

Capstone Proposal For Nigerian College Scholars

Posted on October 17, 2018

Program and Process Description

This capstone proposes a mobile-first digital marketplace through which Nigerian college students can buy, sell, exchange, donate, or temporarily lend used academic books. The project responds to a practical educational problem: required texts may be expensive, unavailable near campus, or difficult to locate at the moment they are needed. A centralized platform can reduce search time and extend the useful life of books already owned by students, graduates, lecturers, libraries, and local booksellers.

The proposed service is not intended to replace libraries, publishers, or legitimate digital resources. It is a structured exchange platform that connects people who possess lawful copies with students who need them. Its success will depend on trust, affordable delivery, accurate listings, accessibility on low-cost phones, and compliance with copyright, consumer-protection, and data-protection requirements.

Capstone Project Background

Textbook access affects participation in lectures, assignment quality, and examination preparation. Students may share one copy among several people, rely on incomplete notes, or postpone purchasing until late in the semester. Used-book markets exist informally through noticeboards, social-media groups, personal contacts, and roadside sellers, but information is fragmented. A student may not know that the needed book is available in another department or at a nearby campus.

The original proposal correctly identifies high prices, distance, and search time as key obstacles. It also recognizes two central user groups: sellers and student buyers. The revised project expands this model to include donors, lenders, verified campus organizations, and participating booksellers while keeping students as the main beneficiaries.

Problem Statement

Nigerian college scholars need a low-cost and reliable method for finding academic books within a reasonable distance. Existing general marketplaces are not organized around course codes, editions, campus location, semester timing, or academic subject. Social-media posts disappear quickly and provide limited protection against fraud. Physical bookstores may stock only current or high-demand

titles, while students often need older editions, specialized texts, or books used for a short module.

The problem is therefore not only price. It is an information and coordination failure involving discoverability, trust, logistics, and timing. The capstone will test whether a specialized marketplace can improve access while protecting users and remaining affordable.

Project Aim and Objectives

The aim is to design, pilot, and evaluate a functional online marketplace for used academic books serving selected Nigerian colleges. The project objectives are to identify student requirements, build a mobile-responsive minimum viable product, create a searchable catalogue, support secure communication, test campus-based exchange methods, measure usability and adoption, and develop a sustainable operating plan.

The pilot will not claim to solve national textbook access immediately. It will begin with a manageable number of institutions and subjects, collect evidence, and refine the service before expansion. This staged approach reduces technical and financial risk.

Target Users and Stakeholders

Primary users are undergraduate and postgraduate students who need books or wish to sell copies they no longer use. Secondary users include graduates, lecturers, libraries, student associations, campus bookstores, courier services, and administrators responsible for safety or student welfare.

Stakeholders have different interests. Buyers need accurate descriptions and affordable prices. Sellers need simple listing and reliable contact. Institutions need protection against fraud and unlawful content. Publishers and authors need respect for copyright. Delivery partners need clear addresses and payment arrangements. The design process must therefore gather requirements from more than one group.

Needs Assessment

A mixed-method needs assessment will combine a short questionnaire with interviews or focus groups. Questions will examine access to smartphones and data, current methods of obtaining books, average search time, price sensitivity, preferred payment and delivery methods, willingness to buy used books, willingness to sell or donate, concerns about fraud, and desired accessibility features.

Sampling should include students from different years, disciplines, institutions, income groups, and locations. Online surveys alone may exclude people with weak connectivity, so paper or interviewer-assisted options should be available. The study should report the sample and limitations rather than

treating respondents as representative of every Nigerian student.

Core Platform Functions

Each listing should include title, author, edition, ISBN where available, course or subject, condition, price, campus or city, exchange method, and clear photographs. Search filters should allow users to find books by title, author, course code, institution, discipline, and location. The system should warn users when an edition differs from the one requested by a lecturer.

Users should be able to save searches and receive notifications when a matching book appears. Communication should occur through protected in-platform messaging or a privacy-conscious contact method. Personal phone numbers, home addresses, identity documents, and location data should not be displayed publicly.

Trust and Safety Design

Trust is the central challenge for a student marketplace. Registration can use email or phone verification, with optional institutional verification for users who choose it. Verification should not become so burdensome that it excludes students without a particular email domain. The platform can display transaction history, completed exchanges, and moderated ratings while allowing users to challenge unfair feedback.

Listings should be reviewed through automated rules and human moderation. Prohibited items include pirated digital files, stolen books, examination papers, forged certificates, and unlawful material. Users need an accessible reporting system for fraud, harassment, counterfeit books, or unsafe meeting requests.

For face-to-face exchanges, the platform should recommend public campus locations during appropriate hours. It should not encourage meetings in private homes. A pilot may partner with libraries, student centers, or bookstores as supervised pickup points.

Payment and Delivery Options

The minimum viable product may begin with cashless payment on exchange or direct payment between users, but the risks must be clearly explained. An integrated payment or escrow system could be added after legal, financial, and technical review. The platform should never claim to protect a payment method that it does not actually control.

Delivery options may include campus pickup, local courier, or intercity shipment. Books are heavy relative to their price, so delivery cost can remove the savings of buying used. Search results should

prioritize nearby copies and show total estimated cost before the user commits.

Low-Bandwidth and Mobile-First Access

The service should be designed for low-cost Android phones and variable network conditions. Pages should load with minimal data, images should be compressed, and essential functions should work without continuous high-speed connectivity. Users should be able to complete a listing in short steps and resume after interruption.

A progressive web application can provide an app-like experience without requiring a large download. SMS or email notifications may support users who do not keep the application open. Accessibility should include readable contrast, scalable text, labels for form fields, keyboard navigation, and descriptive text for images.

Data Protection and Privacy

The Nigeria Data Protection Act 2023 establishes obligations concerning lawful processing, transparency, data minimization, security, and the rights of data subjects. The project should collect only information necessary to operate the marketplace. A clear privacy notice must explain what is collected, why it is used, how long it is retained, who receives it, and how users can exercise their rights. (Nigeria Data Protection Commission)

Passwords must be securely hashed, sensitive traffic encrypted, administrative access restricted, and incidents documented. The platform should not sell student data or use behavioral profiles for unrelated advertising. Where users are minors, additional safeguards and institutional guidance may be required.

Development Method

An iterative development method is appropriate because student feedback will change requirements. The first phase will define user stories and information architecture. The second will produce wireframes and a clickable prototype. The third will build the minimum viable product with registration, listings, search, messaging, reporting, and administration. The fourth will conduct usability and security testing before a limited pilot. (Wright)

Development should use version control, documented code review, secure configuration, backups, and a test environment separate from production. The project schedule may span approximately four months for a prototype and pilot, but the timeline should be tied to milestones rather than a fixed promise.

Marketing and Adoption

Marketing should begin with trusted campus channels: student unions, department associations, libraries, lecturers, orientation programs, and verified social-media pages. The message should focus on affordability, reuse, and convenience rather than claiming immediate national dominance. (Pinheiro)

Early adoption can be encouraged through book-donation drives, free listings, referral codes, and launch events at exchange points. Advertising should not overwhelm the interface or expose students to deceptive products. Revenue decisions must remain consistent with the educational purpose.

Evaluation Framework

Evaluation will measure whether the platform works, whether students use it, and whether it improves access. Process indicators include completed registrations, valid listings, search success, response time, reports handled, and system availability. Outcome indicators include completed exchanges, average buyer savings, time needed to locate a book, percentage of users who obtain the correct edition, and satisfaction.

Qualitative interviews should explore why students abandon searches, distrust listings, or prefer informal channels. Results should be separated by campus, subject, and connectivity level where sample size allows. A high number of registrations is not sufficient evidence of educational impact; completed and satisfactory access matters more.

Risk Management

Major risks include fraud, low participation, data breaches, inaccurate listings, unsafe meetings, copyright violations, delivery failure, and insufficient operating funds. Each risk requires an owner and response. For example, fraud can be reduced through verification, reporting, transaction records, moderated ratings, and warnings. Low participation can be addressed through concentrated campus pilots rather than spreading listings too thinly across the country.

The project should maintain backups, an incident-response procedure, moderation standards, and a method for suspending accounts. It should also publish clear terms stating the platform's responsibilities and limits without using those terms to avoid reasonable consumer protection.

Financial and Operational Sustainability

Free student access is desirable, but advertising alone may be unreliable and can create privacy

incentives. A mixed model may include institutional sponsorship, modest fees for commercial booksellers, optional promoted listings clearly marked as advertising, grants, and partnerships. Ordinary students should be able to list and search at little or no cost during the pilot.

Operational costs include hosting, messaging, moderation, security, customer support, development, and legal compliance. A sustainability plan should estimate these costs and define the volume required before expansion.

Expected Contribution

The capstone will contribute a tested design and evidence about student book exchange rather than merely a website. It will document user needs, technical decisions, safety controls, pilot outcomes, and lessons for future versions. Even if adoption is lower than expected, the evaluation can identify barriers that institutions and libraries should address.

Conclusion

A specialized used-book marketplace can improve textbook access for Nigerian college scholars when it is designed around local affordability, location, connectivity, trust, and privacy. The project should begin with a limited mobile-first pilot, protect users under the Nigeria Data Protection Act, and evaluate completed access rather than publicity alone. Its educational value will come from connecting existing resources to students efficiently while creating a safe and sustainable process for exchange.

References

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