

1.0 Chapter 1: Introduction

1.1 Introduction/Overview

The creative and cultural industries have emerged as significant engines of economic diversification, employment creation, and youth empowerment globally, particularly across Africa. As nations explore pathways to sustainable development beyond traditional extractive sectors, creative sectors, encompassing music, film, fashion, digital content, and visual arts, are increasingly positioned as strategic contributors to national growth and labour market resilience. Globally, creative goods and services accounted for an estimated \$592 billion in trade prior to the COVID-19 pandemic and continued to demonstrate resilience through subsequent economic shocks, with services exports showing strong performance relative to broader trade sectors. This resilience underscores the potential of the creative economy to contribute meaningfully to income generation and economic stability, especially in contexts where conventional employment pathways are constrained.

In Africa, the creative economy is recognised as a high-growth potential sector capable of generating millions of jobs and fostering regional integration. Continental analyses estimate that, with appropriate investment and policy support, Africa's creative industries could generate approximately 20 million jobs and contribute over \$20 billion annually to GDP by 2030, reflecting the sector's capacity to absorb youth labour and stimulate entrepreneurship across urban and rural areas. However, despite this promise, systemic challenges including limited access to finance, weak infrastructure, uneven digital connectivity, and skills gaps, persist, constraining the ability of creatives to fully leverage these opportunities.

Sierra Leone's creative economy has followed a similar trajectory. The country's first national Creative Economy Diagnostic Report, published in 2025, underscored the sector's emerging economic footprint, estimating that creative industries account for approximately 4.5 percent of gross domestic product (GDP) and contribute to over 10 percent of formal employment. This places the creative sector among the leading non-traditional contributors to the formal economy, alongside sectors such as

wholesale and retail trade. Yet, the report also reveals persistent structural constraints, including limited creative and digital infrastructure, unequal geographic access to resources, weak copyright protections, and high barriers to market entry, which collectively limit the sector's ability to scale and generate broader socioeconomic impact.

In Sierra Leone, as in many other low-resource contexts, digital tools and platforms offer significant promise as enablers of creative productivity, visibility, and economic participation. Digital platforms have reshaped creative work globally by enabling direct audience engagement, portfolio hosting, and monetisation opportunities previously unavailable to independent creatives. Nevertheless, existing global platforms such as Behance, Dribbble, and mainstream social networks are typically designed for high-bandwidth environments and lack features tailored to the professional needs of creatives in low-connectivity settings. Combined with the country's uneven internet penetration, estimated at just over one-fifth of the population, and concentrated infrastructure in urban centres, these barriers highlight the need for context-specific digital solutions that are optimized for local conditions.

Progressive Web Applications (PWAs) have emerged as a promising technological approach for bridging digital accessibility gaps. PWAs combine the responsiveness and interactivity of native mobile applications with the accessibility of web technologies, enabling features such as offline access, reduced data consumption, and cross-platform compatibility. In low-resource and low-connectivity settings, such characteristics are particularly valuable, as they mitigate many of the limitations associated with traditional app distribution and high data costs. PWAs have been successfully deployed in diverse sectors — including education, financial services, and e-commerce — within African contexts, demonstrating that lightweight, offline-capable applications can expand inclusion and usage among populations with constrained connectivity and device capabilities.

Within this broader economic and technological landscape, this dissertation focuses on the design, development, and evaluation of Creatuno — a Progressive Web Application tailored to the specific needs of Sierra Leonean creative professionals. Creatuno seeks to bridge existing digital and professional gaps by offering a platform

that supports portfolio showcasing, networking, mentorship access, and localized marketplace engagement in ways that are sensitive to bandwidth constraints and ecosystem realities.

This chapter frames the foundational elements of the study, outlining the research context and rationale, establishing the problem statement, and defining the research aim and objectives. It subsequently presents the research questions guiding the investigation, articulates the significance and justification of the study, and clarifies its scope and limitations. The chapter concludes with definitions of key terms to ensure conceptual clarity and facilitate shared understanding throughout the dissertation.

1.2 Background of the Study

The creative economy is widely recognised as an important contributor to economic growth, job creation, and cultural development in countries around the world. According to the United Nations Conference on Trade and Development (UNCTAD), creative industries globally accounted for approximately 3 percent of gross domestic product and over 30 million jobs prior to the COVID-19 pandemic, with trade in creative goods and services valued at more than \$250 billion annually. These figures highlight the scale and economic significance of creative sectors in the global economy.

In Africa, the creative economy is gaining increasing policy and academic attention due to its potential to generate employment, particularly among youth, and to catalyse digital innovation. The Mastercard Foundation estimates that the African creative economy could generate 20 million jobs and contribute \$20 billion to GDP by 2030, if supported by enabling policy environments, digital infrastructure, and access to finance. Initiatives such as the African Union's Agenda 2063 and the African Continental Free Trade Area (AfCFTA) creative industries protocols further illustrate continental recognition of culture and creativity as strategic economic drivers.

Sierra Leone's Creative Economy in Context

In Sierra Leone, the creative economy has emerged as a growing contributor to national development. The country's Creative Economy Diagnostic Report (2025), produced with support from the World Bank and national stakeholders, found that creative industries contribute an estimated 4.5 percent of GDP and account for over 10 percent of formal employment. This places the creative sector among the significant non-traditional sectors within the Sierra Leonean economy, alongside trade and services. The report underscores the sector's role in youth employment, cultural expression, and informal economic activities.

Despite this documented contribution, the report also identifies persistent structural challenges that hinder the sector's ability to scale and generate sustained economic returns. Key constraints include:

- Limited access to finance: Creative enterprises often lack collateral and credit history, making formal financing difficult to obtain.
- Weak infrastructure: Inadequate digital and physical infrastructure limits production capacity and market access.
- Fragmented governance: The absence of coherent regulatory frameworks and institutional support results in inconsistent policy implementation.
- Persistent data gaps: Limited availability of up-to-date sector data constrains evidence-based policy formulation and investment planning.

These structural constraints are compounded by rapidly evolving digital trends that offer both opportunities and challenges for creative practitioners.

Digital Transformation and Creative Work

Digital technologies have reshaped creative production and distribution worldwide. Platforms such as YouTube, Instagram, TikTok, and Spotify enable artists and content creators to reach broader audiences with fewer intermediaries. Worldwide, creators on these platforms can monetise their work through advertising, sponsorships, subscriptions, and e-commerce integrations. In Africa, estimates suggest that the digital creator economy — encompassing influencers, content

producers, and digital artists — could reach \$17.8 billion in value by 2030, driven by increased internet adoption, mobile device penetration, and youth-led creativity.

However, Sierra Leone still faces significant barriers to digital inclusion. As of the most recent assessments, internet penetration in Sierra Leone stands at approximately 20.8 percent, significantly below the global average of over 65 percent. Mobile broadband coverage has expanded in urban areas but remains inconsistent in rural regions, leading to unequal access to digital platforms and opportunities. High data costs further impede regular online engagement, with many creatives reporting that data expenses limit their ability to upload, stream, or interact with online audiences.

The Role of Digital Platforms in Creative Economies

While digital platforms can democratise access to audiences, they also present limitations for creators in low-resource environments. Platforms such as Behance, Dribbble, and Vimeo offer portfolio hosting and community networking but are designed for high-bandwidth use and lack features tailored to mentorship, business management, or monetisation needs. Major social media platforms provide exposure but often lack structured mechanisms for portfolio presentation and revenue generation that align with professional development pathways. Furthermore, algorithmic visibility on global platforms is competitive and can disadvantage creators from regions with lower digital engagement metrics.

Progressive Web Applications (PWAs) as Context-Appropriate Solutions

Given these digital infrastructure and access constraints, alternative digital architectures such as Progressive Web Applications (PWAs) have grown in relevance. PWAs offer the advantages of both web accessibility and near-native app experiences, including:

- Offline functionality through caching
- Reduced data usage owing to lightweight frameworks
- Cross-platform compatibility with minimal installation friction

These characteristics make PWAs particularly suited to low-connectivity environments, where traditional native apps — often requiring large downloads and frequent updates — are less practical. PWAs have been adopted in sectors such as mobile banking and public services in similar African markets, demonstrating their potential to expand digital inclusion and service delivery efficiency.

Situating Creatuno within this Landscape

Within this complex ecosystem of creative potential and digital constraint, Creatuno is conceptualised as a locally relevant PWA solution designed to address specific gaps identified in Sierra Leone's creative economy. By integrating professional portfolio tools, networking functionality, and mentorship support within a bandwidth-optimised platform, Creatuno aims to enhance market visibility, reduce access barriers, and support creative professionals in navigating the challenges of the digital economy.

1.3 Statement of the Problem

Despite the growing recognition of the creative economy as a viable pathway for economic diversification and youth employment in Sierra Leone, creative professionals continue to operate within an ecosystem marked by structural, digital, and institutional constraints that significantly limit their professional development and economic contribution. While national and international policy frameworks increasingly acknowledge the sector's potential, the practical realities faced by creatives reveal a persistent gap between policy aspirations and lived outcomes.

Limited Access to Mentorship and Professional Development

One of the most critical challenges confronting creative professionals in Sierra Leone is the absence of structured mentorship and professional development systems. The World Bank's Creative Economy Diagnostic for Sierra Leone identifies weak institutional support, limited skills development pathways, and fragmented governance as major constraints affecting the sector's sustainability and competitiveness. Many creatives operate independently, without access to industry mentors who can provide guidance on business strategy, intellectual property management, pricing, branding, and market positioning.

This lack of mentorship disproportionately affects early-career creatives and youth entrants into the sector, who often rely on informal peer learning and trial-and-error approaches. In contrast, studies from other African creative hubs such as Nigeria and South Africa demonstrate that access to mentorship and incubator-style support significantly improves creative enterprise survival rates, income stability, and international market access. The absence of comparable structures in Sierra Leone limits the professionalization of creative practice and constrains long-term career development.

Insufficient Market Visibility and Professional Exposure

Market visibility remains a persistent challenge for Sierra Leonean creatives. Although digital platforms offer unprecedented opportunities for showcasing creative work, access to professionally appropriate digital presentation tools remains limited. The majority of creatives rely heavily on general-purpose social media platforms such as Facebook and Instagram for self-promotion. While these platforms facilitate informal visibility, they are not designed to function as structured professional portfolios and provide limited mechanisms for long-term discoverability, credential presentation, or targeted industry engagement.

Furthermore, global portfolio platforms such as Behance and Dribbble, while effective in high-income contexts, are not optimized for the realities of Sierra Leone's digital environment. Their reliance on high-bandwidth connections, frequent media uploads, and continuous online engagement creates exclusionary barriers for creatives operating in bandwidth-constrained settings. As a result, many creative professionals remain digitally invisible to potential clients, collaborators, and investors both locally and internationally, reinforcing patterns of economic marginalization.

Digital Infrastructure and Connectivity Constraints

Sierra Leone's digital infrastructure presents a significant structural barrier to creative sector participation in the digital economy. Recent digital assessments indicate that internet penetration in Sierra Leone remains at approximately 20–21 percent, substantially below the global average. Connectivity is heavily concentrated

in urban centres, particularly Freetown, while rural and peri-urban areas experience limited or unreliable access. High mobile data costs further restrict sustained online participation, especially for creatives whose work depends on uploading visual or audio content.

These infrastructural limitations have direct implications for the adoption and effective use of digital creative platforms. Applications that require continuous connectivity, large data transfers, or frequent updates are often impractical for many users. Consequently, existing digital tools — even when theoretically accessible — remain functionally inaccessible for a large segment of the creative population. This digital divide undermines equitable participation in the creative economy and exacerbates geographic and socioeconomic disparities.

Limited Employment, Monetisation, and Investment Pathways

Another critical problem facing Sierra Leonean creatives is the lack of structured pathways to employment, monetisation, and investment. The creative sector is characterised by high levels of informality, short-term contracts, and income volatility. While official unemployment statistics may appear relatively low, they mask widespread underemployment and dependence on informal economic activity, particularly among youth.

The World Bank diagnostic highlights limited access to finance as one of the most frequently cited challenges among creative professionals. Formal financial institutions often perceive creative work as high-risk due to irregular income streams and lack of collateral, while international monetisation platforms frequently exclude Sierra Leone from full participation due to regulatory, payment infrastructure, or eligibility constraints. As a result, many creatives struggle to convert talent and output into sustainable livelihoods, limiting the sector's broader contribution to economic development.

Youth Employment and Demographic Pressures

The problem is further compounded by Sierra Leone's demographic structure. Youth aged 18–35 constitute a significant proportion of the population and labour force, yet face limited formal employment opportunities. While the creative sector holds

substantial potential as a youth-absorbing industry, systemic barriers — including weak skills pipelines, limited digital access, and absence of professional support structures — prevent the sector from fulfilling this role at scale. This disconnect represents a missed opportunity for leveraging creativity as a tool for inclusive growth and social stability.

Inadequacy of Existing Digital Solutions

Existing global digital solutions fail to adequately address Sierra Leone's contextual realities in three key dimensions. First, they are not technically optimized for low-bandwidth environments and intermittent connectivity. Second, they lack cultural and linguistic localization that reflects local creative practices and identities. Third, they adopt a narrow functional focus on content display or social engagement without integrating mentorship, professional development, or localized market linkages.

As a result, creative professionals remain fragmented across platforms that do not fully support their holistic needs. The absence of a unified, accessible, and context-appropriate digital ecosystem perpetuates cycles of underutilization, limited visibility, and economic exclusion.

Problem Summary

In summary, despite the documented economic significance of the creative economy in Sierra Leone, creative professionals face interrelated challenges involving mentorship deficits, limited market visibility, infrastructural constraints, weak monetisation pathways, and inadequate digital solutions. These challenges collectively inhibit the sector's ability to generate sustainable livelihoods, attract investment, and contribute fully to national development goals. Addressing these systemic gaps requires a locally tailored, technologically appropriate, and professionally oriented digital intervention capable of operating effectively within Sierra Leone's resource-constrained environment.

1.4 Aim and Objectives of the Study

Aim of the Study

To design, develop, and rigorously evaluate Creatuno—a mobile-first, low-bandwidth digital platform that empowers Sierra Leonean creative professionals through enhanced portfolio visibility, structured mentorship access, collaborative networking capabilities, and direct connections to employment and investment opportunities, thereby catalyzing sustainable growth in Sierra Leone’s creative economy.

Objectives of the Study

To achieve the stated aim, the study is guided by the following five specific objectives:

1. **To conduct a comprehensive stakeholder and user requirements analysis** through a mixed-methods research approach, incorporating semi-structured interviews, quantitative surveys, and focus group discussions with creative professionals and ecosystem stakeholders, in order to identify key functional requirements, usability expectations, and contextual constraints influencing platform adoption.
2. **To design a mobile-first, bandwidth-optimized system architecture** using Progressive Web Application (PWA) technologies, incorporating offline functionality, data-efficient interaction patterns, and cross-platform compatibility that align with Sierra Leone’s internet penetration levels, device usage patterns, and connectivity limitations.
3. **To develop a digital portfolio management system** that enables creative professionals to present their work through optimized multimedia galleries, supporting clear professional representation and incorporating bilingual interface elements (English and Krio) to enhance accessibility and local relevance.
4. **To implement a structured mentorship matching and communication framework** within the platform, facilitating connections between emerging creatives and experienced industry professionals, and enabling knowledge

transfer, career guidance, and professional development through digital interaction tools.

5. **To design and integrate employment and investment linkage modules**, including a job opportunity board and investor engagement features, aimed at improving access to paid work, project collaborations, and funding opportunities for creative professionals operating within the Sierra Leonean creative economy.

Alignment with the Study

These objectives collectively ensure that the study moves beyond conceptual exploration to deliver a practical, evaluated digital solution. Each objective is directly linked to:

- The **problem statement**, addressing identified structural and digital gaps
- The **research questions**, guiding inquiry and evaluation
- The **methodology**, informing data collection and analysis strategies
- The **system implementation and evaluation**, ensuring traceability and coherence across the dissertation

This structured alignment enhances the study's academic validity and practical relevance.

1.5 Research Questions

This study is guided by a set of research questions formulated to address the core problems identified within Sierra Leone's creative economy and to evaluate the effectiveness of the proposed Creatuno platform as a technological intervention. The questions are derived directly from the study's aim and objectives, ensuring conceptual coherence and methodological traceability throughout the dissertation.

1. **What are the key digital, professional, and structural challenges faced by creative professionals in Sierra Leone in relation to portfolio visibility, mentorship access, and employment opportunities?**

This question seeks to establish an empirical understanding of the lived experiences, needs, and constraints of creative practitioners, forming the foundation for system requirements and design decisions.

2. **What functional and usability requirements should a digital platform satisfy to be effectively adopted by creative professionals operating in low-bandwidth and resource-constrained environments?**

This question focuses on identifying user-centred design requirements, including accessibility, performance expectations, and contextual constraints that influence technology adoption.

3. **How can Progressive Web Application (PWA) technologies be leveraged to design a mobile-first, bandwidth-efficient platform suitable for Sierra Leone's digital infrastructure context?**

This question addresses the technical feasibility and architectural considerations of implementing PWAs as an alternative to conventional native or web-only solutions.

4. **To what extent does the Creatuno platform enhance creative professionals' ability to present portfolios, access mentorship, and engage in professional networking?**

This evaluative question examines the platform's effectiveness in addressing the core functional gaps identified in the problem statement.

5. **How do users perceive the usability, performance, and overall value of the Creatuno platform in supporting professional growth and economic participation within the creative economy?**

This question supports post-implementation evaluation by capturing user satisfaction, perceived usefulness, and areas for improvement.

1.6 Significance of the Study

This research extends beyond the development of a software artifact. It represents a targeted intervention at the intersection of technology, economic development, and human capital growth in Sierra Leone. Its significance is multi-layered and impactful for distinct audiences, as detailed below.

For Sierra Leonean Creative Professionals: A Pathway to Economic Empowerment

For the primary users, Creatuno is designed as a direct tool to dismantle the barriers of invisibility, isolation, and inaccessibility.

- **From Informal Showcasing to Professional Discovery:** By moving creative work from transient social media feeds to a structured, searchable digital portfolio, the platform transforms how talent is discovered. This is critical in a market where 85% of professionals report limited exposure. A well-architected PWA can significantly boost engagement; industry data shows that PWAs can increase mobile sessions by 80% and page views by approximately 134% compared to traditional mobile sites. For a creative professional, this heightened visibility directly translates to more client inquiries and job opportunities.
- **Structured Skill and Career Development:** The integrated mentorship system addresses the critical 78% mentorship gap. It moves beyond ad-hoc advice to structured, goal-oriented relationships, a model proven to increase professional efficacy. By facilitating connections with experienced local and diaspora mentors, the platform provides guided pathways for business skill development—such as pricing, contracts, and intellectual property—which are frequently cited as major growth constraints.
- **Optimized for Real-World Constraints:** The commitment to a low-bandwidth, mobile-first PWA is not just a technical choice but a core element of its significance. It ensures the tool is usable in the context of 20.7% internet penetration and high data costs. Examples like Uber and Twitter Lite demonstrate that PWAs can provide full-featured experiences on 2G/3G networks and basic devices, reducing data barriers to entry. For the creative professional, this means reliable access to opportunities regardless of connectivity quality or device capability.

For Policymakers and Government: An Evidence-Based Tool for National Development

For agencies like the Ministry of Tourism and Cultural Affairs, Creatuno serves as an operational instrument to achieve strategic goals.

- **Implementing the National Development Plan (2024-2030):** This project directly translates the Plan's priority on the creative and tourism sectors into a functional, scalable digital public good. By providing the infrastructure for creatives to formalize, network, and grow, the platform actively works to increase the sector's contribution beyond the current 4.5% of GDP, supporting economic diversification.
- **Data-Driven Policy and Investment:** The platform will generate valuable, real-time data on the creative sector—tracking employment trends, in-demand skills, geographic distribution of talent, and economic activity. This data can inform more effective policy-making, targeted funding initiatives, and infrastructure development, moving beyond reliance on periodic diagnostic reports.
- **Catalysing Formalization and Job Creation:** By connecting creatives to structured job postings and investor pitches, Creatuno helps transition work from the informal to the formal economy. This supports the government's goals of reducing youth underemployment and creating sustainable, quality jobs within a high-potential national industry.

For Academic Research: Advancing HCI4D and ICT4D Praxis

This work contributes original knowledge to the fields of Human-Computer Interaction for Development (HCI4D) and Information and Communication Technologies for Development (ICT4D).

- **A Case Study in Contextualized Platform Design:** It provides an empirical, in-depth case study on designing a holistic socio-technical system for a low-resource, high-potential environment. It moves beyond isolated studies on mobile usability or mentorship theory to examine their

integration within a specific cultural (Sierra Leonean) and economic (creative sector) context.

- **Validating PWA Efficacy for Development Goals:** While PWAs are praised for their technical advantages, there is limited published research on their long-term efficacy as engines for professional empowerment and micro-entrepreneurship in West Africa. This dissertation will contribute evaluative data on adoption, engagement, and economic outcomes from a real-world deployment, enriching the global discourse on appropriate technology.
- **Bridging Disciplinary Silos:** The project synthesizes knowledge from software engineering (PWA architecture), design (low-bandwidth UX), and social science (mentorship models, creative economy). This interdisciplinary approach offers a replicable methodological framework for similar initiatives in other developing regions and sectors.

For Technology Practitioners: A Blueprint for Inclusive, Performance-Centric Development

For developers and entrepreneurs in Sierra Leone and across Africa, this project offers practical, proven insights.

- **Demonstrating High-Performance PWA Architecture:** The project will serve as an open-source reference implementation for building complex, data-driven applications that must perform under severe network constraints. It will document best practices in asset optimization, intelligent caching strategies, and offline functionality—skills in high demand across emerging markets.
- **Prioritizing Accessibility and Inclusion from the Start:** By adhering to Progressive Enhancement principles and WCAG guidelines, the project models how to build for the widest possible audience, including those with older devices, limited data plans, or disabilities. This is a crucial lesson in user-centered design often overlooked in commercial projects.
- **Validating a Sustainable Tech-for-Good Model:** The research into partnership frameworks and sustainability strategies provides a roadmap for

how similar platforms can be developed and maintained through collaboration between technologists, NGOs, and government entities, rather than relying solely on volatile venture funding.

The table below summarizes key industry metrics that underscore the technical and strategic significance of the PWA approach for a context like Sierra Leone:

Industry Example	PWA Impact Metric	Relevance to Creatuno's Goals
Twitter Lite	75% increase in Tweets sent; 65% increase in pages per session.	Demonstrates potential for significantly boosting user-generated content and platform engagement.
Forbes	Increased mobile sessions and time on site.	Validates the model for improving user engagement with content-rich platforms.
Uber	Core app functional on 2G networks; small file size for quick download.	Directly proves feasibility of a reliable, complex service in low-bandwidth environments.
Starbucks	Offline functionality allowing menu browsing and cart building.	Model for enabling critical user actions without a live connection, crucial for unreliable networks.

In summary, the significance of developing and evaluating Creatuno is that it simultaneously addresses an urgent practical need for Sierra Leonean creatives, provides a policy implementation tool for the government, generates novel academic knowledge for the HCI4D community, and delivers a practical technical

blueprint for African developers. It is a project firmly rooted in local context but designed to yield insights with global applicability.

1.7 Justification of the Study

The pursuit of the Creatuno project is not merely an academic exercise but a necessary and timely intervention. Its justification is built upon a solid convergence of national economic strategy, documented sectoral gaps, appropriate and proven technology, and validated grassroots demand.

Alignment with National Strategic Priorities

This project is a direct operational response to Sierra Leone's documented development agenda. The National Development Plan (NDP) 2024-2030 explicitly prioritizes the creative and tourism sectors as engines for economic diversification, job creation, and youth empowerment. Creatuno functions as a digital enabler for these policy goals. By providing the digital infrastructure for creatives to formalize, scale, and connect with markets, the project actively works to implement the NDP's vision. It transforms a broad strategic priority into a tangible tool that can be deployed, measured, and scaled, offering the government a concrete platform to support a sector already contributing an estimated 4.5% to national GDP and over 10% of formal employment.

Addressing a Critical and Quantified Economic Gap

The creative sector's potential is currently constrained by well-defined barriers, making targeted intervention both logical and urgent.

- **The Efficiency and Visibility Gap:** The World Bank's 2025 diagnostic identifies "limited market access" and "fragmented value chains" as key constraints. With 85% of creatives lacking sufficient exposure and 81% having no structured access to jobs or investors, there is a massive inefficiency in connecting talent with opportunity. Creatuno justifies its development by aiming to plug this leak, creating a centralized, low-friction marketplace that can increase the sector's overall transaction volume and efficiency.

- **The Youth Employment Imperative:** Sierra Leone faces a significant youth employment challenge, with a large percentage of youth engaged in vulnerable or informal work. The creative sector, heavily youth-driven, offers a viable pathway. By digitally formalizing connections and skills, Creatuno can help transition creative work from informal hustles to recognized, sustainable professions, directly contributing to national economic stability.

Technological Appropriateness and Proven Efficacy

The selection of a Progressive Web App (PWA) as the core technology is a critical, justifiable decision based on the specific constraints of the Sierra Leonean context. Alternative approaches (native mobile apps or traditional websites) are less suitable.

- **Overcoming Connectivity and Cost Barriers:** PWAs are uniquely architected for environments with expensive data and unreliable networks. Their use of service workers enables robust offline functionality and intelligent caching, drastically reducing data consumption. For example, Twitter Lite (a PWA) reduced data consumption by over 70% and increased engagement by 65% in similar markets. This directly addresses the barrier faced by 59% of Sierra Leonean creatives who cite high data costs as a limiting factor.
- **Accessibility and Reach:** PWAs are installed directly from a browser, requiring no app store account, download from a slow store, or high-end smartphone. They are discoverable via the web yet provide an app-like experience (push notifications, home screen icon). This "low-friction" access is crucial for maximizing adoption across diverse device and literacy levels.
- **Economic and Operational Sustainability for Developers:** For the development team, a PWA is justified by its single codebase for all platforms, drastically reducing development and maintenance costs compared to building separate iOS and Android native apps. This makes the project more feasible for a university team and more sustainable for long-term upkeep by local stakeholders.

Validated User Demand and Co-Design Foundation

The project is grounded in evidence of clear need, moving from assumption to validated requirement.

- **Quantified Interest and Feature Prioritization:** Preliminary surveys indicate overwhelming interest (**96%**), with specific, high-priority demand for a portfolio builder (**93%**), job board (**92%**), and mentorship features (**89%**). Crucially, **95%** emphasized the need for a mobile-first, low-data solution, directly informing the core technological choice.
- **Human-Centered Design Justification:** The planned mixed-methods requirements gathering (interviews, focus groups) ensures the platform is not built in isolation. This commitment to co-design with Sierra Leonean creatives justifies the project's potential for real-world adoption and impact, as it will be shaped by the authentic needs, workflows, and cultural contexts of its end-users.

The table below summarizes how key PWA capabilities directly solve identified Sierra Leonean constraints:

Sierra Leonean Contextual Constraint	Relevant PWA Capability	Justification for Use
High Data Cost, Low Bandwidth	Service Workers for caching & offline use; Minimal data transfer.	Reduces recurring user cost , enables core functionality on 2G/3G. Critical for adoption.
Predominance of Basic Android Phones	Runs in standard mobile browser (Chrome, etc.); No app store needed.	Maximizes compatibility with the existing device ecosystem in the target market.

Sierra Leonean Contextual Constraint	Relevant PWA Capability	Justification for Use
Low Storage Space on Devices	Very small footprint; Functions primarily via browser.	Removes a barrier to installation for users who cannot afford large app downloads.
Need for Simple Maintenance	Single codebase; Updates instantly via web.	Justifies long-term sustainability for a small team or local NGO managing the platform post-graduation.

1.8 Scope and Limitations

A clear articulation of scope and limitations is essential to define the boundaries of this research, manage expectations, and provide context for interpreting the findings. This section details what the project will deliver (scope) and acknowledges the inherent constraints that may influence the process or outcomes (limitations).

Scope of the Study

The scope of this research is deliberately focused to ensure depth, feasibility, and clear relevance to the Sierra Leonean context.

- Target User Demographic:** The platform specifically targets **Sierra Leonean creative professionals aged 18-35**. This age bracket represents a critical cohort, constituting a significant portion of the national population and labour force. Census data indicates that youths (15-35) make up a substantial segment of Sierra Leone's population, facing higher rates of underemployment. Focusing on this group allows the project to directly address national youth empowerment goals. The included disciplines—photography, graphic design, music, film, fashion, visual arts, and digital

media—were identified in the World Bank diagnostic as core, active components of the formal and informal creative economy.

- **Geographical Focus and Pilot Strategy:** The primary phase of requirements gathering, development, and initial testing will be concentrated in Freetown. This is justified by its status as the capital and primary urban hub, containing the highest density of creative professionals, institutional partners, and digital infrastructure. For the pilot evaluation, the scope will expand to include Bo, Kenema, and Makeni. These cities are major regional capitals outside the Western Area, allowing the research to test platform usability and value in diverse urban contexts with varying levels of internet service and creative community organization. This tiered approach ensures manageable logistics while gathering crucial data on broader applicability.
- **Technological Framework and Core Features:** The project is scoped to deliver a fully functional Progressive Web App (PWA). This is a definitive technical boundary. The platform will not be developed as a native iOS or Android application, nor as a desktop-only website. Its core feature set, derived from prior requirement analysis, is bounded to:
 1. **Portfolio Management:** Image/video upload, project categorization, and public profile generation.
 2. **Mentorship Matching:** A algorithm-based or searchable system connecting mentees and mentors with structured communication tools.
 3. **Opportunity Boards:** Listings for jobs, gigs, and collaboration projects.
 4. **Community Networking:** Basic forum structures and user discovery features.Advanced features like integrated e-commerce payments, complex project management tools, or AI-based content recommendation are explicitly out of scope for this initial development and research phase.

- **Linguistic and Cultural Localization:** The platform's linguistic scope is defined as launching with full support for **English and Krio**. English is the official language of business and education, while Krio is the most widely spoken *lingua franca*, crucial for accessibility and trust. The system architecture will be designed with **localization frameworks** (e.g., using i18n libraries) that make adding Mende and Temne in a future phase technically straightforward, but their full translation and implementation are beyond the current project timeline.

Limitations of the Study

This research openly acknowledges several constraints that may impact the development, deployment, or generalizability of its findings.

- **Infrastructure Dependency:** A fundamental limitation is the platform's partial dependence on internet connectivity. While the PWA will use service workers to cache core assets and enable offline viewing of portfolios, actions like uploading new work, sending messages, or browsing latest job posts require a connection. In a country with only 20.7% internet penetration and unreliable service in many areas, this will inevitably restrict usage patterns. *Mitigation:* The design will prioritize "offline-first" principles, allowing users to draft content and queue actions for when connectivity is briefly available.
- **Mentor Network Viability Risk:** The success of the mentorship module is contingent on recruiting and retaining a sufficient pool of qualified mentors. There is a risk of an imbalance between eager mentees and available, committed mentors, which could degrade the feature's value. *Mitigation:* The project will proactively partner with organizations like Creative Hub Africa, the Freetown Music Hub, and diaspora networks to formally recruit mentors, and will explore non-monetary incentive structures like professional recognition and networking benefits.
- **Digital Literacy and Onboarding Hurdles:** The research assumes a baseline level of smartphone literacy. However, some target users,

particularly in less urban pilot areas, may struggle with tasks like account creation, photo compression, or navigating multi-step flows. This could skew initial adoption towards already digitally-literate creatives. *Mitigation:* The User Interface (UI) will adhere to stringent usability heuristics, and the pilot will include the creation of simple video tutorial guides in Krio to support onboarding.

- **Pilot Scale and Generalizability:** The evaluation phase will be limited to a pilot group of approximately 100-150 users due to time, resource, and support constraints. While this will yield rich qualitative and preliminary quantitative data, findings regarding economic impact, long-term engagement, and platform-driven income generation cannot be broadly generalized to the entire national creative sector at this stage. This pilot is designed to prove concept viability and usability, not measure nationwide economic impact.
- **Technology Access Bias:** By focusing on a mobile digital solution, the project inherently excludes creative professionals who have no access to a smartphone or cannot afford even minimal data packages. This means the research findings and the platform itself may not address the needs of the most economically marginalized segment of the sector.

The table below summarizes key demographic and infrastructural data that informs the project's scope:

Scope Parameter	Supporting Data/Context	Implication for Project
Target Age (18-35)	Youth constitute a large portion of Sierra Leone's population and are central to creative sector growth and employment strategies.	Focuses intervention on the cohort with highest potential for long-term career impact and

Scope Parameter	Supporting Data/Context	Implication for Project
		alignment with national youth policies.
Initial Focus on Freetown	As the capital, it has the highest concentration of creatives, institutions, and relatively better internet infrastructure.	Provides a viable environment for intensive development, testing, and partnership building in the first phase.
PWA as Core Technology	Internet penetration is 20.7%; mobile data is expensive; Android devices dominate.	PWA's offline features and low-data design are non-negotiable for meaningful accessibility.

1.9 Definition of Key Terms

- **Creative Economy:** The system of economic activities based on the generation and exploitation of creativity, ideas, intellectual property, and cultural capital. It encompasses sectors where value is derived from individual creativity and skill, such as visual arts, performing arts, design, music, and digital media

- **Progressive Web Application (PWA):** A type of web application built using standard web technologies (HTML, CSS, JavaScript) but designed to provide a user experience comparable to a native mobile app. Key characteristics include reliability on poor networks, installability on a device's home screen, and capability to work offline through the use of a service worker.
- **Low-Bandwidth Environment:** A suite of design and development techniques aimed at minimizing the data requirements of a digital application. This includes asset compression, efficient caching, code minification, and simplified interfaces to ensure functionality and acceptable performance on slow or unreliable internet connections
- **Digital Portfolio:** A curated, online collection of an individual's creative work and professional accomplishments, designed to systematically showcase skills, style, and expertise to potential clients, employers, or collaborators.
- **User Experience (UX):** The overall experience of a person using a product, particularly in terms of ease of use, accessibility, and satisfaction.
- **Mentorship Platform:** A digital system designed to facilitate structured developmental relationships. It typically provides functionality for matching mentors and mentees based on defined criteria, supporting goal setting, and enabling communication and progress tracking within the relationship.
- **Portfolio Builder:** A software tool or module that provides users with an interface and templates to create and manage their digital portfolio without needing to write code.
- **Mentorship Matching Algorithm:** A set of computational rules designed to automatically pair mentors with mentees based on compatibility factors like skills, goals, and experience.
- **Stakeholder:** Any individual, group, or organization that can affect or is affected by a project (e.g., creative professionals, mentors, government bodies, NGOs).

