**creARTive-Connect**

**(DECENTRALIZED CONTENT SHARING PLATFORM)**



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**CHAPTER 1**

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# **CHAPTER 1: INTRODUCTION**

## Introduction

The landscape of higher education is evolving rapidly, driven advancements in technology and the changing needs of students. In this context, the development of innovative platforms that cater to the creative expression, collaboration among content creators at universities in Zimbabwe becomes crucial. This proposal aims to introduce “creARTive-Connect”, a platform designed specifically for university content creators, lecturers who are writers to showcase their work, collaborate, and foster knowledge exchange. This first chapter of the project will highlight all the essential aspects of the proposed system inclusive of, the background of the study, problem definition, the aim, objective of the project and the other basic strategies for the project as explained below.

## 1.2 **Background of study**

In Zimbabwe’s higher education, a revolution is brewing where lecturers and students are eager to share their ideas, collaborate and learn from each other. They lack a dedicated platform to showcase their creative work and connect with like-minded individuals. Currently, lecturers are utilizing international platforms like Coursera and ResearchGate to share their research papers, showcase their expertise and get a chance to collaborate with peers. Similarly, university students who are content creators are leveraging social media platforms like Pinterest, Instagram and YouTube to showcase their digital art, music and other forms of creative media. These platforms provide a space for them to express themselves, connect with like-minded individuals and build personal brand.

All these platforms are serving as important tools for knowledge sharing, collaboration and creative expression. However, there is a growing need for more specialized platform that can cater specifically to the needs of university content creators, lecturers and students in Zimbabwe.

## 1.3 Problem definition

In Zimbabwe universities, lectures who are writers and researchers often face inadequate support and recognition for their work. When utilizing international platforms, their research papers and articles may not receive the desired exposure and visibility due to the platforms’ focus on geographical location in pushing their users work. This lacks recognition hiders their professional growth and limits their ability to contribute effectively to their fields, and this also discourages future authors in the educational sectors. Additionally, there is also lack of dedicated platforms for content creators across various forms of art within the university setting.

Moreover, there is a barrier that prevents writers and content producers at Zimbabwean colleges from working together. Many authors and creators struggle to locate opportunities for interdisciplinary collaboration and exchange since they are unaware of one other's work. Lack of a platform that facilitates these kinds of relationships limits the possibilities for interdisciplinary creativity and impedes the development and inspiration of content producers.

## 1.4 Aim

To provide a platform that empowers lecturers and students to share their creative work, build local recognition, and gain international exposure, "creARTive-Connect" aims to bridge the gap between academic and creative communities within Zimbabwean universities. To bring together lecturers who are writers and diverse content creators, the platform fosters a vibrant and collaborative environment where knowledge exchange and innovation can thrive. Through "creARTive-Connect", users can showcase their research papers, articles, art, and other forms of creative expression, connecting with like-minded individuals and expanding their reach. In doing so, the platform promotes a culture of creativity, collaboration, and academic excellence, enriching the university experience and contributing to the growth of Zimbabwe's creative industry.

## 1.5 Objectives

The proposed system seeks to rectify most of the problems if not all problems stated in the problem definition. The objectives for the proposed system include:

* To design a system that allows users to register and create their account.
* To design a personalized recommendation system to deliver relevant content and recognition for content creators on the platform.
* To design a system that tracks and measure impact of recognition such as view count, likes, engagement and comments.
* To design a system that has an interactive feature such as user chats to promote collaboration.

Functional Requirements

User Registration and Authentication - The system should enable lecturers, students, and other users to create accounts, log in securely, and manage their profiles. Users must be able to reset passwords and update their account information easily.

Content Upload - Lecturers should be able to upload research papers and academic content, while students should have the option to upload creative works such as artwork. This feature ensures that both academic and creative communities have a platform for showcasing their work.

Content Viewing and Downloading - Users, including external visitors, must be able to browse, view, and download academic papers and creative content. The system should provide search and filter functionalities to help users easily find relevant content.

Feedback and Review System - Content reviewers should be able to give feedback on uploaded papers and creative projects, allowing for constructive reviews. This feedback system ensures that the quality of content remains high and that creators receive valuable insights for improvement.

Discussion Forum - The platform should offer a dedicated forum where users can engage in discussions, post questions, and share academic and creative insights. This feature fosters collaboration and knowledge sharing among students, lecturers, and professionals (Singh and Kaur, 2022).

Content Management - Administrators must have the capability to manage user accounts, monitor and moderate uploaded content, and oversee forum activities. This ensures the platform is well-maintained and free from inappropriate or irrelevant content.

Analytics and Reporting - The system should generate reports on key metrics, such as the number of views, downloads, likes, and comments on uploaded content. This feature helps both users and administrators track engagement and assess the platform’s impact.

## 1.6 Instruments and methods

### 1.6.1 Instruments

* Programming Languages
  + HTML/CSS: HTML for building the structure and CSS for styling the user interface of the platform.
  + JavaScript: To employ JavaScript for client-side interactivity, form validation and dynamic content updates.
  + PHP: for server-side scripting and database integration
  + Python: for server-side development, implementing the platform’s backend logic and data processing.
* Database Management Systems
  + MySQL: A widely used open-source RDBMS, known for its performance, scalability and ease of use.
* Frameworks and Libraries
  + Node.js: for server-side JavaScript runtime, enabling scalable and efficient backend development.
  + Django: Python-based web framework, for rapid development of backend logic, database management, and user authentication.

### 1.6.2 Methods

Questionnaires

* Online or offline surveys to collect data from lecturers, students and content creators about their personalized opinions and needs.

Literature reviews

* Research and analysis of existing studies, articles, and books related to creative platforms, recommendation systems, and user behavior.

Case studies

* In-depth analysis of similar platforms or projects such as ResearchGate and Pinterest specifically to gather insights and best practices.

## 1.7 Feasibility Analysis

creARTive-Connect is an online platform connecting lecturers, students, and content creators in Zimbabwe's higher education landscape. It aims to promote creative expression, collaboration, and knowledge exchange. Just as pointed out by Greene (2011), it is very crucial when defining complex opportunity and problems to conduct a preliminary investigation commonly termed the feasibility study. It helps us assess the attainability of our aim through giving us an overview of the situation on the ground. The whole idea behind a feasibility study is defining the project and being able to identify things that may affect the success of a project.

### 1.7.1 Technical Feasibility

Some of the writings by Hartlen (2014), points out that the technical feasibility is the major determiner of the resource requirements. This feasibility helps to know whether the currently existing technology in the system’s environment is able to support the system and account for any additional requirements, if there are any. Developing a web and mobile-based platform with features like user profiles, content sharing, and recommendation systems is technically feasible with current technologies.

#### 1.7.1.1 Technical Expertise

Except for the system’s development and maintenance, the system requires a minimal computer knowledge and understanding when it comes to its operation. The main aim of the system like any knowledge sharing system and social media platforms is to be as much interactive as possible to every individual going to use it. For the users, there will be only need for the to be equipped with only some simple set of instructions, and some level training will be required for individuals would will be administering and maintaining the system.

#### 1.7.1.2 Hardware Requirements

Based on the assumption that we are now living in the computer edge, the system is intended to utilize the already existing infrastructure. There will be only some few components that may be needed to be acquired for the system to operate as intended. Below is a list of the minimum hardware requirement for the system to be developed and implemented.

|  |  |  |
| --- | --- | --- |
| **Item** | **Specifications** | **Quantity** |
| Computer device | * WIFI capability * 2GB Ram or more * 500GB Hard Drive * 2.2GHz Dual Core processor | 1 |
| Server Computer | * 16GB Ram * 4TB Hard drive | 1 |
| UPS | * Power Back 220v | 1 |
| PC (for development) | * HP 450 G2 * 12GB Ram * 500GB Hard drive | 1 |

**Table 1.1 Hardware Specifications**

**1.7.1.3 Software Requirements**

Also required, is a set of software packages to go along the hardware from the system’s development up to its implementation. The required software packages include the below listed packages.

|  |  |  |
| --- | --- | --- |
| **Package** | **Description** | **Quantity** |
| Windows 10 | User PC operating system and server | 2 |
| Microsoft visual Studio | Development platform | 1 |
| Xamp | Database API | 1 |
| Microsoft office 2016 | Documentation | 1 |

**Table 1.2 Software Packages**

For a proper development of this system, the components given are the minimal considerations for a successful development. Considering a variety of factor, enough funds and resource can be sourced to at least develop a working prototype of the system. Evident to this technical feasibility analysis, the system can be successfully developed.

### 1.7.2 Financial Feasibility

Initial investment costs for development, marketing, and infrastructure are estimated to be moderate. Revenue streams can come from advertising, sponsored content, and premium features.

#### 1.7.2.1 Development Costs

The development costs are the costs associated or involved in the project’s initiation, that is there are incurred during the system development process. Usually, these costs are speculated at the beginning of the project and as the system development process progress these costs are frequently altered to meet with the changes. To begin the development, process the below list shows the costing of the items that needs to be acquired.

|  |  |  |
| --- | --- | --- |
| **Item** | **Quantity** | **Cost ($)** |
| **Window 10** | 1 | 35 |
| **Computer** | 1 | 200 |
| **Server Computer** | 1 | 500 |
| **UPS** | 1 | 235 |
| **PC (for development)** | 1 | 200 |
| **Internet Package** |  | 150 |
| **Labor** |  | 200 |
| **Total** |  | 1285 |

**Table 1.3 Development Costs**

#### 1.7.2.2 Operational Costs

Whilst the development costs cover only the initial cost to come up with system, the operational costs will cover all the costs that are to be incurred during the running of the system and these costs are usually variable in nature. Operational costs include the system maintenance costs, software licensing, system’s consumables, software licenses only to mention but a few.

These costs are usually weighed against the operational benefits to establish the system’s cost effectiveness. Operational benefits to consider may include cost reductions and benefits that directly affects the efficiency. Since this project is not aimed at a particular organization, the operational costs are sub-divided into those that affects the developer and those that affect an organization or individual (client) that will acquire the system for a proper costing. Given below are some of the basic operational costs against their benefits.

|  |  |
| --- | --- |
| **Costs per financial period** | **Cost ($)** |
| **Software licenses**  **Microsoft Office** | 360 |
| **Microsoft Windows** | 35 |
| **Hardware maintenance** | 200 |
| **Miscellaneous Costs** | 100 |
| **Maintenance Labor Allowances** | 150 |
| **Total** | 845 |

**Table 1.4 Developer’s Operational Costs** *al Benefits*

#### 1.7.2.3 Cost Benefit Analysis

In order to evaluate our all our projected cost and benefit of the proposed system, a simply calculation was done to compare them against each other. Below is a Net Benefit calculation commonly known as the Cost Benefit calculation.

|  |  |  |
| --- | --- | --- |
| **BENEFITS** | $ | $ |
| Total Developer’s Operational Benefits |  | 3000 |
| Total Client’s Operational Benefits |  | 630 |
| **Total Benefits** |  | **3630** |
| **COSTS** |  |  |
| Total Development Costs | 1285 |  |
| Total Developer’s Operational Costs | 845 |  |
| Total Client’s Operational Costs | 100 |  |
| *Less* **Total Costs** |  | 2230 |
| **Net Benefits** |  | 1400 |

**Table 1.5 Costs Benefits calculation** *on*

This Cost Benefit analysis reflect a positive net benefit value, which implies that based on this criterion this project is favorable since the overall benefits of the project outweighs the costs that are likely to be incurred.

#### 1.7.2.4 Return on Investment Analysis (ROI)

The return on investment is a profitability ratio that expresses the profit as a percentage of the initial investment. It measures the efficiency level for each dollar to be invested into this project in the context of profit to be generated. This is an ideal measure as it expresses the return of the investment on the project as a percentage that can be easily compared with other forms investments. Below is a calculation of the ROI for this project.

investment revenue − investment costs

ROI = × 100%

investment costs

ROI = 3630 – 1285 /1285 × 100%

ROI = 182.5%

This ratio is a favorable one for an investment.

#### 1.7.2.5 Payback Period

This can be best described as the time required for the cash inflows to offset the initial outlay of the project expressed as years and months. This basically indicates if we can be able to settle the borrow capital in time given that we use borrowed income to finance our project. A short payback period is more preferable as it reflect that we are able to meet with our financial obligations. Below is an analysis based on the payback period concept to establish this project.

Based on the cost benefit analysis, the initial outlay of the project (Total Development Cost) was $845 and for the first financial period at least 25% of the average cash inflow (Total

Developer’s Operational Benefits) is expected and then raise to 70% the second financial year as the system will have been more embraced and then to the average from the second year going on wards. Based on this analysis this project has a favorable payback period, which implies that within a year and one month enough would have been raise to settle the initial out lay of the project.

#### 1.7.2.6 Net Present Value

| **Period** | **Cash Inflow ($)** | **Cash Outflow ($)** | **NPV ($)** |
| --- | --- | --- | --- |
| 1 | $800 | $300 | -$1,272.73 |
| 2 | $1,000 | $400 | -$1,173.55 |
| 3 | $1,200 | $500 | -$1,107.44 |
| -------------- | ---------------- | ----------------- | ---------------- |
| Total |  |  | -$3,553.72 |

**Table 1.6 Net Present Value**

Based on the table, we can see the cash inflows, cash outflows, and NPV for each period. The total NPV is calculated by summing up the NPV values for each period. In this case, the project has a total NPV of -$3,553.72, indicating that it is financially feasible.

### 1.7.3 Social Feasibility

The creARTive-Connect platform aligns with the social needs and interests of the target audience, comprising lecturers, students, and content creators in Zimbabwe's higher education. The platform's focus on creative expression, collaboration, and knowledge exchange resonates with the academic community's desire for innovation, sharing, and growth. In providing a dedicated space for users to connect, share, and learn from each other, creARTive-Connect has the potential to foster a vibrant and supportive community, promoting social cohesion, creativity, and academic excellence.

### 1.7.4 Operational Feasibility

Operational feasibility can be seen to be a reflection of the situation at hand’s urgency and the attention need to the problem and assessing the proposed solution’s acceptability that is according to Brigham (2011). This includes the assessment of social, external and internal issues that may that may have an impact of the system operations. Behind the scenes, a dedicated team will work tirelessly to ensure the creARTive-Connect platform runs smoothly and efficiently. From maintaining the website and mobile app to moderating content and providing customer support, our team will be committed to delivering a seamless user experience. We'll prioritize data security, troubleshoot technical issues, and continuously improve the platform to meet the evolving needs of our community. By streamlining our operations and leveraging technology, we'll create a dynamic and sustainable platform that empowers users to focus on what matters most - creative expression, collaboration, and knowledge sharing.

## 1.8 Justification and Rationale

Through recognizing the shortcomings of the present platforms available to creatives in higher education and determined that a comprehensive, automated solution was required to address the problems that both lecturers and students are currently facing. The creation of a workaround for these challenges signifies a major advancement in the creation of creative systems that assist academia. Our suggested system not only addresses present difficulties but also has the potential to mitigate long-term issues in this field, fostering a lively and supportive community that encourages creative expression, collaboration, and knowledge exchange. creARTive connect will be there to bridge the gape of lake of recognition among the content creators in the university environment.

## 1.9 Work Plan

Planning and research

* 3 - 4weeks for comprehensive research, requirement gathering, and project planning. This phase involves identifying user needs, conducting market analysis, and defining the platform's features and scope.

Design Phase

* 4 - 5 weeks for graphic design and UX design activities. This includes creating wireframes, visual designs, and interactive prototypes to establish the platform's look and feel.

Development Phase

* 10 – 12 weeks, this phase now depends on the user preferences gathered from in the planning and research phase. This involves frontend development, backend development, database integration and implementing the platform core features.

Testing and Quality Assurance

* 2 – 4 weeks for comprehensive testing, bug fixing and quality assurance activities. This phase ensures the platform functions correctly, is secure and provides and seamless user experience.

Deployment and Launch

* 1 – 2 weeks for final preparations, deployment of the platform to the hosting environment and conducting final checks to ensure everything is ready for the platform’s launch.

Post Launch Activities

* Ongoing activities such as user support, platform updates, and continuous improvement should be considered beyond the initial launch phase.

### 1.9.1 Gantt Chart

According to Roberta (2011), the Gant Chart by Henry Gantt is a very effective tool when it comes to the representation of the project schedule and project scheduling. The project was scheduled and the below Gant Chart was produced.

### Key

|  |
| --- |
|  |

Coverage

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity** | **Week1** | **Week2** | **Week3** | **Week5** | **Week6** | **Week7** | **Week8** | **Week9** | **Week1** |
| **Project proposal** |  |  |  |  |  |  |  |  |  |
| **Introduction** |  |  |  |  |  |  |  |  |  |
| **Planning** |  |  |  |  |  |  |  |  |  |
| **Analysis** |  |  |  |  |  |  |  |  |  |
| **Design** |  |  |  |  |  |  |  |  |  |
| **Implementation** |  |  |  |  |  |  |  |  |  |
| **Maintenance** |  |  |  |  |  |  |  |  |  |
| **Documentation** |  |  |  |  |  |  |  |  |  |

**Fig 1.1 Gant Chart**

## 10.0 Conclusion

In conclusion, the "creARTive-Connect" platform holds significant promise within the Zimbabwean higher education landscape. By empowering content creators, fostering collaboration and innovation, promoting cultural preservation, enhancing the higher education experience, and bridging the recognition gap, the project aims to create a vibrant ecosystem that celebrates and supports the creative endeavors of lecturers, students, and artists. Through careful budgeting and adherence to timelines, the project can be successfully developed and launched, bringing forth a platform that connects, inspires, and elevates the artistic and academic community in Zimbabwe. So, after all the study in this chapter, the project has proven to hold and the project will now commence to the next chapter for literature review.

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