyclopedia Africana, implementing the Charter for African Cultural Renaissance, harmonizing cultural policy through the Algiers Declaration, and developing regional centers of excellence for cultural and creative industries.

At the regional level, one of the priority targets is to research, record, and disseminate African traditional stories that instill pride in young people's African identity. In Yoruba cosmology, oral traditions were expressed through moonlight stories, folktales, festivals, and so on, which portrayed community norms, beliefs, practices, and morals. Such cultural practices become immortalized through repeated performances over time (Fagbe et al., 2024).

Despite these frameworks, Magara et al. (2024) identify critical threats to oral heritage in Africa today. Available records are scattered across archives, libraries, community memory, and obsolete recording technologies, with many at genuine risk of permanent loss. Physical threats include disasters, armed conflict, floods, catastrophic fire, and climate change. Technological threats include obsolete recording media and risks to the reliability and authenticity of digital data. The generation gap created by globalization and exposure to foreign cultures through social media and global digital content is perhaps the most persistent threat. Younger generations are increasingly disengaging from elder wisdom, leading to what Magara et al. (2024) describe as a degeneration of cultural values that once upheld high moral standards. These vulnerabilities

highlight the urgent need for disaster preparedness and sustainable preservation strategies. Uganda possesses a complex cultural landscape characterized by a multiplicity of linguistic and ethnic traditions (Zikusooka & Kalikola, 2025). Uganda's cultural heritage includes artistic and cultural expressions such as languages and literary arts, performing arts, visual arts and handicrafts, indigenous knowledge, cultural beliefs, traditions and values, cultural sites, museums, monuments and antiquities (Nsibambi, 2022). The music, dance, art, and cuisine reflect the ethnic variety (Mohamed & Sundberg, 2022). Oral traditions in Uganda, including folktales, praise poetry, and historical narratives, have historically functioned as the primary vehicle for moral education and identity formation.

Today, digital technologies are transforming the ways we record, preserve, catalog, interpret, share, and present oral histories (Odularu et al., 2024). Integrating digital technologies offers a critical opportunity to bridge past and present, ensuring that oral traditions remain accessible, authentic, and relevant. For this project, the historical background shows that oral history is not only a record of memory but also a living resource for cultural continuity, community empowerment, and scholarly engagement. This transformation presents both opportunities and challenges, requiring careful integration of traditional methods with modern innovations to ensure the continuity and authenticity of Uganda's oral heritage.

1.2.2 Theoretical Background

Albert Bandura's Social Learning Theory (SLT) provides a framework for understanding how digital preservation of oral history functions as a social and observational learning tool that shapes cultural memory (Bandura, 1977). Through digital platforms, oral histories serve as models, allowing observers to learn about behaviors, values, and histories within a social context. Digital preservation of oral history aligns with Bandura's theory by creating a virtual environment where learning occurs through observation, retention, reproduction, and motivation. Digitized oral histories act as models for viewers, whose experiences, stories, and behaviors can be observed and assimilated, especially when the content is relevant, positive, or emotionally resonant. Digitizing indigenous knowledge and cultural heritage using new technologies can serve as powerful tools for cultural continuity (Okolo, 2024; Siliutina et al., 2024). Digital

platforms such as social media, blogs, and dedicated portals make oral history interactive rather than passive, enhancing attention and retention of historical narratives (Kiplagat et al., 2024).

1.2.3 Conceptual Background

The conceptual foundation for establishing a digital repository at the Ndere Cultural Center rests upon the intersection of Oral History, Cultural Heritage, and Digital Curation. Oral history is defined as the systematic collection of living people's testimony about their own experiences and the past. According to Magara et al. (2024, p. 170), “oral history is one of the documentary heritages described as a general trio umbrella term to refer to a collection of cultural heritage (content), genres (form of documentation and/or practices [process] of inquiry into the memories of people who have experienced the recent past) and practices of people (traditions/recollections)”. Unlike written records, oral history captures the nuances of community memory, vernacular language, and traditional knowledge. Without oral history, cultural heritage risks becoming a collection of "silent" artifacts devoid of human meaning. Furthermore, the study is grounded in the concept of Digital Stewardship, with emphasis on the digital repository’s long-term accessibility and authenticity for the Ndere Cultural Center’s audio-visual oral history records.

1.2.4 Contextual Background

The Ndere Cultural Center is situated in the Bukoto suburb of Kampala (Jensen, 2025; Kigozi, 2023). The center was founded by Stephen Rwangyezi and acts as a hub for the Ndere Troupe, a professional ensemble that showcases the diverse musical and choreographic traditions of Uganda’s numerous ethnic groups (Jensen, 2025). Oral tradition is the primary vehicle for the transmission of history, values, and social norms in many African societies. Unlike written records, oral history is dynamic and performative, often tied to music, dance, and ritual. The Ndere Cultural Center has spent decades documenting these traditions through performance, and this project focuses on preserving those audio-visual records in a digital repository.

1.3 Statement of the Problem

The preservation of intangible cultural heritage in East Africa faces a critical turning point as the transition from oral tradition to digital documentation becomes essential for cultural survival.

The Ndere Cultural Center, a cornerstone of Ugandan cultural expression, serves as a living archive of music, dance, and storytelling. Yet a formal, searchable digital infrastructure for these oral accounts is currently lacking. As globalization accelerates, the preservation of such localized cultural expressions becomes increasingly risky. Thus, a digital repository is essential for safeguarding these performances and ensuring that the center provides global access to its unique archival materials. By implementing a digital repository, Ndere Troupe's performances and historical narratives can be effectively stored and preserved, remaining accessible to future generations. This proposal outlines the framework for establishing a robust digital repository to capture, curate, and disseminate the oral histories of the diverse ethnic groups represented at the Center.

1.4 Project Aim and Objectives

To design and implement a digital repository for the oral histories housed at the Ndere Cultural Center, ensuring the integrity and discoverability of its cultural archives.

1.4.1 Project Objectives

The objectives of this project are:

1. To identify and categorize the diverse oral history archives available at the Ndere Cultural Center.
2. To examine the current practices and systems of preserving oral history archives at the Ndere Cultural Center.
3. To identify challenges of existing practices and systems of preserving oral history archives at the Ndere Cultural Center.
4. To establish requirements for designing a digital repository for preserving the oral history archives at the Ndere Cultural Center.
5. To design a digital repository for the long-term storage and retrieval of audio-visual oral history archives.

1.4.2 Research Questions

The following research questions guided the project:

1. What are the various kinds of oral history archives available at Nderere Cultural Center?

2. What is the current state of preserving oral history archives at the Ndere Cultural Center?
3. What are the current challenges in preserving oral history archives at the Ndere Cultural Center?
4. What requirements are needed to design a digital repository at the Ndere Cultural Center to improve the preservation and accessibility of oral history archives?
5. What design features are needed to create a digital repository for enhancing preservation of Ndere Cultural Group's Oral history archives?

1.5 Project Scope

The scope of the project focused on conceptual scope, geographical scope, and time scope as explained below:

1.5.1 Content Scope

This focused on the oral history materials, cultural performances, and intangible heritage assets currently housed at the Ndere Cultural Center. This included the physical and digital audio-visual recordings of traditional music, dance, and storytelling.

1.5.2 Geographical Scope

The study was carried out at the Ndere Cultural Center in Bukoto, Kampala, Uganda.

1.5.3 Time scope

The project was carried out in four months, from May to August, encompassing requirement analysis, site development, pilot testing, and final development.

1.6 Justification of the study

The urgency of this project was dictated by the physical deterioration of magnetic tapes and early digital storage media currently held at the center. Without immediate intervention, there is a high risk of permanent knowledge loss. Furthermore, a digital repository will enhance the center's educational impact by making its resources available to researchers and students globally. This view is supported by Sharma (2025), who notes that digital archives enhance access, preserve fragile sources, and generate new forms of evidence.

1.7 Significance of the Study

This research is significant because it addresses the "digital divide" in cultural heritage management within East Africa. By creating a digital repository, the Ndere Cultural Center will protect its assets and contribute to the global discourse on the digitization of African heritage, providing a model for other institutions in the region (Sharma, 2025). Accordingly, Kiplanga et al. (2024) recommend showcasing Africa's cultural heritage on digital platforms. Similarly, Sharma (2025) contends that digital archives preserve and enhance access to fragile sources of information.

1.8 Definition of Key Terms

The key terms crucial to understanding the project of designing a digital repository for oral performances at Ndere Cultural Center are explained below:

Digital Repository: A centralized digital platform for storing, organizing, and disseminating educational resources, in this case, oral history.

Oral History: The collection and study of historical information using sound recordings of interviews with people having personal knowledge of past events.

Intangible Cultural Heritage: Practices, representations, expressions, knowledge, and skills that communities recognize as part of their cultural heritage.

Usability: The ease of use and user-friendliness of the digital repository platform ensure users can effectively navigate, access, and use oral performances.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature about digital repositories of cultural institutions' oral histories. The literature review entails a detailed evaluation of the existing research on preservation of intangible cultural heritage. It includes an examination of preservation practices in cultural institutions; the challenges of managing intangible cultural heritage; strategies to overcome these challenges; functional and non-functional requirements; the software and hardware requirements of a digital repository for intangible cultural heritage; and the research gap. The literature review was guided by the research study objectives. It will encompass an in-depth examination of relevant literature, including scholarly articles, books, and other pertinent sources, to uncover patterns, themes, and gaps in the current body of literature.

2.2 Digital Repositories of Oral History Archives

Oral traditions are cultural knowledge, stories, history, and values passed down through the spoken word from one generation to another. They act as a living repository of communal memory, including myths, folklore, songs, proverbs, and historical narratives that define cultural identity. Magara et al. (2024) note that oral history is an invaluable tool for understanding individual experiences and historical, cultural, and social testimonies that reveal and transform society.

The preservation of intangible heritage through digital means is a well-documented field in archival science. Jenkins (2018) notes that digital repositories are not merely storage units but active tools for cultural democratization. The literature also highlights the importance of open-source standards to prevent data obsolescence and participatory categorization, involving performers to ensure that taxonomy respects the knowledge's original context (Ernstson & Nilsson, 2022).

Digitization of cultural heritage is viewed as a tool for long-term preservation and global access to indigenous knowledge, but it also presents serious challenges (Soita et al., 2024). Literature on digital heritage preservation identifies challenges in the digitization process, including digital

obsolescence, accessibility, copyright, data security, and resource constraints (Siliutina et al., 2024).

2.3 Challenges of Preserving Oral History Archives

The delivery of primary sources, including oral history interviews, through searchable online systems has transformed historical research. While such technologies create new opportunities that can change how historians interpret sources and how readers engage with them, they also complicate ethical issues and create new dilemmas for researchers, collection managers, and archivists (Bradley & Puri, 2018). There is therefore a need to explore the challenges of creating, delivering, and archiving oral history collections. The literature identifies several critical challenges, including obsolete technologies used to record oral history recollections of culturally significant events or trends (Magara et al., 2024).

2.4 Requirements for Designing a Digital Repository of Oral History Archives

To address these challenges, researchers and policymakers have proposed several strategic frameworks. Recent studies advocate a multifaceted approach that incorporates institutional goals, stakeholder collaboration, and user-centric design. The literature suggests that cultural institutions must benchmark against high-performing global entities to refine operational efficiency (Aparicio et al., 2025; Zikusooka & Kalikoli, 2025).

Digitization of cultural heritage is viewed as a means of conserving and preserving it for posterity (Soita et al., 2024). Digital tools contribute significantly to the documentation, archiving, and accessibility of cultural artifacts, traditions, and languages (Siliutina et al., 2024). The literature recommends open data standards and software platforms for semantically based digital documentation of intangible cultural heritage by archival, library, and museum institutions (Ziku, 2020). It also emphasizes local capacity building and institutional partnerships to ensure that the repository is maintained beyond the life of the initial research project. Combining digital repositories with community-based oral history programs helps keep the archive a living entity by enabling community members to continuously update records. For example, the Ankole cultural archives collect and preserve the oral histories of Ankole communities in Uganda and across the diaspora (<https://ankoleculturalarchives.com/>).

Recent studies emphasize the crucial role of social media in promoting intangible cultural heritage on digital platforms (Liu, 2025). Digital communication contributes to increased attention, awareness, dissemination, expanded audience demographics, and enhanced engagement (Cao, 2025; Hammou et al., 2020). Integrating ICH into formal and informal education systems is cited as the most effective long-term strategy for ensuring intergenerational transmission and embedding heritage in the daily lives of younger generations. Wasela (2023) also notes the role of community involvement, sustainable tourism practices, and strategic marketing in promoting ICH.

2.5 Research Gap

Existing literature on African performance arts emphasizes the role of the "troupe" as a pedagogical tool for cultural continuity. In societies where oral tradition is the primary mode of historical record-keeping, the performance of music and dance serves as a mnemonic device for communal values and historical narratives. While much research has focused on preserving tangible heritage, such as monuments and artifacts, the Ndere Cultural Center offers a unique case study in preserving intangible heritage. However, this leaves a research gap regarding how digital and non-digital marketing may promote cultural tourism at the Ndere Cultural Center, as identified by Zikusooka & Kalikola (2025).

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter presents the methods used in data collection. Specifically, it outlines the research design, strategies of inquiry, population, participant selection, data collection procedures, data analysis, and ethical considerations.

3.2 Research Design

A case study research design was adopted for the study, as it focuses on the Ndere Cultural Center. A case study strategy is deemed appropriate when the researcher is deeply concerned with an in-depth description and analysis of a phenomenon, program, event, activity, or individuals (Yin, 2018). Furthermore, a case study allows for an intensive, holistic investigation of the organizational context, the specific nature of the oral history materials, and the socio-technical environment in which they are currently managed.

3.3 Research Approach

To effectively design and implement a digital repository for the Ndere Cultural Center, a mixed-methods approach was adopted. The quantitative aspect of the methodology focused on a systematic audit of the existing collection to quantify the volume, physical state, and file formats of the oral histories. On the other hand, the qualitative component involved conducting semi-structured interviews with the elders, performers, and staff at the Ndere Cultural Center to understand their experiences of management and use of the oral history archives.

3.4 Area of Study

The study was conducted at the Ndere Cultural Center located in Kampala, Uganda. This center was chosen for its multicultural/ethnic profile rooted in traditions of Ugandan ethnic communities.

3.5 Population of the Study

The population comprised the entire collection of audiovisual oral history materials held at the Ndere Cultural Center, as well as the staff members (cultural performers, curators, administrative and technical personnel) responsible for their management and preservation. In this context, a

population is a group of elements or cases, whether individuals, objects, or events, that meet specific criteria in research (Leavy, 2022). The total population of the study was 72 respondents of various categories are shown in Table 1 below:

Table 1: Population of the study

SN	Category	Total
1	Cultural performers (dancers, vocalists, instrumentalists)	68
2	Museum curators	1
3	Administrative staff	2
4	Technical staff (light and sound technicians)	1
	Total	72

3.6 Sample Size and Sampling

This section provides how the above individuals were selected including the sampling techniques used to select the individuals.

Simple random sampling was used to select a sample of 61 from a population of 72 people at the Ndere Cultural Centre. The simple random technique ensures that the sample is unbiased and representative of the larger group (Hirose & Creswell, 2023). A sample size of **61** respondents was determined using Yamane's formula below:

$$n = \frac{N}{1+N(e)^2}$$

Where:

n = Sample size

N = Population size

e = margin of error (commonly 0.05 or 5%)

Given:

$N = 72$

$e = 0.05$

$$n = 72/1+72(0.05)^2$$

$$n = 72/1+72(0.0025)^2$$

$$n = 61$$

BODMAS:

1. Begin by calculating the Denominator of the formula: -

$$n = 72/1 + 150 \times (0.05)^2 \text{ (Brackets must come first on squared margin of error).}$$

$$n = 72/1 + 150 \times 0.0025 \text{ (Multiplication of population size x squared margin of error)}$$

$$n = 72/1 + 0.375 \text{ (Addition).}$$

$$n = 72/1.375 \text{ (1.375 is the value of the denominator).}$$

2. Divide now the Enumerator of the formula with the Denominator value: -

$$n = 150/1.375 \text{ (Enumerator value divided by Denominator value).}$$

$$n = 61$$

Then, purposive sampling technique was used to select the participants including performers, administrators, curators for interviews. According to Creswell and Poth (2018) purposive sampling ensures that information-rich participants are selected. A total of 10 participants of the entire population of 72 participants were selected for interviews. In qualitative research, researchers collect data until when no new perspectives, codes or themes emerge from additional interviews (Creswell and Poth, 2018).

From the above, a total of 71 individuals participated in the study where, 61 individuals were treated to a questionnaire while 10 participants were interviewed until the point of data saturation. All the 61 questionnaires were returned for data analysis and all 10 participants were interviewed giving rise to a response rate of 100%.

3.7 Data Collection Methods and Instruments

The data collection methods included a survey, document analysis, and observation. The data collection instruments included a questionnaire, document review guide, and an observation checklist. The data collection methods and instruments are discussed below.

3.7.1 Questionnaire

A survey of the existing physical archives was conducted to determine the formats and their physical condition. A questionnaire was designed and distributed to performers, curators, and cultural performers to assess the Center's needs. The questionnaire was designed using a mix of Likert-scale questions and open-ended questions. Before this, the developed questionnaire was submitted it to the supervisor for guidance. Thereafter, it was pretested on 10 randomly selected respondents from the target audience. The comments and suggestions were incorporated into the final questionnaire with the supervisor's approval. Data quality control in quantitative research involved systematic processes to ensure data accuracy, consistency, and reliability, crucial for valid analysis (Leavy, 2022). Exploratory factor analysis in the form of Cronbach's alpha test was assessed.

3.7.2 Interview

Semi-structured interviews were held with 10 people including performers, administrators, and curators. This aimed at exploring the participants experiences of managing and accessing the oral history archives. Interviews help to illuminate the participant perspectives (Ravitch & Carl, 2021; Yin, 2018). The researchers used an interview guide with open-ended questions (see Appendix IV).

3.7.3 Document Analysis

Document analysis involved the systematic examination of existing materials, such as historical records, performance programs, and administrative files of the Center. In addition, a review of the existing inventory logs, preservation policies, and organisational reports was conducted to categorize the archives and identify current practices. Document analysis involves a systematic procedure for reviewing and evaluating written, visual, or audio materials to extract meaningful information (Creswell & Poth, 2018). A document review guide was developed to facilitate the

systematic analysis of archival materials, including past program notes, historical photographs, and administrative records (see appendix VI). The goal was to identify gaps in the current documentation that the new digital repository must fill.

3.7.4 Observation

The observation method was used to capture current storage systems and practices and to identify environmental risks and retrieval inefficiencies. In addition, a systematic assessment of the current hardware and software infrastructure was carried out to inform the design of the new digital repository. Observation involved systematically selecting, watching, and recording behaviors and characteristics (Creswell & Poth, 2018). An observation checklist was developed by the researchers. An observation checklist was used during performances and rehearsals at the Ndere Cultural Center. The observation focused on the production context, capturing the physical environment, audience interaction, and non-verbal cues essential for future researchers to understand the performance.

3.8 Data Analysis

The quantitative data from the questionnaires were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to represent the data. The two datasets were analysed independently and merged during the interpretation of data. For the qualitative data, inductive thematic analysis was adopted following the six phases by Braun and Clarke (2014). These include a) familiarizing with the data, b) generating initial codes, c) searching for themes, d) reviewing themes, e) defining and naming themes, and f) producing the report. Thematic Analysis framework ensured that the cultural narratives were categorized based on the narrators' original intent while being searchable for future researchers. In qualitative research, data analysis is an ongoing process that involved sorting data, coding, re-coding, searching, identifying linkages, trends, and patterns; locating keywords or phrases; categorizing, classifying data, contrasting and making comparisons (Saldaña, 2021; Hyuha, 2020; Miles et al., 2020). The coding process involved labelling and organising data, using a computer-assisted qualitative data analysis software, ATLAS.ti, version 26.1.1. The software enabled the researchers to organise, visualise, and make connections and reflections on the data. This aligns with Guest, MacQueen, and Namey (2012),

who note that the qualitative software programmes assist researchers in organising, sorting, and searching for information in text or image databases.

3.9 Ethical Considerations

This study adhered to ethical standards during its conduct. Ethical considerations concern the moral standards the researcher should uphold throughout the research process (Miles et al., 2020; Creswell & Poth, 2018). The researchers will obtain the respondents' consent (see Appendix II). The form contains details on the nature of the study, its purpose, and ethical issues such as confidentiality, voluntariness, risks, and benefits. To maintain confidentiality, all data collected were securely stored in password-protected computer files that were not accessible to other parties.

3.10 Limitations of the Study

The study may be constrained in its selection of which stories are prioritized for digitization. To mitigate this challenge, elders, cultural practitioners, and local stakeholders were involved in selecting oral histories for archiving. Additionally, oral histories are living traditions; fixing them into a static digital format may inadvertently strip them of their fluidity and communal evolution. The researchers may face limitations regarding intellectual property rights, as oral traditions are frequently collective property rather than individual works, complicating the legal framework for digital dissemination. To address intellectual property challenges, the archive will implement tiered access levels, with sensitive cultural knowledge restricted to specific community members and general history remaining open to the public. The study may be limited by the scale of the Ndere Cultural Center's collection. The labor-intensive process of transcription, translation, and metadata tagging often requires specialized linguistic expertise. The research project was carried out within a short research timeframe. This may limit the volume of material that can be processed. Lastly, the study may be limited by the "digital divide," where the repository's design might prioritize users with high-speed internet access, thereby excluding the very communities whose histories are being preserved. To mitigate the digital divide, the researchers will create local, low-bandwidth access points at the cultural center, allowing community members to access the archive without requiring high-speed internet.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION OF THE FINDINGS

4.1 Introduction

This chapter presents an analysis and discussion of the study's findings, structured around the research objectives and relevant scholarly literature. Relevant tables and figures are included to support the findings. The study was guided by the following objectives:

1. To identify and categorize the diverse oral history archives available at the Ndere Cultural Center.
2. To examine the current practices and systems of preserving oral history archives at the Ndere Cultural Center.
3. To identify challenges of existing practices and systems of preserving oral history archives at the Ndere Cultural Center.
4. To establish requirements for designing a digital repository for preserving the oral history archives at the Ndere Cultural Center.
5. To design a digital repository for the long-term storage and retrieval of audio-visual oral history archives.

4.2 Demographic Characteristics of the Respondents

Scholarly literature emphasizes the importance of demographic diversity in archival research (King, 2024).

4.2.1 Gender and Age

Regarding gender, both male and female participants were included among the respondents. Male respondents comprised 34 individuals (55.7%), while female respondents accounted for 27 individuals (44.3%). Also, respondents were distributed across three age categories. Those aged 40 years and above constituted 25 individuals (40.9%), respondents aged 20–29 years comprised 20 individuals (32.8%), and those aged 30–39 years accounted for 16 individuals (26.2%), as detailed in Table 2 below:

Table 2: Demographic Characteristics of the Respondents

Gender	Frequency	Percent
Female	27	44.3
Male	34	55.7
Total	61	100.0
Age	Frequency	Percent
20-29	20	32.8
30-39	16	26.2
40 and above	25	40.9
Total	61	100.0

Sources: Field Data 2026.

4.2.2 Respondents' Job Positions

Respondents represented a diverse array of professional and institutional roles, such as administrators, cultural performers, curators, photographers, sound engineers, sound technicians, researchers, staff members, technical staff, and other personnel engaged in the operations and activities of the Ndere Cultural Center. Regarding their primary relationship with the Ndere Cultural Center, respondents included community members, curators, elders, performers, photographers, sound technicians, researchers, staff members, and other personnel. This diversity ensured that the study captured perspectives from individuals with varying degrees of involvement and responsibility within both the Center and the broader community (Magara et al., 2025, pp. 169-185).

4.2.3 Experience of Involvement with the Ndere Cultural Center

Most respondents were experienced personnel with varying durations of involvement at the Ndere Cultural Center. The largest group had more than 6 years of experience (21 respondents; 34.4%). This was followed by those with four to six years of experience (18 respondents;

29.6%). Respondents with less than one year of experience comprised 9 individuals (14.7%), while those with one to three years of experience accounted for 13 individuals (21.3%), as detailed in Figure 1 below.

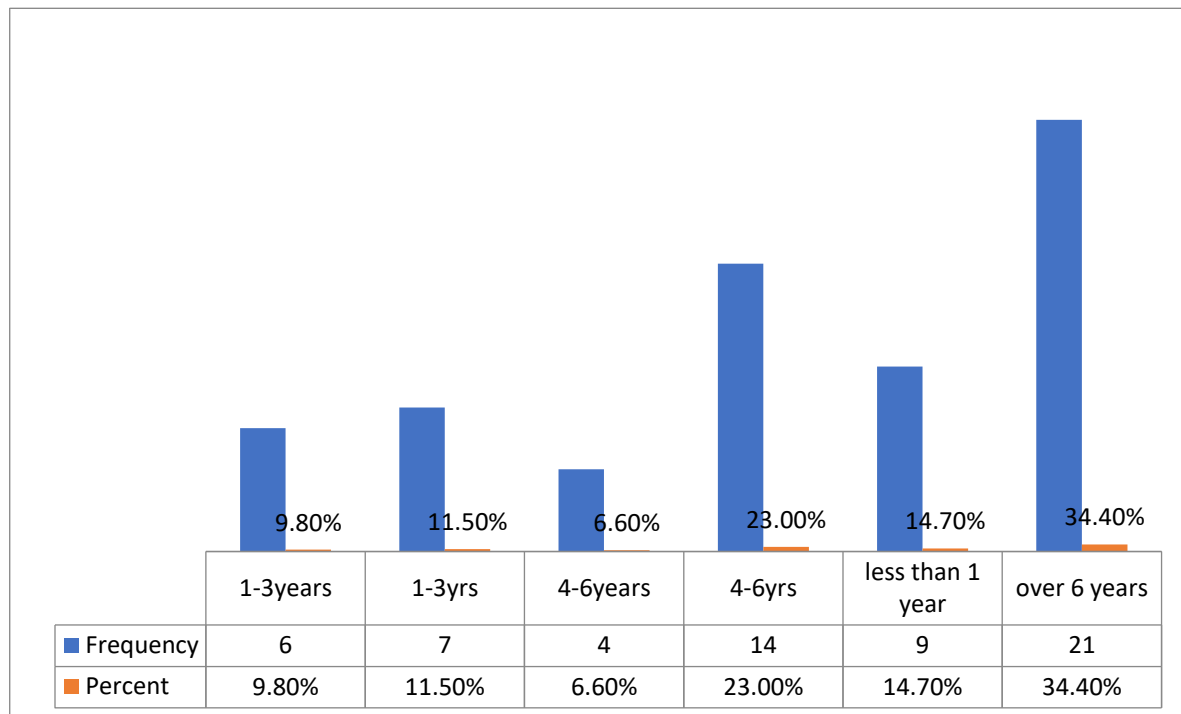


Figure 1: Showing respondents' experience of Involvement with the Ndere Cultural Center

The quantitative findings are supported by the quotations from the interviews as illustrated below:

I have been with the Ndere Cultural Center as a performer, cultural educator, and artist for over ten years. I have dedicated my career to mastering the complex rhythms, dances, and oral storytelling traditions of Uganda's ethnic groups. My involvement began after years of rigorous training in traditional folklore, which led me to audition for the Ndere Troupe (Interviewee 1).

The above quotation suggests a profound journey of physical transformation, intellectual mastery of ethnomusicological systems, and a transition to a custodian of Uganda's living cultural heritage.

The demographic profile revealed that the majority of respondents were male (55.7%) and aged above 40 years (40.9%), with a significant proportion having over 6 years of experience (34.4%).

This demographic distribution suggests that the data primarily reflect the perspectives of seasoned personnel who are likely to possess institutional knowledge of oral history practices at Ndere Cultural Center. (Ndere Cultural Center - Ndere, n.d.) According to Ernston and Nilsson (2022), diverse participatory approaches in categorization and preservation are crucial for capturing the full spectrum of cultural narratives. The apparent age and experience concentration may indicate a bias towards traditional practices, potentially affecting the inclusivity of community participation in oral history management. (Magara et al., 2025, pp. 169-185) The findings align with Liu (2025), who advocates for involving younger generations to ensure intergenerational continuity of intangible cultural heritage (ICH).

Furthermore, the demographic skew towards older, experienced personnel might lead to preservation practices that favor traditional formats and categorization systems, potentially limiting the adoption of innovative digital approaches. Thus, future strategies should incorporate younger community members and diverse stakeholders to foster participatory and inclusive preservation.

4.3 Objective One: To identify and categorize the diverse oral history archives available at the Ndere Cultural Center

The study sought to identify the availability and types of oral history archives at Ndere Cultural Center. The results indicate that the majority of the respondents were aware of the oral history archives available at the Ndere Cultural Center. A total of 55 (90.2%) respondents reported being aware of the archives, while 6 (9.8%) reported being unaware. The results are shown in Figure 2 below:

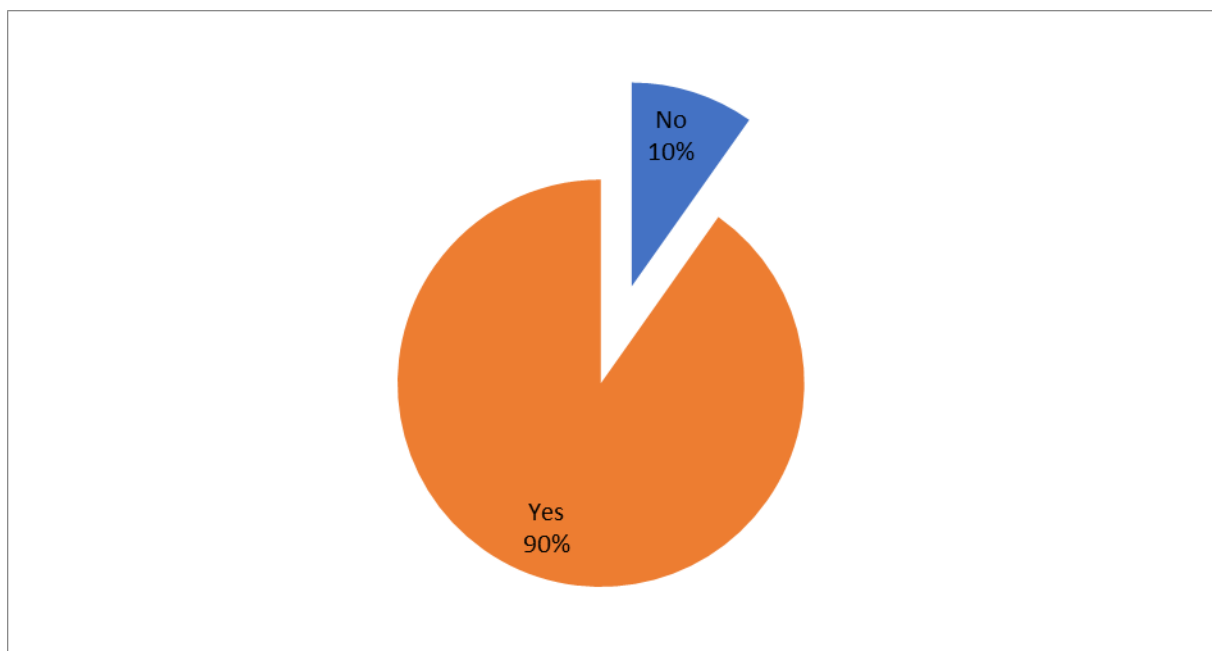


Figure 2: Showing the levels of awareness of the oral history archives available at Ndere Cultural Center

4.3.1 Familiar oral history materials at Ndere Cultural Center

Respondents reported familiarity with a wide range of oral history materials at the Ndere Cultural Center, including audio and video recordings, photographs, transcripts, and written stories. Audio and video recordings were the most frequently mentioned, often alongside photographs, transcripts, and written stories. Some respondents indicated familiarity with multiple formats, while others reported knowledge of only a single format, such as photographs, video recordings, or written stories. One of the elders at the Ndere Cultural Center shared his experience regarding the oral history materials:

The Ndere Cultural Center preserves oral histories of live performance, music, dance, poetry, and theatrical storytelling. Among the materials kept are audio and video recordings, photographs, transcripts, and handwritten materials. (Interviewee 3).

The quotation above highlights that a broad range of oral history materials are kept at the Ndere Cultural Center.

4.3.2 Primary Formats of Oral History at Ndere Cultural Center

Respondents indicated that the primary formats of oral history materials at the Ndere Cultural Center include analog tapes, digital files, handwritten transcripts, and photographs. The frequent mention of analog tapes alongside digital files and other formats demonstrates the coexistence of traditional and modern storage methods. Analog tapes were also frequently mentioned, often alongside handwritten transcripts and photographs, while some respondents reported having analog-only or digital-only materials. Additional formats noted include written transcripts and photographs, which also appear both independently and in combination with other archival formats.

4.3.3 Categorization of the Oral History Archives

Respondents reported that oral history materials at the Ndere Cultural Center are categorized using several approaches. The most common method is by ethnic group, either alone or combined with categories such as musical genre, historical event, and chronological order. Some respondents identified musical genre or historical event as the primary organizing principle, while others noted chronological order or origin. Multiple categorization systems are often used simultaneously, reflecting the complexity of the collections. Categorization is multifaceted, based on ethnic group, musical genre, historical event, and chronology, and is often used simultaneously. These findings align closely with Ernston and Nilsson (2022), who emphasize participatory categorization that involves community members to ensure cultural relevance and contextual accuracy. The use of multiple classification systems reflects an understanding of the layered nature of oral histories, as discussed by Magara et al. (2024), who argue that diverse formats and categories are essential for capturing the plurality of oral traditions. The broad categorization highlights the richness of Ndere's collections and underscores the need for flexible, multidimensional metadata schemas in digital repositories, as recommended by Jenkins (2018). Such schemas can accommodate complex classification systems, enabling nuanced retrieval and analysis. While this diversity is positive, scholars such as Siliutina et al. (2024) warn against rigid categorization that may obscure contextual meanings. Therefore, digital repositories should support multi-faceted, participatory classification to preserve the integrity of oral narratives.

4.3.4 Collections that are considered at risk due to physical degradation or format obsolescence

Respondents identified specific collections at the Ndere Cultural Center as being at risk due to physical degradation or format obsolescence. Analog tapes were most frequently cited as vulnerable, often mentioned alongside digital files, handwritten transcripts, and photographs. Some respondents also identified digital files, handwritten transcripts, and photographs as at-risk materials, either independently or in combination. A minority of respondents indicated that no collections were currently at risk.

4.2.5 Rate of diversity of oral history content at Ndere Cultural Center

Findings indicate varying levels of diversity in the oral history content at the Ndere Cultural Center. Most respondents (28; 45.9%) described the content as somewhat diverse, while 23 (37.7%) considered it very diverse. A smaller group (10; 16.4%) reported that the content is not diverse, as detailed in Figure 3 below.

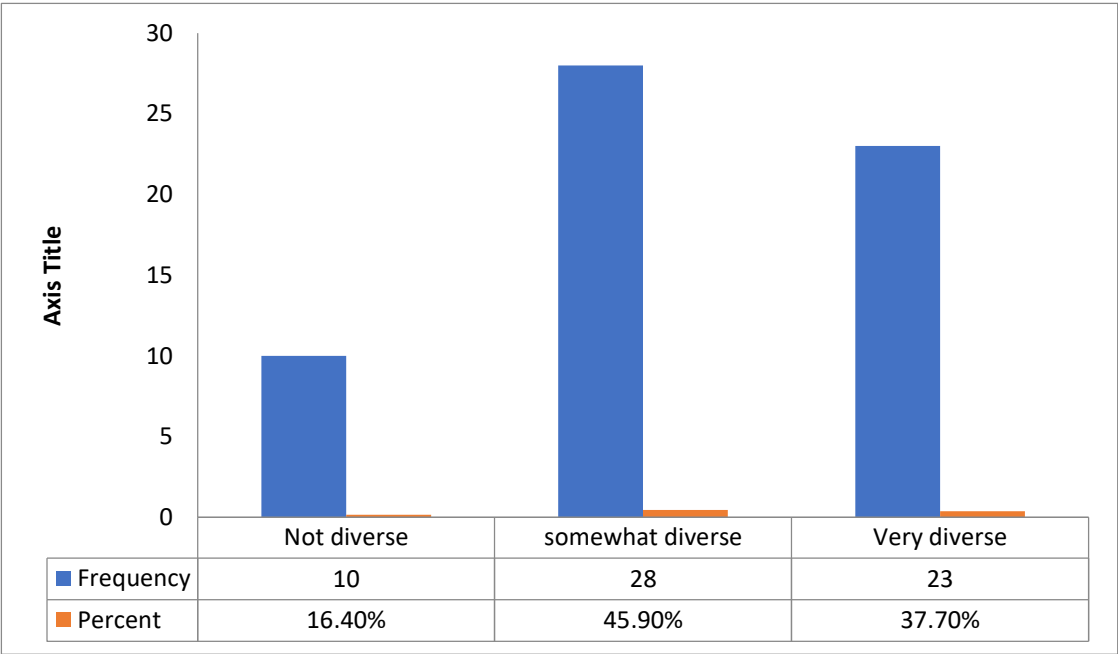


Figure 3: Showing the Rate of diversity of oral history content at Ndere Cultural Center

4.4 Objective Two: Current practices and systems of preserving oral history archives at the Ndere Cultural Center

This study looked at how oral history archives are currently preserved at the Ndere Cultural Center.

4.4.1 Adequacy of the Current State of Preserving Oral History at the Ndere Cultural Center

The question asked about respondents' views on how well oral history was being preserved. The findings show that people have different views about how well oral history is currently preserved at the Ndere Cultural Center as shown in Table 4 below.

Table 3: Showing the Adequacy of the Current State of Preserving Oral History at the Ndere Cultural Center

	Frequency	Percent
Adequate	1	1.6
Not adequate	23	37.7
Somewhat adequate	25	41
Very adequate	12	19.7
Total	61	100.0

Table 3 shows that most respondents (25; 41.0%) thought the current preservation was only somewhat adequate. Another 23 (37.7%) felt it was inadequate. Twelve people (19.7%) said it was very adequate, and just one person (1.6%) found it adequate. Researchers also noticed that CDs and DVDs were kept in boxes, but the storage space was not enough.

4.4.2 Use of Digital Preservation Methods at the Ndere Cultural Center

The study also checked if digital preservation methods are used at the Ndere Cultural Center. The results are shown in Table 4 below show that digital preservation methods are used at the

Ndere Cultural Center. Thirty-five respondents (57.4%) said they use digital methods, 22 (36.0%) said they do not, and four (6.6%) were not sure.

Table 4: Showing the use of Digital Preservation Methods at Ndere Cultural Center

	Frequency	Percent
No	22	36
Not sure	4	6.6
Yes	35	57.4
Total	61	100.0

The above results in Tables 3 and 4 show that most people know about the archives and use different formats, with more than half using digital preservation. Still, many said that, the current methods are only somewhat adequate or even inadequate, mainly because of old technology, limited access, and physical decay. Jenkins (2018) also points out that digital preservation often struggles with limited resources and outdated technology, especially where resources are tight. Soita et al. (2024) say digitization is important but often slowed by technology and infrastructure problems. On the other hand, Liu (2025) believes that even partial digital preservation can greatly improve access and keep records safe for longer, so small steps are still helpful. The sense that current efforts are not enough shows there is a real need for better training, open standards, and improved infrastructure. These findings agree with other research that says long-term preservation needs ongoing investment and updates in technology. The data also suggest that current efforts are more about reacting to problems than planning ahead, which matches Bradley and Puri (2018), who recommend careful planning and involving more people to make preservation work better.

4.4.3 Most Significant Technical Barriers in Maintaining the Current Archives

Respondents pointed out several major barriers that affect how archives are maintained at the Ndere Cultural Center. These challenges include:

- a) Access limitations

- b) Climate control challenges
- c) Financial constraints
- d) Lack of hardware
- e) Hardware-related challenges
- f) Software compatibility issues
- g) Obsolescence of equipment and formats
- h) Limited staff expertise
- i) Lack of training

Some respondents also said they faced more than one challenge at the same time, like hardware shortages along with financial problems, or hardware shortages and outdated equipment. Others mentioned dealing with hardware shortages, software issues, financial constraints, and not enough staff expertise all together (see figure 4).

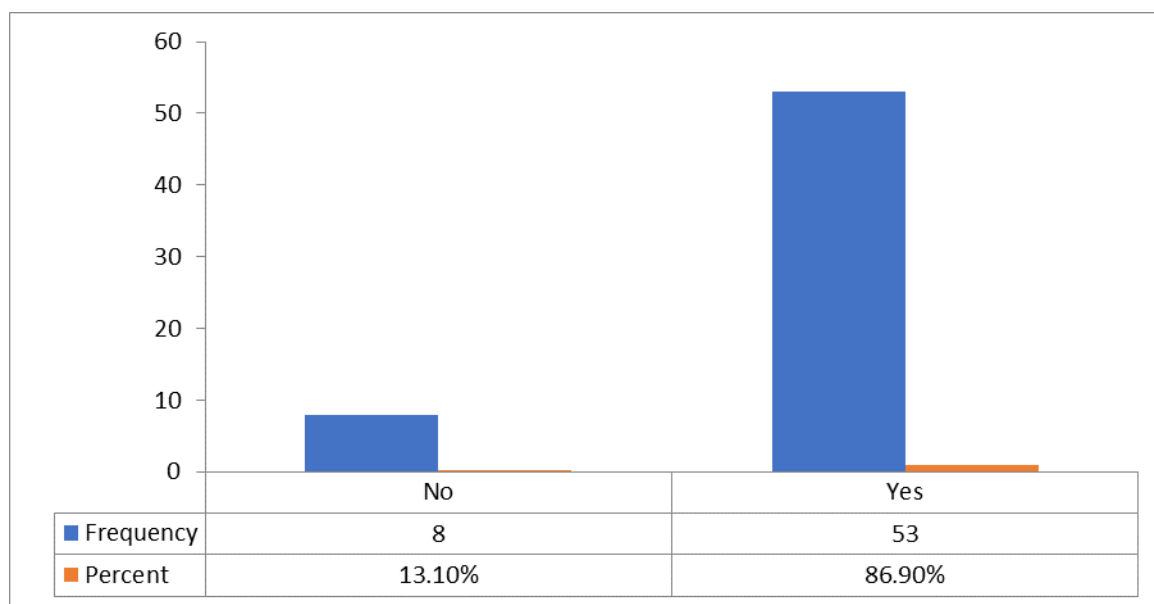


Figure 4: Showing the number of respondents who have encountered any challenges in accessing or preserving oral history archives at Ndere Cultural Center

The findings in Figure 4 above show that most respondents have faced challenges in accessing or preserving oral history archives at the Ndere Cultural Center. Out of all respondents, 53 (86.9%) said they had these challenges, while 8 (13.1%) had not. The researchers also found that the

Center stores archives as videos on CDs and DVDs, which makes it hard to find a specific performance from a certain day.

4.5 Objective Three: Challenges of existing practices and systems of preserving oral history archives at the Ndere Cultural Center

The study identified several challenges in the existing practices and systems for preserving oral history archives at the Ndere Cultural Center.

4.5.1 Observed Challenges in Accessing and Preserving Oral History Archives

Respondents identified several challenges affecting how oral history archives are accessed and preserved at the Ndere Cultural Center. Many said they face more than one problem, such as not enough funding, old recording technology, limited access, no digital backups, lack of staff training, and concerns about security and privacy. Rapid technological change has made it harder to access magnetic tapes, floppy disks, and CDs and DVDs. These physical formats also wear out over time, making the tapes unusable. The curator described the biggest technical barrier to maintaining the oral history archives at the Ndere Cultural Center:

The archive contains organic artifacts such as traditional musical instruments (e.g., xylophones, harps, and calabash drums), ceremonial regalia, and performance costumes. These organic materials are prone to acoustic decay. (Interviewee 2).

The quotes above show that when tonal instruments decay, important historical records can be lost forever.

Furthermore, technological obsolescence was found to be a major setback for the cultural center. Findings indicate it is hard and costly to find working playback equipment. One staff member said:

Early attempts to record oral histories and music were captured on magnetic tape, reel-to-reel, and VHS cassettes. These analog formats degrade rapidly in humid environments and are now largely inaccessible due to the obsolescence of playback equipment. (Interviewee 4).

The implication is that the rapid technological obsolescence leaves difficulties for the cultural center to cope up due to financial implications this has on long-term preservation and hiring professional archivists as another member further revealed.

Because of financial constraints, the cultural center has little budget for advanced digital preservation tools or cataloguing software. The oral histories are still kept on fragile hard drives or optical discs, which can easily be damaged, lost, or corrupted (Interviewee 1).

Participants also pointed out that staff have not been trained in modern preservation methods: *Developing catalogs and digitizing physical collections require funding and technical expertise. Without standardized metadata, the collections remain inaccessible to the public. (Interviewee 3).*

The above quotations show that several challenges are making it hard to preserve and access oral history archives at the Ndere Cultural Center. Outdated technology, limited funding, and not enough staff training have put important historical records at risk of being lost. Many items are stored on old analog formats and fragile media, which makes them hard to access. Without digitization and a standard catalog, it is even harder for the public to use these archives. Traditional instruments and ceremonial regalia are also threatened by environmental factors and natural wear. All these issues put the archives and the passing on of cultural heritage to future generations in danger. This highlights the urgent need for better strategies and investment in modern preservation methods.

4.5.2 Extent to which younger generations are disengaged from oral history traditions

The study examined the extent to which the respondents agree that younger generations are disengaged from oral history traditions. The results are shown in Table 5 below:

Table 5: Showing the extent to which younger generations are disengaged from oral history traditions

Variable	Frequency	Percent
Agree	24	39.3
Neutral	11	18.0
Strongly Agree	26	42.6
Total	61	100.0

Source: *Field Data 2026.*

The findings show that people have different opinions about whether younger generations are disengaged from oral history traditions. Most respondents, 26 (42.6%), strongly agreed with this idea, while 24 (39.3%) agreed. Eleven (18.0%) were neutral. Respondents say they face many challenges at once, such as limited access, outdated technology, physical decay, and not enough staff expertise. Most have experienced these problems and think current preservation methods are not good enough. This matches what Magara et al. (2024) found, as they also point to outdated technology, lack of resources, and physical decay as main issues in preserving oral history worldwide. Siliutina et al. (2024) also warn that digital obsolescence is a serious threat. Some scholars, like Jenkins (2018), say that digital preservation can help prevent physical decay and outdated formats if the right standards and infrastructure are in place. However, the findings show that limited resources make it hard to do this at Ndere, which supports Bradley and Puri's (2018) warning about relying on technology without enough support. These challenges show why it is important to create clear and lasting preservation plans, such as making digital backups, upgrading hardware, and training staff. This matches what the literature says about the need for strategic planning (Aparicio et al., 2025).

4.6 Strategies for Overcoming Challenges

This objective focused on identifying ways to address the challenges of managing the oral history archives at the Ndere Cultural Center.

4.6.1 Institutional Partnerships that Best Support Preservation of Archives

Respondents pointed to several types of partnerships as the most effective for preserving oral history archives at the Ndere Cultural Center. They often mentioned communities, cultural organizations, government agencies, and universities as key partners. Participants further recommended that different institutions work together to strengthen archival preservation. They suggested collaborations between communities and cultural organizations, cultural organizations and government, universities and government, and even broader partnerships that include all these groups. The following quotes reflect their opinions:

The community must be integrated as active co-creators through community-driven archiving, participatory documentation, and the revitalization of traditional storytelling spaces. (Interviewee 3).

The quote underscores the need for the community to be integral to the archiving process, suggesting that a participatory approach where community members are actively involved as co-creators can enhance the preservation of cultural narratives.

Another participant shared:

To better protect these materials, the Ndere Cultural Center requires targeted financial investments in digital infrastructure, practitioner stipends, and specialized technical training in audiovisual archiving. (Interviewee 2).

To avoid losing historical recordings still on aging analog formats like magnetic tape, the center needs equipment such as analog-to-digital converters, high-resolution video cameras, and a digital archival platform. The following quotes highlight these points:

Funding is required to construct a climate-controlled physical repository. In addition, financial investment is needed to purchase high-quality field recording gear, servers, and digital preservation software. (Interviewee 4).

The above quotes point to the necessity of investing in the infrastructure and training required for effective preservation. It suggests that without sufficient financial resources for digital technology, support for practitioners, and specialized training in audiovisual archiving, the materials at the Ndere Cultural Center may not be adequately protected. This implies a need for targeted investments to ensure that the preservation efforts are sustainable and effective in the long term. Overall, successful preservation of oral history archives relies on fostering partnerships, empowering communities, and investing in the necessary resources and training.

4.6.2 Training or Capacity Building Programs for Staff Managing the Archives

Participants identified several training and capacity-building programs that would help staff manage the archives at the Ndere Cultural Center. The main areas they mentioned were data stewardship, legal compliance, and managing technical risks.

The center requires human capital trained in digital archival science. The staff should learn how to catalog oral histories using metadata schemas. In addition, they should be trained in data management and preservation practices, as well as in legal and regulatory requirements for archival management. (Interviewee 2).

This quote highlights that, effective archive management at the Ndere Cultural Center depends on building both technical competency and legal awareness among staff. Investing in these areas will strengthen the center's ability to preserve and safeguard its cultural heritage.

4.6.3 The Most Urgent Priority for Ndere Cultural Center

Respondents were asked to choose the most urgent priority for the Ndere Cultural Center from digitization, physical restoration, and metadata cataloging. The results are shown in Table 6 below:

Table 6: Showing the most Urgent Priority for Ndere Cultural Center

Most Urgent Priority for the Centre	Frequency	Percent
Digitization	34	55.7
Metadata cataloguing	13	21.3
Physical restoration	13	21.3
Software compatibility	1	1.6
Total	61	100.0

Source: *Field Data 2026.*

The results showed that most respondents (34; 55.7%) saw digitization as the top priority for the Ndere Cultural Center. Metadata cataloging and physical restoration were each chosen by 13 respondents (21.3%). Only one respondent (1.6%) picked software compatibility as the most urgent need.

4.6.4 The Need for a Digital Repository for Preserving Oral History

The findings revealed unanimous support for establishing a digital repository to preserve oral history at the Ndere Cultural Center. All 61 respondents (100%) agreed that a digital repository is needed to preserve oral history at the Ndere Cultural Center. No one disagreed.

4.6.5 Important Features for a Digital Repository

Respondents listed many important features for a digital repository to preserve oral history at the Ndere Cultural Center. The most common ones were easy search and retrieval, secure storage, a user-friendly interface, metadata tagging, support for multiple languages, restricted access for sensitive materials, offline or local access, and options for community contributions.

The key features identified by respondents include:

- a) Easy search and retrieval
- b) Secure storage
- c) User-friendly interface
- d) Metadata tagging
- e) Multi-language support
- f) Restricted access for sensitive materials
- g) Offline/local access
- h) Community contribution features

Respondents stressed that these features should be built into the repository as a whole, not added separately. Many suggested combining easy search and retrieval with secure storage and a user-friendly interface. Others pointed out the need for metadata tagging, support for multiple languages, restricted access for sensitive materials, offline or local access, and community contribution options. Overall, they preferred a repository that is secure, accessible, easy to use, and encourages both preservation and community involvement.

4.6.6 Importance of Involving Community Members in the Categorization of Oral History Archives

The respondents were asked about the importance of involving community members in categorizing oral history archives. The results are shown in Table 7 below:

Table 7: Showing the Importance of Involving Community Members in the Categorization of Oral History archives

	Frequency	Percent
Very important	36	59.0
Important	24	39.3
Not important	1	1.6
Total	61	100.0

Source: *Field Data 2026.*

As highlighted in Table 7 above, most respondents saw community involvement in categorizing oral history materials as very important. Thirty-six (59.0%) rated it as very important, 24 (39.3%) as important, and only one (1.6%) as unimportant. These results strongly support the inclusion of community members in the categorization process at the Ndere Cultural Center.

4.6.7 Willingness to Contribute to or Use a Digital Repository at Ndere Cultural Center

The respondents were asked about their willingness to contribute to or use the digital oral history repository at Ndere Cultural Center. The results are shown in Table 8 below:

Table 8: Showing the Willingness to Contribute to or Use a Digital Repository at Ndere Cultural Center

Willingness to Contribute to or Use a Digital Repository at the Centre	Frequency	Percent
Yes, as a contributor	34	54.8
Yes, as a user	24	38.7
Yes, as both a contributor and a user	1	1.6

No	2	3.2
Not sure	1	1.6
Total	62*	100*

Source: *Field Data 2026.*

4.6.8 Essential Metadata Fields for Effective Search and Retrieval of Archives

Respondents were asked which metadata fields are essential for users to search and retrieve oral history archives at the Ndere Cultural Center. The most common answers were performer name, instrument type, geographical origin, and language. The key metadata fields identified by respondents include:

- a) Performer name
- b) Instrument type
- c) Geographical origin
- d) Language

Respondents also said these metadata fields should be combined to improve the organization and discovery of archival materials. Common combinations included instrument type with geographical origin, geographical origin with language, performer name with language, performer name with instrument type, and using all four fields together.

4.6.9 Level of Public Access the Repository Should Provide

Regarding access, respondents were asked to indicate the level of public access to the digital repository of oral history archives at the Ndere Cultural Center. The results are shown in Table 4.10 below:

Table 9: Showing the level of public access the repository should provide

Level of Public Access the Repository Should Provide	Frequency	Percent
Open access	29	47.5

Restricted access for researchers	26	42.6
Internal access	6	9.8
Total	61	100.0

The results in table 9 above, show different preferences for public access to the digital repository. Most respondents (29; 47.5%) preferred open access, 26 (42.6%) wanted **restricted access for researchers**, and 6 (9.8%) preferred **internal access** only. Overall, respondents supported making the repository accessible, but they had differing views on how much access to allow.

4.6.10 Security Features Necessary to Protect the Intellectual Property Rights of Performers and the Center

Respondents were also asked which security features are needed to protect performers' intellectual property rights at the Ndere Cultural Center. They suggested a range of measures, including watermarking, digital signatures, end-to-end encryption, firewalls, access control systems, multi-factor authentication, trademarks, and time-based access controls.

The key security features identified by respondents include:

- a) Watermarking
- b) Digital signatures
- c) End-to-end encryption
- d) Firewalls
- e) Access control systems
- f) Time-based access controls
- g) Multi-factor authentication (MFA)
- h) Trademarks

Respondents also said that protecting intellectual property should use a mix of these security measures, not just one. Common combinations included end-to-end encryption with firewalls, watermarking with digital signatures, watermarking with access control systems and time-based controls, digital signatures with trademarks, and broader security frameworks that use several

measures. To check the digital repository's reliability and accessibility, respondents were asked about their confidence in using digital technology. The results are shown in Table 10 below:

Table 10: Showing the level of confidence in using digital technology to access archives

Confidence in Using Digital Technology to Access Archives	Frequency	Percent
Somewhat confident	26	42.6
Very confident	23	37.7
Not confident	11	18.0
Not sure	1	1.6
Total	61	100.0

As seen in Table 10 above, most respondents felt confident using digital technology to access archives. The largest group (26; 42.6%) were **somewhat confident**, 23 (37.7%) were **very confident**, 11 (18.0%) were not **confident**, and one (1.6%) was unsure. Overall, most showed a positive level of confidence in using digital technology for accessing archives.

4.6.11 Requirement for Training to Use a Digital Repository for Oral History

The respondents were asked whether they needed training to use the digital repository. The results are presented in Table 11 below:

Table 11: Showing the required training to use the digital repository of oral history archives

Would You Require Training to Use a Digital Repository for Oral History?	Frequency	Percent
Yes	47	77.0
No	14	23.0
Total	61	100.0

As displayed in Table 11, most respondents (47; 77.0%) said they need training to use a digital repository for oral history effectively, while 14 (23.0%) said they do not. These results show that building skills is important for improving access to, managing, and using a digital repository at the Ndere Cultural Center.

4.6.12 Reliable Internet Access at Home or Workplace

The respondents were asked about how reliable the internet was at their homes or workplaces for accessing the digital repository. The results are shown in Table 12 below:

Table 12: Showing whether the respondents have reliable internet access

Do You Have Reliable Internet Access at Your Home or Workplace?	Frequency	Percent
Yes	27	44.3
Sometimes	23	37.7
No	11	18.0
Total	61	100.0

Table 12 results show that respondents had different levels of reliable internet access at home or work. The largest group (27; 44.3%) had reliable access, 23 (37.7%) **sometimes** had reliable access, and 11 (18.0%) did not have reliable access. While most have at least some access, a significant number still face limited connectivity, which could affect their ability to use digital archives.

4.6.13 Local/Offline Access Points to Improve Use of the Digital Repository

The respondents were asked whether local/offline access points at Ndere Cultural Center would improve use of the digital repository. The responses are shown in Table 13 below:

Table 13: Showing how local/offline access points at Ndere Cultural Center would improve use

Response	Frequency	Percent
Yes	46	75.4
No	9	14.8
Not sure	6	9.8
Total	61	100.0

Table 13 results show that most respondents (46; 75.4%) thought that having local or offline access points at the Ndere Cultural Center would help them use the digital repository. Nine (14.8%) did not think it would help, and six (9.8%) were unsure. These results provide strong support for offline access as a means to improve repository use.

4.6.14 Expectations for the Repository's Interface

Regarding the repository interface, the respondents were asked to share their expectations as indicated in Table 14:

Table 14: Showing the expectations for the Repository's Interface

Expectations for the Repository's Interface	Frequency	Percent
Advanced filtering by cultural region	33	54.1
Simple search bar	17	27.9
Visual gallery	10	16.4
Simple search bar, advanced filtering by cultural region, and visual gallery	1	1.6
Total	61	100.0

Table 14: Showing the expectations for the Repository's Interface. Respondents had different expectations for the digital repository interface. Most (33; 54.1%) preferred advanced filtering by cultural region, 17 (27.9%) preferred a **simple search bar**, and 10 (16.4%) preferred a **visual gallery**. One respondent (1.6%) suggested combining all three features. Overall, respondents wanted interfaces that make it easy to navigate and to find materials, with advanced filtering and simple search options. The system should also be able to handle large audiovisual files for high-quality playback and efficient storage. Respondents were asked how the system should handle large audiovisual files to ensure good playback quality. They suggested a range of technical and practical solutions, focusing on high-quality playback, efficient storage, better retrieval, and long-term preservation of oral history materials. Overall, they recommended using modern storage technologies, efficient compression, strong metadata standards, reliable indexing, and good preservation practices. The recommendations are shown in Table 15 below:

Table 15: Showing the recommendations for the audio playback quality

<i>Streaming and playback optimization</i>	Adaptive streaming, Compressed streaming, Mobile streaming compression, Low-resolution playback for users with limited bandwidth, Web-friendly, lower-proxy files for online access, Multi-tier rendering to support different playback qualities, Bitrate capping to optimize streaming performance
<i>Compression and storage optimization</i>	Optimized compression, Batch compression, B-frame compression, Segmented encoding, File partitioning, storing large files in smaller segments or parts, Tiered storage to separate frequently accessed and archived files
<i>Storage infrastructure</i>	Local hosting, Local disk arrays, Local optical mirrors, Physical buffering, Server processing, Server-side rendering, Server transcode engines, appropriate software capable of efficiently managing large multimedia files.
<i>Metadata, indexing, and organization</i>	Metadata tagging, attachment, anchoring, detailed tagging, hierarchical cataloguing, decentralized indexing, local structural indexing, physical array indexing, high-bitrate indexing, general indexing of archive materials, schema field mapping, segmented mapping, JSON sidecar files, XML schema parsing.
<i>Preservation and data integrity</i>	Analog preservation for original source materials., high-fidelity ingest during digitization, automated ingestion of digital files, automated file verification, automated scripting to support system management, raw backups, sub-master preservation to maintain archival-quality copies.
<i>Navigation and retrieval</i>	Providing timelines or dividing recordings into specific intervals, such as seconds or minutes, to allow users to quickly navigate to particular sections of recordings and improve retrieval efficiency.

Overall, respondents recommended implementing an integrated digital repository that combines efficient streaming, advanced compression, scalable storage infrastructure, comprehensive

metadata and indexing, robust preservation mechanisms, and user-friendly navigation. These measures aim to ensure that large audio-visual files remain accessible, searchable, secure, and of high playback quality while optimizing storage efficiency.

4.6.15 Long-Term Maintenance Protocols for the Repository

The respondents were asked about the long-term maintenance protocols they envisage for the digital repository. The responses are captured in Table 16 below:

Table 16: Showing long-term maintenance protocols for the digital repository

Long-Term Maintenance Protocols for the Repository	Frequency	Percent
Cloud backups	48	78.7
Periodic data migration	13	21.3
Total	61	100.0

The findings revealed that respondents identified **cloud backups** and **periodic data migration** as the key long-term maintenance protocols for the proposed digital repository. The majority of respondents (48; 78.7%) recommended using **cloud backups** to ensure the long-term preservation, security, and availability of oral history archives. Meanwhile, 13 (21.3%) respondents suggested **periodic data migration** as an essential maintenance practice to prevent data loss and ensure continued compatibility with evolving technologies. Overall, the results indicate that respondents consider regular cloud-based backups and scheduled data migrations to be fundamental strategies for sustaining the repository's long-term accessibility and preservation.

4.6.16 Perceptions on Digital Preservation and Access to Oral History

The respondents were asked about the perceived benefits and impact of digitizing the oral history archives. The results are shown in Table 17 below:

Table 17: Showing the perceptions on digital preservation and access to oral history archives

Variable	Yes	No	Not sure	Total

Digitising oral history will help preserve cultural heritage for future generations	61 (100.0%)	0 (0%)	0 (0%)	61 (100.0%)
Digital repository will increase access to Ugandan cultural heritage	61 (100.0%) *	0 (0%)	0 (0%)	61 (100.0%)
Digital repository will make it easier for educators and researchers to use oral history materials	59 (96.7%)	0 (0%)	2 (3.3%)	61 (100.0%)
Concerns about privacy or access control in a digital repository	37 (60.7%)	24 (39.3%)	0 (0%)	61 (100.0%)
Access to sensitive or sacred oral histories should be restricted	37 (60.7%)	24 (39.3%)	0 (0%)	61 (100.0%)

Digitizing oral history will help preserve cultural heritage for future generations.

All respondents (61; 100.0%) agreed that digitizing oral history will help preserve cultural heritage for future generations, reflecting unanimous consensus on the importance of digitization as a long-term preservation strategy.

A digital repository will increase access to Ugandan cultural heritage.

All respondents (61; 100.0%) agreed that a digital repository will enhance access to Ugandan cultural heritage, demonstrating complete consensus on the role of digital systems in improving accessibility and cultural dissemination.

A digital repository will make it easier for educators and researchers to use oral history materials.

The findings revealed that the vast majority of respondents (59; 96.7%) believed that a digital repository. The vast majority of respondents (59; 96.7%) believed that a digital repository would facilitate easier use of oral history materials by educators and researchers. Only two respondents (3.3%) were unsure, indicating strong support for the academic and research benefits of digitized archives. Regarding privacy and access control. A total of 37 (60.7%) respondents indicated concerns about privacy or access control in a digital repository, while 24 (39.3%) reported no such concerns. This suggests that although privacy issues are significant, they are not universally perceived as problematic.

Access to sensitive or sacred oral histories should be restricted.

The findings revealed that a majority of respondents (37; 60.7%) supported restricting access to sensitive or sacred oral histories, while 24 (39.3%) disagreed. This indicates a general preference for controlled access to protect culturally sensitive materials.

There is unanimous support for a digital repository, with key features including searchability, security, metadata, community involvement, and multilingual support. Community participation in categorization is considered very important. This concurs with Ernston and Nilsson (2022), who emphasize participatory, community-centered design in digital repositories. Jenkins (2018) advocates for user-friendly, secure, and metadata-rich systems to enhance accessibility and contextual integrity. While the findings suggest high community involvement, Liu (2025) emphasizes that community participation must be carefully managed to prevent misclassification and ensure cultural sensitivity. The literature also emphasizes the importance of capacity building to enable communities to contribute effectively (Zikusooka & Kalikoli, 2025). The findings explain the need for a participatory, culturally sensitive, and technically robust design, principles that are well supported in the scholarly discourse on digital heritage repositories.

CHAPTER FIVE: SYSTEM DESIGN AND DEVELOPMENT

5.1 Introduction

The chapter presents the design and development of the digital repository system specifically built for Ndere Cultural Centre. This repository is aimed at addressing the challenges related to accessing and managing the oral history archives. With the growing need for digital access to oral history archives, the system is delivered as a single full-stack web application. It combines a public-facing website for browsing and searching cultural records with a protected administrator dashboard for content management. The two areas share one codebase and one database, which keeps the solution consistent, maintainable and easy to deploy. To ensure usability and aesthetic coherence, HTML and CSS were used to customize and enhance the user interface and layout of the repository system. The system supports multiple functionalities that include document uploading, user management, metadata assignment, search and retrieval, plus security control. The repository accommodates two main user roles, namely administrators and public.

Administrators are responsible for uploading the oral history archives, enriching them with metadata, creating and processing them from the backend of the repository, while the public interface is to search for, view, and download the oral history archives <https://ndere.org>. The following sections explain the different parts of the repository with the help of annotated screenshots that illustrate the structure, functionality, and usability of the system.

This summarizes the technologies, architecture and design decisions used to build the Ndere Archives digital heritage platform. The application is a modern, responsive web system that preserves and provides public access to Uganda's traditional storytelling, music, dance, drama and oral history, alongside a secure administrative area for managing archive content.

Front-End Technologies

- React: A component-based user-interface library used to build all interactive screens, including the search bar, filters, media players and admin forms.
- Next.js (App Router): A production React framework providing server-side rendering, file-based routing, and optimised page delivery for fast, SEO-friendly pages.

- CSS: A utility-first styling framework used to implement the clean, minimal, card-based layout and the green (#2E7D32) and yellow (#F9A825) colour palette across the site.
- Responsive Design: Layouts adapt from a single column on mobile devices to multi-column grids on tablets and desktops, ensuring usability on any screen size.
- Back-End Technologies
- Server-side API Layer: A set of RESTful API endpoints handles authentication, record creation, editing, deletion, search, filtering and dashboard statistics.
- Node.js Runtime: The server logic executes in a Node.js environment, giving a unified JavaScript/TypeScript stack across the front and back end.
- TypeScript: The entire codebase is written in TypeScript for type safety, clearer code and fewer runtime errors.
- Database and Data Access
- Relational Database: A structured relational database stores users, regions and archive records with clearly defined fields and relationships. PHP, MySQL
- Data Model: Core tables cover Users (administrators), Regions, and ArchiveRecords (title, region, district, cultural group, performance type, language, descriptions, transcript, media paths, recording date and publication status).
- Authentication and Security
- JWT Authentication: Administrators sign in with an email and password. A signed JSON Web Token (JWT) is issued on successful login and stored in a secure, HTTP-only cookie.
- Password Hashing: Account passwords are never stored in plain text; they are hashed using the bcrypt algorithm before being saved.
- Media and File Handling
- Multimedia Support: Records support photographs, audio recordings and video, presented through in-browser image display and HTML5 audio and video players.
- File Uploads: Administrators can upload media through the record management forms; uploaded files are stored and referenced by each record.
- Transcripts: Written transcripts are stored with each record and can be downloaded by the public for reading and study.

Search and Discovery

The platform offers full-text style search across record titles, performers, cultural groups and descriptions, combined with filters for region, performance type and language. Visitors can also browse by region or by performance type. All search and filter parameters are reflected in the page address, so result pages can be shared or bookmarked.

Architecture Summary

- Presentation Layer: React components rendered through Next.js.
- Application Layer: Server-side API routes implementing business logic and validation.
- Data Layer: Prisma ORM communicating with the relational database.
- Security Layer: JWT sessions, hashed passwords and protected admin routes.

Hosting and Deployment

The application is deployed to a managed cloud hosting platform that builds the project, provisions the database, and serves the site over a public web address. This provides live preview, straightforward redeployment of updates, and reliable availability without the need to manage physical servers.

The chosen stack React and Tailwind CSS on the front end, a Node.js/TypeScript API layer, and a relational database accessed through Prisma delivers a clean, responsive and maintainable digital archive. The design prioritises usability, functional search, straightforward content management and clear multimedia presentation, demonstrating how technology can preserve and widen access to Uganda's rich cultural heritage.

Figure 5 showing the User Interface.

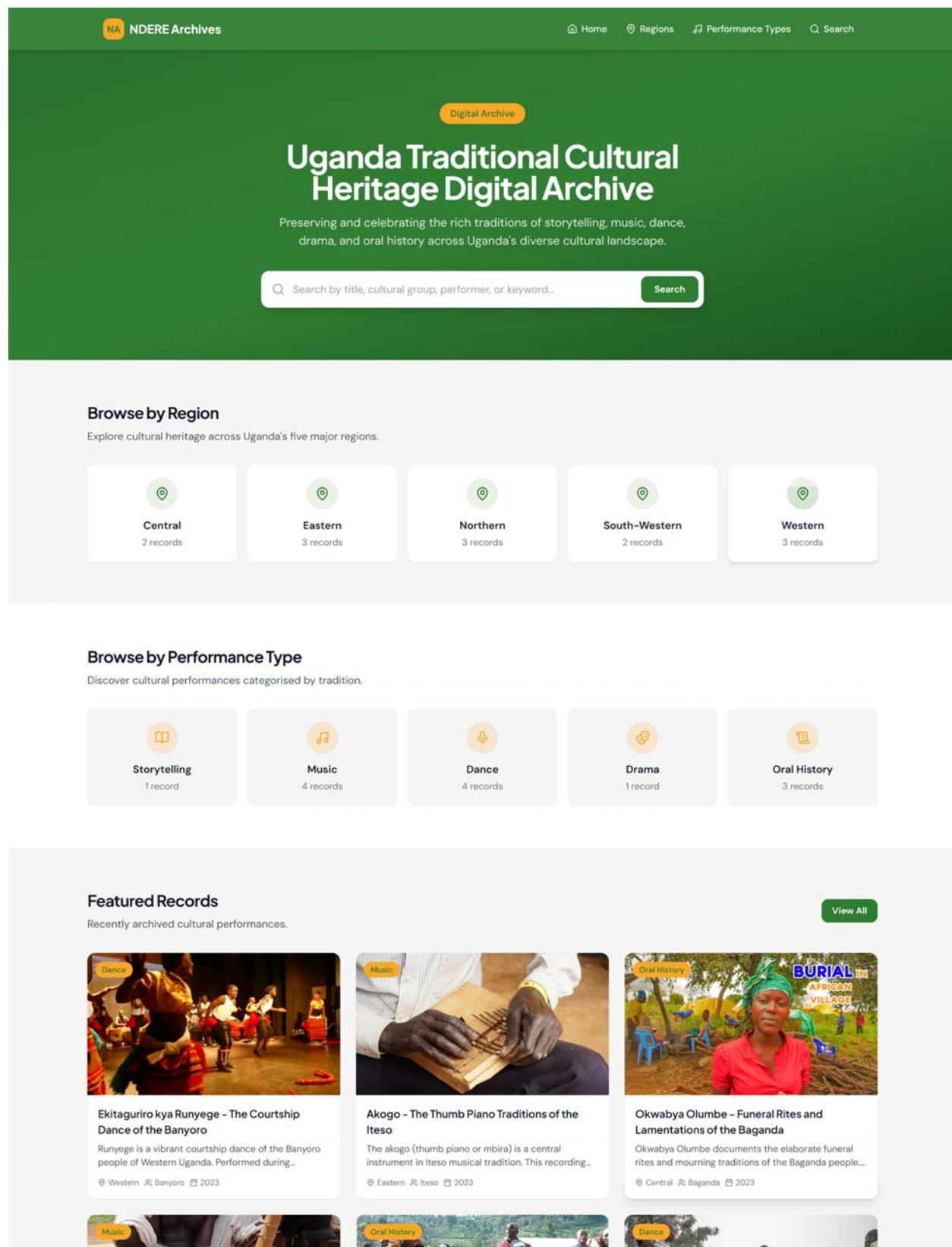


Figure 5 Above illustrates the user interface of the digital repository

The figure above illustrates the user interface of the digital repository. This interface acts as a gateway through which users access all features of the system. It has been designed with clarity and simplicity in mind, offering navigation menus and quick access features that cater for both novice and experienced users.

The home page includes buttons and tabs such as login, help, download, about us and search. Each of these features is strategically positioned to allow seamless interaction with the system and it also maintains a consistent layout across pages, improving the overall user experience.

The login function restricts access to sensitive parts of the repository, ensuring that only registered users, such as the administrators, can interact with the oral history archives. The help section provides detailed guidance on how to use the system, including instructions, tips, and answers to frequently asked questions (FAQs).

The search bar allows users to find documents using keywords such as performer name, instrument, geographical origin and language making it easier to locate the archives. Lastly, the preference button enables administrators to set the visual themes of the repository.

Figure 6: User Login Interface

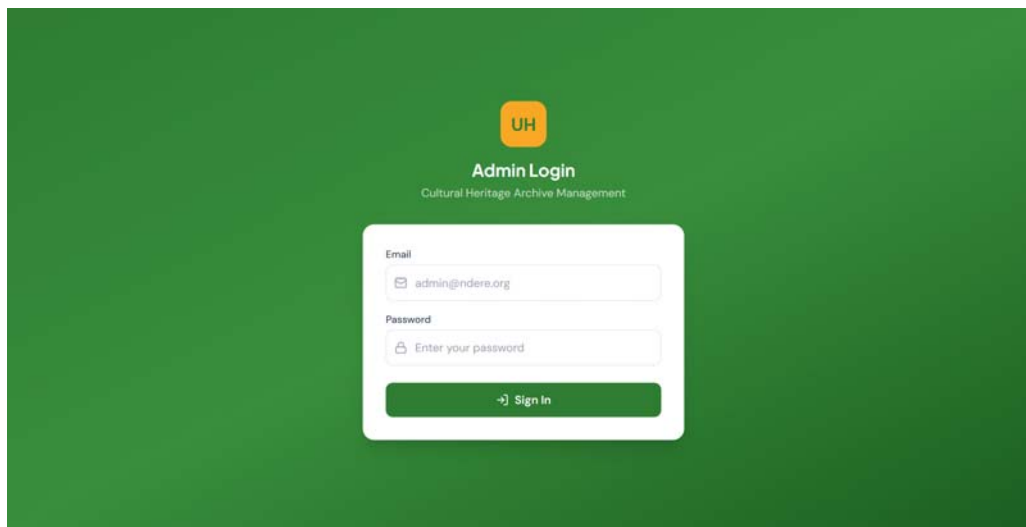
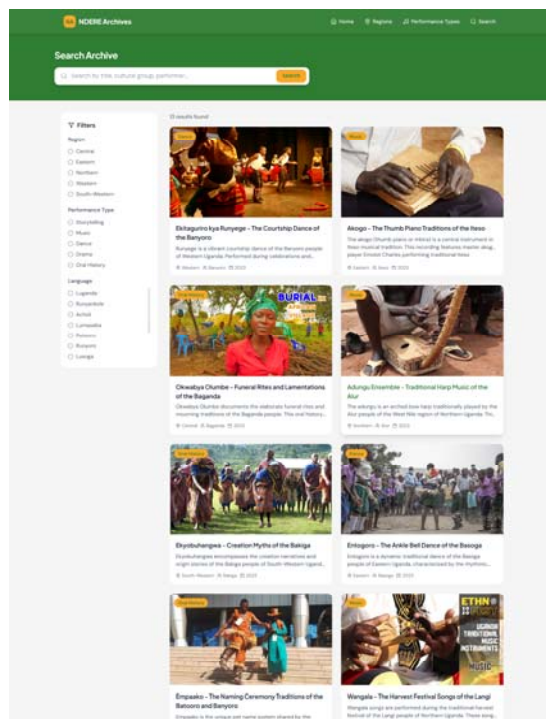


Figure 6 Above shows the user login screen

The figure above shows the user login screen, which plays a role in maintaining the security and integrity of the digital repository. The screen ensures that only authorized users can access specific features based on their roles. Administrators use this interface to enter credentials and gain backend access, where use they can manage documents, upload files and control user papers, depending on their granted permissions. This approach protects sensitive data and ensures accountability within the system.

The login system is built using a role-based control model, which assigns different privileges depending on the user's group. For example, while students may be restricted to viewing and downloading, administrators are granted more advanced system functionalities such as user management and meta enrichment. This segregating of roles helps to streamline operations and reduces the risk of un authorized modification.

Figure 7 Above displays the advanced search interface



The figure above displays the advanced search interface, which enhances the user's ability to perform refined and targeted searches within the digital repository. Unlike the basic search bar, this interface includes multiple filters and parameters that allow users to tailor their search queries to specific needs. For instance, users can specify the granularity of the search-choosing whether to search within entire repository or within specific metadata fields such as cultural region, visual gallery, among others.

This feature also provides sorting options that allow users to organise search results based on relevance, or other metadata fields.

Figure 8: Administrator Page

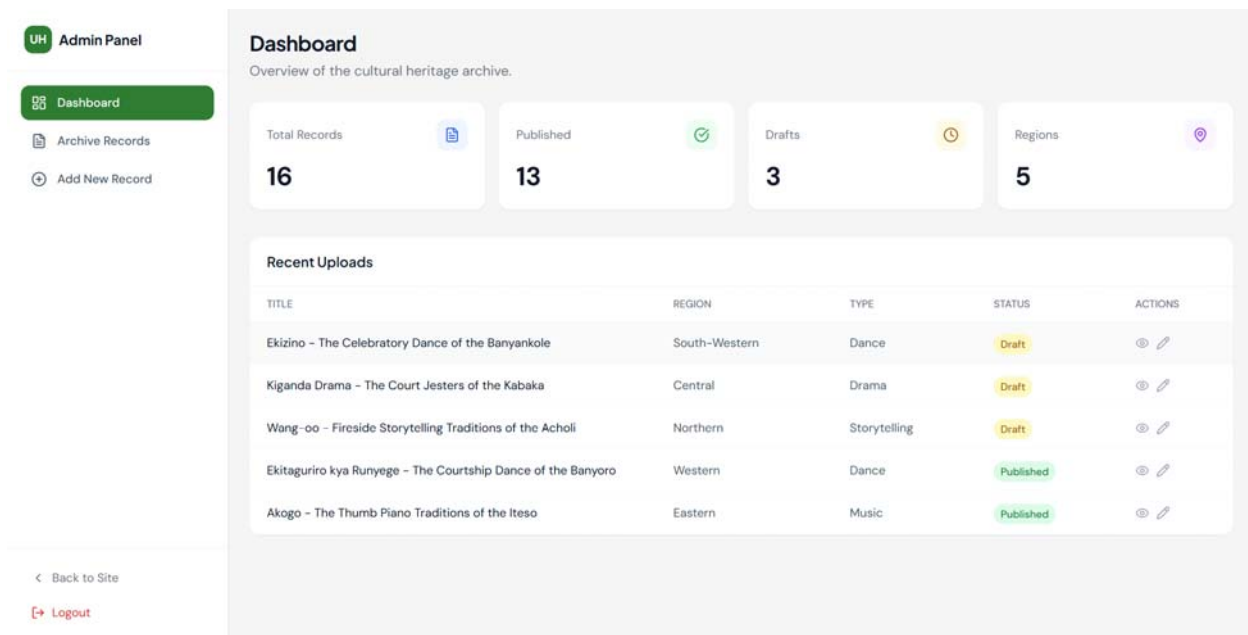


Figure 8 above represents the administrator interface, which is a back end control interface used to manage user accounts and monitor repository activity. This page displays a list of registered users along with their associated details such as usernames, group roles (for example, administrator, User), account status (active or inactive), and any comments associated with their accounts. Through this interface, administrators can perform various user management tasks, including creating new users, editing user details, resetting passwords, and removing obsolete accounts.

Each functionality is accompanied by dedicated buttons for quick access, such as Edit, Delete, and Add New user. These controls ensure that only authorised individuals can access the system and that their permissions are appropriate to their roles. The comment section provides a space to log changes such as password updates.

5.2. System Testing

After the design and development of the digital repository, the system underwent comprehensive testing to ensure it met both functional and non-functional requirements. Functional testing was carried out to verify that all core features, including user login, advanced search, document viewing, downloading, metadata enrichment, and administrative controls this operated correctly as intended.

Test cases were designed for each user role (Performer, and administrators), simulating realistic scenarios such as uploading performances, performing keyword searches, and managing user accounts. Additionally, the security features like role-based access control and password protection, were tested to confirm that only authorised users could access sensitive functions and content. The errors discovered during the test stage were corrected promptly to guarantee the stability and reliability of the repository.

Non-functional testing focused on evaluating system performance, usability, and compatibility. The system was tested across multiple devices (desktop computers, laptops) and different web browsers to confirm that the user interface remained consistent and responsive. Load testing was conducted to ensure how the repository handled multiple users, ensuring that the system could support the expected number of students accessing past examination papers during peak academic periods. Furthermore, usability testing involved feedback sessions with a sample of staff at Ndere Cultural Centre, and their feedback was used to refine navigation flows, adjust layout elements, and enhance overall user experience. The testing process helped to ensure that the repository would provide a secure, efficient, and user friendly platform for accessing oral history archives at Ndere Cultural Centre.

5.3. System Evaluation

After testing, the digital repository was evaluated to determine if it met its intended objectives and to measure its overall effectiveness. The evaluation focused on several key areas, including usability, performance, security, and user satisfaction. Feedback was collected from staff members who used the system to search, view, and download oral history archives. Out of the 62 respondents, 40 respondents reported that the system was easy to navigate, visually clear, and helpful in accessing the archives effectively and efficiently. The administrators also found the backend functions, such as document uploading and user management to be straightforward and efficient. Security was confirmed to be strong with proper controls preventing unauthorized access.

Overall, the evaluation showed that the digital repository successfully achieved its goals of improving access to oral history archives, and streamlining administrative tasks. The positive results indicated that the system is a valuable to Ndere Cultural Centre and the general public.

CHAPTER SIX: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

6.1 Introduction

The chapter provides a comprehensive summary, conclusions drawn from research findings, and practical recommendations for the successful implementation and sustainability of the designed digital repository for Ndere Cultural Centre. Furthermore, the chapter provides conclusions drawn from the findings and offers recommendations based on the study to enhance the preservation and management of oral history archives.

6.2 Summary

The topic of the study was to design a digital repository for the oral history archives for Ndere Cultural Centre. The motivation for the study originated from the challenges encountered in accessing the oral history. Before the project, access to the oral history archives physically from the library, a process that was time-consuming, and the physical deterioration of documents. The study employed a mixed methods research approach; data were collected using interviews, questionnaires, observation, and document reviews. A total of 62 respondents, including performers, curators, and administrators, were involved in the study.

According to the findings, the majority of respondents expressed frustration with the limited access to oral history archives. The staff strongly supported the idea of an online platform that would allow easy access.

The researchers designed a system using HTML and CSS to create a user-friendly interface. The system is delivered as a single full-stack web application. It combines a public-facing website for browsing and searching cultural records with a protected administrator dashboard for content management. The two areas share one codebase and one database, which keeps the solution consistent, maintainable and easy to deploy.

The repository supports user login, advanced search functionalities, and metadata tagging, and it was evaluated by stakeholders and received positive feedback on its usability, functionality, and value to Ndere Cultural Centre and the general public.

6.3 Conclusion

Based on the research findings and the successful design and testing of the digital repository, the study reached several key conclusions:

The Ndere Cultural Center possesses valuable and diverse oral history archives that require improved preservation strategies. Although digital preservation efforts exist, they remain constrained by technological, financial, and institutional challenges. The findings strongly support establishing a secure, user-friendly, and community-centered digital repository. Strengthening digital preservation infrastructure, staff capacity, and stakeholder participation will enhance the long-term preservation, accessibility, and sustainability of Uganda's oral history archives for future generations.

6.3 Recommendations

To ensure the effectiveness and sustainability of the digital repository at Ndere Cultural Centre, the following recommendations are made:

1. The Ndere Cultural Center should develop and implement a comprehensive digital repository for the long-term preservation and retrieval of oral history archives.
2. The Center should prioritize digitizing analog tapes, handwritten transcripts, photographs, and other archival materials that are vulnerable to physical deterioration and technological obsolescence.
3. Standardized and flexible metadata and classification systems should be adopted to improve the organization, retrieval, and management of oral history materials.
4. Regular training and capacity-building programs should be provided to staff in digital preservation, metadata management, records management, and repository administration.
5. The Center should invest in modern digital preservation infrastructure, including reliable hardware, software, storage facilities, internet connectivity, and backup systems.
6. Community members, cultural leaders, performers, researchers, and other stakeholders should be actively involved in the documentation, categorization, validation, and preservation of oral history archives.
7. The Ndere Cultural Center should establish partnerships with government institutions, universities, cultural organizations, and development partners to mobilize technical, financial, and professional support.

8. Comprehensive policies and guidelines on digitization, metadata standards, access control, intellectual property rights, cybersecurity, and long-term digital preservation should be developed and implemented.
9. The repository should be continuously updated with new content by collecting, digitizing, and uploading performances to ensure that the repository remains current and relevant.
10. Sustainable maintenance practices, including cloud backups, periodic data migrations, routine system updates, and regular monitoring, should be adopted to ensure the repository's long-term accessibility and security.
11. Raise awareness and promote the digital repository through posters, workshops, and demonstrations to boost its usage.

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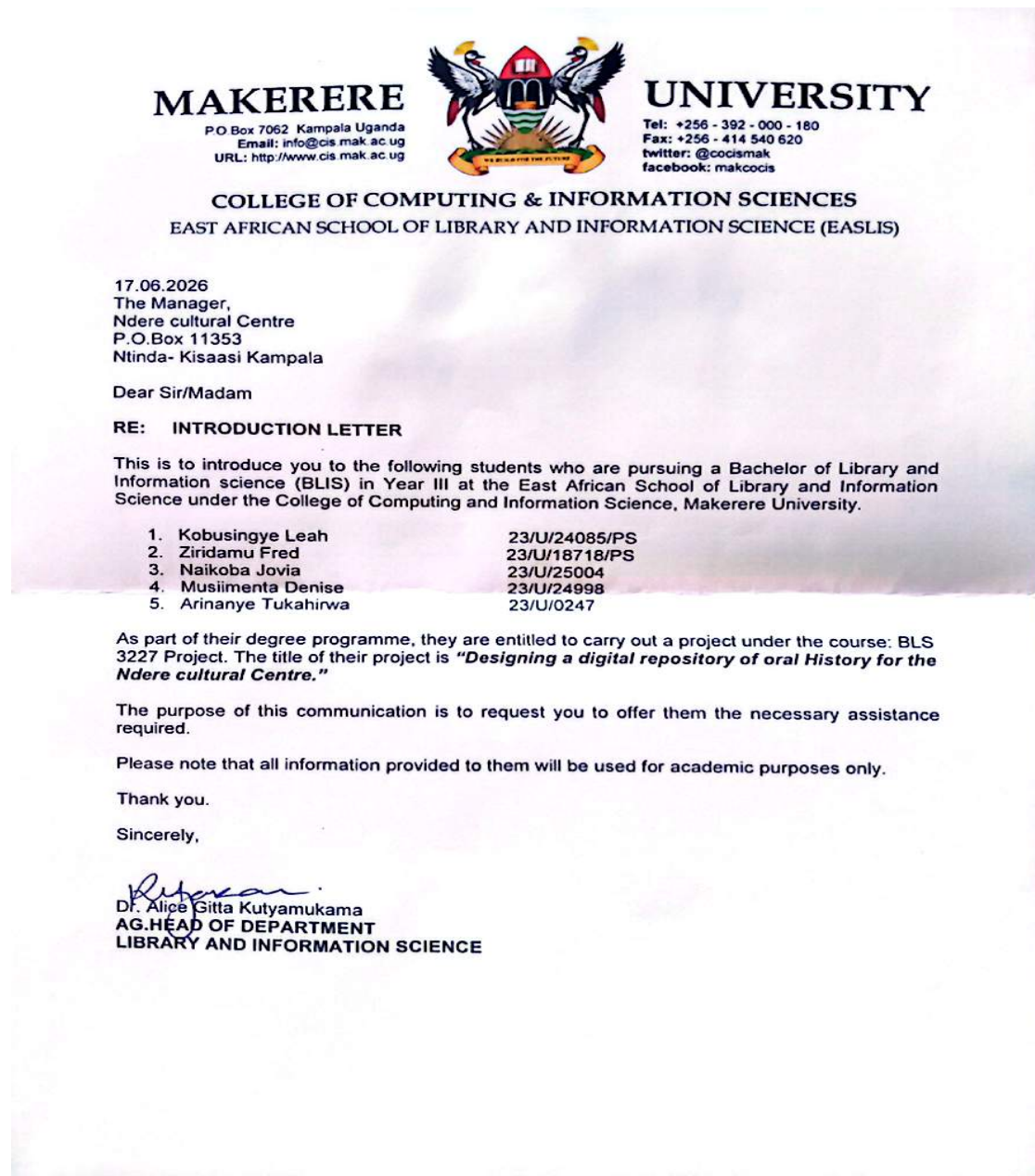
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Appendices

Appendix I: Introductory Letter from the East African School of Library and Information Science, Makerere University



Appendix II: Permission to Conduct Research at Ndere Cultural Centre

Dear Sir,

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

We are a group of students from the College of Computing and Information Sciences, East African School of Library and Information Science, Makerere University. We are undertaking a project on designing a digital repository of oral history for Ndere Cultural Centre. This project is in partial fulfillment for the Award of a Degree of Bachelor of Library and Information Science. We are supervised by **Ms. CHRISTINE KICONCO**. We hereby request your permission to collect data on the proposed research project. As part of the project, we intend to design a digital repository for archiving the oral histories of the Ndere Cultural Centre.

Yours faithfully,

Appendix II: Informed Consent Form for Participation in the Ndere Oral History Digital Repository Project

Project Title: Designing a Digital Repository for the Ndere Cultural Centre

Purpose: To document, preserve, and provide access to the cultural heritage of the Ndere Cultural Centre.

Researchers: Group 29

Name of the Institution: Makerere University

Rights of the Narrator:

- a) I hereby confirm that I have been informed by the researchers about the nature of the study.
- b) I understand that my participation is voluntary.
- c) I have the right to withdraw from the project at any time before the final deposit.
- d) I grant permission for my audio/visual recordings to be stored in a digital repository.
- e) I understand that I retain the moral rights to the content, and the Centre will use it for educational/archival purposes.
- f) I may request the withdrawal of specific segments if they contain sensitive cultural knowledge.
- g) I am aware that the information I give will be anonymously processed in this study.
- h) I agree that the data collected during this study can be processed in a computerised system by the researchers.
- i) I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.

Signature/Thumbprint:Date.....

Appendix III: Questionnaire for the Ndere Cultural Centre Oral History Project

The questionnaire is designed to be administered to archivists, cultural performers, and administrative staff at the Ndere Cultural Centre.

Project Title: Designing a Digital Repository for the Ndere Cultural Centre

Purpose: To conduct needs assessment and requirements for the project.

Section A: Background Information

1. Gender: **Male** ☐ **Female** ☐
2. Age group: **Below 20** ☐ **20–29** ☐ **30–39** ☐ **40 and above** ☐
3. Role: **Cultural performer** ☐ **Curator** ☐ **Administrator** ☐ **Technical staff** ☐ **Other** ☐
(Please Specify).....
4. What is your primary role in relation to the Ndere Cultural Centre?
 - o ☐ Performer
 - o ☐ Elder/Oral Historian
 - o ☐ Staff Member
 - o ☐ Community Member
 - o ☐ Researcher/Educator
 - o ☐ Other (please specify)
5. How long have you been involved with the Ndere Cultural Centre?
 - a. ☐ Less than 1 year
 - b. ☐ 1–3 years
 - c. ☐ 4–6 years
 - d. ☐ Over 6 years

Section B: Availability and Types of Oral History Archives

6. Are you aware of the oral history archives available at the Ndere Cultural Centre?
 - a. ☐ Yes
 - b. ☐ No

7. Which types of oral history materials are you familiar with at the Centre? (Select all that apply)
- a. ☐ Audio recordings
 - b. ☐ Video recordings
 - c. ☐ Transcripts
 - d. ☐ Written stories
 - e. ☐ Photographs
 - f. ☐ Other (please specify)
8. Please list the primary formats of oral history materials currently held at the Centre
- ☐ Analogue tapes,
 - ☐ Digital files,
 - ☐ Handwritten transcripts,
 - ☐ Photographs
 - ☐ Other, please specify
9. How are these materials currently categorised?
- ☐ By ethnic group
 - ☐ Musical genre
 - ☐ Historical event
 - ☐ Chronological order
 - ☐ Other, please specify
10. Are there specific collections that are considered "at-risk" due to physical degradation or format obsolescence? Please specify.
- ☐ Analogue tapes,
 - ☐ Digital files,
 - ☐ Handwritten transcripts,
 - ☐ Photographs

- ☐ Other, please specify

11. How would you rate the diversity of oral history content at Ndere Cultural Centre?

- a. ☐ Very diverse
- b. ☐ Somewhat diverse
- c. ☐ Not diverse
- d. ☐ Not sure

Section C: Current State of Preservation

12. Are the oral history materials at Ndere Cultural Centre systematically categorized?

- a. ☐ Yes
- b. ☐ No
- c. ☐ Not sure

13. In your opinion, how adequate is the current state of preserving oral history at the Centre?

- a. ☐ Very adequate
- b. ☐ Somewhat adequate
- c. ☐ Not adequate
- d. ☐ Not sure

14. Are digital preservation methods currently used at the Centre?

- a. ☐ Yes
- b. ☐ No
- c. ☐ Not sure

15. What are the most significant technical barriers you face in maintaining the current archives?

- ☐ Lack of hardware
- ☐ Climate control
- ☐ Software compatibility
- ☐ Financial constraints
- ☐ Limited staff expertise

- ☐ Ethical challenges
- ☐ Other, please specify

Section D: Challenges in Preserving Oral History

16. Have you encountered any challenges in accessing or preserving oral history archives at the Centre?

- ☐ Yes
- ☐ No

17. Which of the following challenges have you observed? (Select all that apply)

- a. ☐ Physical deterioration (e.g., tapes, CDs, DVDs)
- b. ☐ Obsolete recording technology
- c. ☐ Lack of digital backups
- d. ☐ Limited access to archives
- e. ☐ Security or privacy concerns
- f. ☐ Lack of staff training
- g. ☐ Insufficient funding/resources
- h. ☐ Other (please specify)

18. To what extent do you agree that younger generations are disengaged from oral history traditions?

- a. ☐ Strongly agree
- b. ☐ Agree
- c. ☐ Neutral
- d. ☐ Disagree
- e. ☐ Strongly disagree

Section E: Strategies for Overcoming Challenges

19. What institutional partnerships do you believe would best support the preservation of these archives?

- ☐ Universities
- ☐ Government

- ☐ Cultural bodies
- ☐ Communities
- ☐ Other, please specify

20. What training or capacity-building programs would be most beneficial for the staff currently managing the archives?

- ☐ Data stewardship,
- ☐ Legal compliance
- ☐ Technical risk mitigation
- ☐ Other, please specify

21. In your view, what is the most urgent priority for the Centre: digitization, physical restoration, or metadata cataloguing?

.....

Section F: Strategies and Requirements for Digital Repository

22. Do you think a digital repository is needed for preserving oral history at Ndere Cultural Centre?

- ☐ Yes
- ☐ No
- ☐ Not sure

23. Which features do you consider important for a digital repository? (Select all that apply)

- a. ☐ Easy search and retrieval
- b. ☐ Secure storage
- c. ☐ User-friendly interface
- d. ☐ Multi-language support
- e. ☐ Metadata tagging
- f. ☐ Restricted access for sensitive materials
- g. ☐ Community contribution features
- h. ☐ Offline/local access

24. How important is it to involve community members in the categorization of oral history materials?

- a. ☐ Very important
- b. ☐ Important
- c. ☐ Not important
- d. ☐ Not sure

25. Would you be willing to contribute to or use a digital oral history repository at the Centre?

- a. ☐ Yes, as a contributor
- b. ☐ Yes, as a user
- c. ☐ No
- d. ☐ Not sure

26. What specific metadata fields are essential for your users to effectively search and retrieve these archives?

- ☐ Performer name
- ☐ Instrument type
- ☐ Geographical origin
- ☐ Language
- ☐ Other, please specify

27. What level of public access should the repository provide?

- ☐ Open access
- ☐ Restricted access for researchers
- ☐ Internal access
- ☐ Other, please specify

28. What security features are necessary to protect the intellectual property rights of the performers and the Centre?

- ☐ End-to-end encryption

- o Watermarking
- o Content recognition algorithms
- o Access control systems and time-based controls
- o Firewalls
- o Digital signatures
- o Trademarks
- o Multi-factor authentication (MFA)
- o Other, please specify

Section G: Usability, Access, and Training

29. How confident are you in using digital technology (computers, internet) to access archives?

- o ☐ Very confident
- o ☐ Somewhat confident
- o ☐ Not confident
- o ☐ Not sure

30. Would you require training to use a digital repository for oral history?

- a. ☐ Yes
- b. ☐ No
- c. ☐ Not sure

31. Do you have reliable access to the internet at your home or workplace?

- a. ☐ Yes
- b. ☐ No
- c. ☐ Sometimes

32. Would local/offline access points at the Centre improve your ability to use the digital repository?

- a. ☐ Yes
- b. ☐ No
- c. ☐ Not sure

33. What are your expectations for the repository's interface?

- ☐ Simple search bar
- ☐ Advanced filtering by cultural region, or
- ☐ Visual gallery
- ☐ Other, please specify

34. How should the system handle large audio-visual files to ensure high-quality playback while maintaining efficient storage?

.....

35. What long-term maintenance protocols do you envision for the repository?

- ☐ Periodic data migration
- ☐ Cloud backups
- ☐ Other, please specify

Section H: Perceived Benefits and Impact

36. Do you believe that digitizing oral history will help preserve cultural heritage for future generations?

- ☐ Yes
- ☐ No
- ☐ Not sure

37. To what extent do you agree that a digital repository will increase access to Ugandan cultural heritage?

- a. ☐ Strongly agree
- b. ☐ Agree
- c. ☐ Neutral
- d. ☐ Disagree
- e. ☐ Strongly disagree

38. Do you think a digital repository will make it easier for educators and researchers to use oral history materials?

- a. ☐ Yes
- b. ☐ No

- c. ☐ Not sure

Section I: Ethics and Confidentiality

39. Do you have concerns about privacy or access control in a digital repository for oral history?

- a. ☐ Yes
b. ☐ No

40. Should access to sensitive or sacred oral histories be restricted to specific community members?

- a. ☐ Yes
b. ☐ No
c. ☐ Not sure

Appendix IV: Interview Guide for Staff and Elders

Project Title: Designing a Digital Repository for the Ndere Cultural Centre

Purpose: To gather qualitative data from staff and elders.

Introduction: Establish rapport; explain the purpose of the repository and the importance of the narrator's voice.

Biographical Background: "Could you tell me about your early life and how you first became involved in [specific art form]?"

Section 1: Current State (Objective 1 & 2)

- Please tell me about the oral history archives currently held at the Ndere Cultural Centre?
- How are the oral history archives managed?
- What challenges are experienced (e.g., physical decay, loss of knowledge holders, lack of technology)?

Section 2: Strategies for Preservation (Objective 3)

- What resources (financial, technical, or human) are needed to better protect these materials?
- How can the community be involved in the preservation process?

Section 3: Repository Requirements (Objective 4 & 5)

- Who should have access to the repository (e.g., public, researchers, only Centre staff)?
- What metadata is most important to include (e.g., performer name, tribe, musical instrument, historical context)?
- What features would make the repository easy for staff to use?
- How will the repository manage intellectual property and cultural ownership of recorded voices?

Reflective Closing:

Is there anything else you would like to share that we haven't covered today?

Thank you for sharing your experiences!

Appendix V: Observation Checklist

Project Title: Designing a Digital Repository for the Ndere Cultural Centre

Purpose: To assess the current state of physical archives

Things to observe:

Environmental Context: Location, time of day, and physical setting (e.g., outdoor stage, indoor studio).

Participants: List of performers, audience members, and their relationship to the narrator.

Non-Verbal Cues: Gestures, dance movements, or instrumental techniques that accompany the narrative.

Technical Metadata: Recording equipment used, microphone placement, and ambient noise levels.

Category	Observation Items	Status (Good/Fair/Poor)
Storage environment	Temperature control, humidity, dust, light exposure	
Physical Media	Condition of tapes, CDs, hard drives, or paper files	
Organisation	Presence of a catalog, index, or metadata system	
Accessibility	Ease of finding a specific file or performance	
Infrastructure	Availability of computers, servers, or internet	

Appendix VI: User Guide

Project Title: Designing a Digital Repository for the Ndere Cultural Centre.

Purpose: Guide on the use of the Ndere Archives platform.

Ndere Archives – Uganda Traditional Cultural Heritage Digital Archive

This guide provides a summarised walkthrough of the Ndere Archives platform for both public visitors (front-end users) and administrators. It explains how to browse, search and view cultural records, and how to manage archive content through the admin dashboard.

Part A – Front-End (Public Users)

No registration or login is required to use the public archive. Anyone can browse, search and view records freely.

A1. Home Page

View the project title and a short introduction to the archive.

Use the large search bar to look for stories, performers, regions or keywords.

Browse quick links for “Browse by Region” and “Browse by Performance Type”.

Explore the “Featured Cultural Records” section of highlighted entries.

A2. Searching the Archive

Type a keyword (story title, performer, region, cultural group) into the search bar.

Press the Search button to open the Search Results page.

Use the sidebar filters to narrow results by Region, Performance Type or Language.

Click any record card to open its full detail page.

A3. Browsing by Region and Performance Type

Browse by Region lists all Ugandan regions; select one to see its records.

Browse by Performance Type covers Storytelling, Music, Dance, Drama and Oral History.

Selecting a category displays all matching published records as cards.

A4. Viewing an Archive Record

Each record's detail page displays the full information for that entry, including:

Title, Region, District, Cultural Group, Performance Type and Language.

Description, Historical Background, Story Summary and Cast Members.

The full written Transcript, with an option to download it.

A photograph, an audio player and a video player for the recording.

The date recorded and a list of related records to explore next.

Part B – Admin Dashboard (Administrators)

Administrators manage all archive content through a secure, password-protected dashboard.

B1. Logging In

Go to the /admin/login page of the site.

Enter your administrator email and password.

On success you are taken to the Admin Dashboard. Use the Logout button when finished.

B2. Login Credentials

The following accounts are provided for the demonstration:

Role	Email	Password
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Administrator	admin@ndere.org	Ndere2620!
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Student	student@ndere.org	Nderearc2026
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Lecturer	lecturer@ndere.org	Nderearc2026#
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All three accounts have full administrative access for the purposes of this prototype.

B3. Dashboard Overview

View key statistics: Total Records, Published Records, Draft Records and Regions.

See a table of the most recent uploads with quick actions.

Use the sidebar to move between Dashboard, Archive Records and Add New Record.

B4. Managing Archive Records

View: Open the public detail page for any record.

Add New: Create a new record using the full record form.

Edit: Update the details or media of an existing record.

Delete: Permanently remove a record after confirming the action.

Publish / Unpublish: Toggle whether a record is visible to the public.

B5. Adding or Editing a Record

Select “Add New Record” (or “Edit” on an existing record).

Complete the fields: Title, Region, District, Cultural Group, Performance Type and Language.

Enter the Description, Historical Background, Story Summary, Cast Members and Transcript.

Upload a Photograph, Audio file and Video file as needed.

Set the Recording Date and the Published status.

Save the record. Published records appear immediately on the public site.

B6. Good Practice Tips

Keep records as drafts (unpublished) until content has been checked.

Provide clear, descriptive titles so records are easy to find through search.

Always log out after a session, especially on shared computers.