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STUDY NOW PAY LATER

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ABSTRACT—The "Study Now, Pay Later" platform is a conceptualised tool to help students manage their budgets during their education. The online system enables them to get loans of money to buy essential elements of the education process, such as books, online courses, and school fees, and they are in turn given a full-fledged repayment option that keeps them the flexibility to pay later. In addition to this financial support, the platform makes use of AI technology and ML techniques to provide individualised course recommendations and learning roadmaps, which in turn make education better. Thus, students will pursue the most suitable paths, such as web development and cybersecurity. Further to the above, the platform uses an encrypted login mechanism that takes in the personal information of the users for the purpose of depositing their IDs securely and compliant with GDPR. The report also presents technology architecture-inclined, finance-type mechanisms, AI-guidance roadmap resonance, and challenges, plus benefits of the rollout of the "Study Now, Pay Later" product across the educational arena.

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INDEX TERMS— Study Now Pay Later, AI/ML, financial assistance, personalized learning, educational technology, cybersecurity, web development.

1. INTRODUCTION

Education sets the course for a prosperous future for an individual and community; however, the financial denuding generally accompanies it. Moreover, there is a tuition fee that is going up each time, and there are also textbooks and online courses' fees that have hiked to high cost levels. These ongoings intensify students' educational expenses, thus making it difficult for them to efficiently manage them. Instead, it benefits them through its finance model, which makes it possible for students to get the educational resources first and subsequently refund their expenses gradually over time. As a tool to support learning, the platform complements financial support with AI/ML to suggest personalised paths of learning, thereby reducing obstacles and cutting attendance down.

This document sets out the aims, ideology, and examples where the platform is used to draw links between financial institutions and AI-driven course recommendations so that the students can have a better educational experience. The focus is to show the entire process of development supported by literature review and interviews with students and teachers for finding out how the platform is impacting their learning process.

2. PLATFORM OVERVIEW

the "study now, pay later" platform works on both online and offline channels as a website and a mobile app. it gives two main services: financial education in the form of scholarships and grants and professional growth guidance through ai and ml. the platform is equipped with the following features:

2.1 *FINANCIAL ASSISTANCE*

Loan Facility: Students can get loans for purchasing their course materials, online courses, and tuition fees. The loan amount is decided by the user's educational needs and repayment capacity. The loan period is elastic, and the borrowers may pay their debts over a period of time.

Repayment Terms: After getting their educational resources, they can set a successful honour course. The platform provides the user with comfortable options with low-interest rates and longer repayment periods to suit the side of the voter.

2.2 *PERSONALIZED COURSE ROADMAPS*

AI/ML Integration: The site makes use of AI/ML algorithms to analyse the preferences, skills, and career aspirations of users and then, set personalized course roadmaps. With these roadmaps, users can easily choose between different topics

such as Web Development, Cybersecurity, Data Science, and others.

Dynamic Learning Paths: Basing on the user's career plan and progress, the system alters course ideas, walking the learner step-by-step in order to reach a professional goal.

2.3 *AUTHENTICATION AND SECURITY*

User Authentication: The platform security and integrity are safeguarded by users who are requested to provide proof of identity such as ID and personal information in order to authenticate themselves.

Data Security: All private information is strongly encrypted and stored in the most secure way, complying with the best practices of user privacy and security.

3. TECHNICAL ARCHITECTURE

The platform was built with a very solid and elastic architecture where new users and their data can be loaded in unlimited numbers. Main parts of the architecture:

3.1 *FRONTEND (WEBSITE APP)*

Responsive Design: This platform utilizes responsive web technologies to grant uniformity in experiencing the product within all devices ranging from desktop to tab and mobile.

User Interface: Simple usability is the design element of this interface, allowing the students to do everything-be it loan application, track repayment schedules, or get course recommendations from the experts.

Mobile Application: With an available mobile application, clients may not only ensure access to their account management but also learning materials on the go.

3.2. BACKEND

Cloud-Based Infrastructure: The backend will be deployed on a secure, scalable cloud environment for handling user data, loan transactions, and AI recommendations.

Server-Side Logic: Handles core functionality like loan approval process, repayment processing, and module integration to AI/ML.

Database: utilizes a relational database to store the user profiles, loan information and repayment details, and course data.

3.3*. AI/ML ALGORITHMS*

Recommendation System:

Collaborative Filtering: identifies courses that the similar users liked.

Content-Based Filtering: examines individual user's profile or career goals and sets of skills to offer recommendations to an individual.

Natural Language Processing (NLP): makes meaning from the text inputs from users, such as in terms of career aspirations, to refine the personalized learning road maps.

Predictive Analytics: Assesses loan repayment risks by analyzing user data, enhancing the platform's financial stability.

4. PREFERENCES AND SKILLS

The "Study Now, Pay Later" site uses advanced AI/ML algorithms to analyze user preference, skills, and aspirations in their careers. It uses these insights to guide the students to preferred education resources and career pathways that best suit them.

1. ***PREFERENCE IDENTIFICATION***

Input Analysis from Users: Students will make initial inputs such as the area of interest (such as Web Development, Cybersecurity, or Data Science), desired career, and style of learning.

Behavioral Tracking: The system records the user's behavior, including courses viewed and topics subscribed to, to enhance its insight into their interests.

2. ***SKILL PROFILING***

Diagnostic Tests: The system provides diagnostic tests to analyze the user's prior knowledge and skills in particular fields.

Monitoring of Progress: The system tracks users' learning progress by tracking course completion rates, quiz scores, and other indicators, allowing it to update skill profiles in real-time.

3. ***RECOMMENDATIONS***

Course Recommendation:

Combines collaborative and content-based filtering to suggest courses that align with users' current skill levels and career goals.

Based on the skill gaps discovered through assessments, recommends courses for beginners, intermediate levels, or advanced-level learning.

Dynamic Learning Roadmaps: The learning paths of the users are updated real-time as they gain new skills. This ensures step-by-step progression toward professional objectives.

5.Benefits of "Study Now, Pay Later"

5.1 FINANCIAL FLEXIBILITY

Students can use the educational resources immediately and then they don't have to think about the money they have to pay in the beginning. This is the biggest roadblock for people with limited resources, in particular to education.

5.2 PERSONALIZED LEARNING

Just the frailties led by AI will put students in the courses and career paths that go together hence sticking to the course is simplified in terms of the educational process.

5.3 IMPROVED ACCESS TO EDUCATION

Out of the incorporation of both the financial aid and suggested personal learning strategies, the platform is developing education for the poor who are they currently do not the required equipment.

5.4 CONVENIENCE AND SECURITY

The platform enables secure payments, and effortless loan deftness, and complexities privacy and security are the divers of unstable user data lock mechanisms using strong authentication procedures.

A web-based structure that holds the user information, data, loans, course suggestions, and payment details are well protected. information. This e-infrastructure has also acclaimed the area, hence the influence is increasing.

- It is compatible with AI algorithms, like data analysis personal course pointer and financial risk assessment for loan eligibility.

6. CHALLENGES AND LIMITATIONS

The financial risks associated with a "Study Now, Pay Later" (SNPL) service offering cash for courses and for tuition fees, repayable on a deferred basis, involve understanding a number of potential risks. Here are the main risks:

6.1. DEFAULT RISK

Borrower Default: There is a risk that students or borrowers may fail to repay their loans as agreed, especially if their financial situation changes after they have completed their course. This could lead to significant losses for the lender.

Late Payments: Despite the possibility that defaults don't happen, late payments may compromise the cash flow of the lender and incur further administrative charges.

6.2. CREDIT RISK

Unreliable Credit Assessment: If the lender does not properly assess the creditworthiness of borrowers, they may lend to individuals who are unable to repay. This risk is worsened if the borrower has no prior credit track record or a stable income base following graduation.

Changing Financial Situations: Students can find it unrewarding to guesstimate future earning potential, with ensuing post-graduation payment issues if their reality proves different from their estimation.

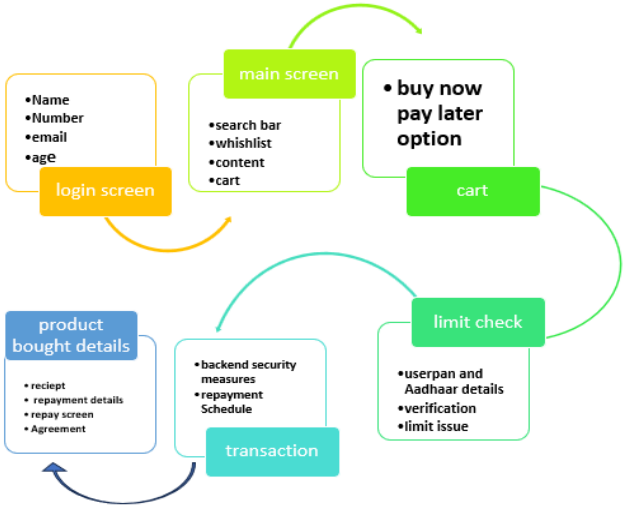
6.3. INTEREST RATE RISK

Rising Borrowing Costs: When the lending platform employs variable interest rates, ups and downs in interest rates could result in higher loan costs for students and increase the risk of defaults or dissatisfaction among borrowers.

Profitability Issues: However, if interest rates are set too low to incentivise borrowing, the lender may not acquire enough revenue to cover its operating expenses nor to cope with defaults.

6.4. REGULATORY RISK

Changes in Regulations: Financial regulation of lending, especially concerning student loans, can vary over time. The new legislation could introduce even more stringent rules around lending activities, which are likely to impact



profitability or the operating model of the SNPL service.

Consumer Protection Laws: The debtor lender has to adhere to consumer protection regulations that may impose a constraint on the lender's collection of payment, applying a fee or on handling of defaults. Non-compliance can lead to penalties or lawsuits.

FIGURES AND TABLES

7.CONCLUSIONS

The "Study Now, Pay Later" platform represents a significant advancement in making education more accessible by combining financial support with personalised learning pathways. Through providing an adaptable loan platform and utilising AI/ML to recommend tailor-made courses based on the field, the platform eliminates financial hurdles and educational barriers for students. Additional security of user authentication is provided by the integration of the system, which guarantees the platform will continue to be trustworthy and safe. In a time of constantly changing educational landscapes, such tools have the potential to profoundly impact the approach to learning and educational budget management of the students.

Future developments and advances in the use of AI/ML may help make the platform more efficient in offering personalised recommendations and in the provision of financial services. Using the proper mix of financial aid, customised learning, and trusted technology, the "Study Now, Pay Later" platform has the potential to transform the future of how education is attained and paid for.

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AUHTORS

PRATIKSHA DHANDE is an Assistant Professor in the Department of Computer Science and Engineering at MIT ADT University, Pune, where she has been a dedicated faculty member since 2024. She earned her B.E. in Computer Science and Engineering from Sant Gadge Baba Amravati University in 2008, followed by an M.Tech. in Computer Engineering from Bharati Vidyapeeth Deemed University, Pune, in 2013.

Prof. Pratiksha's research is deeply focused on the intersection of machine learning and healthcare, specifically in the application of advanced machine learning techniques for predictive modeling, disease diagnosis, and medical image analysis. Her work concentrates on using machine learning to analyze Electronic Health Records (EHR) and medical images, aiming to improve early disease detection and enhance healthcare outcomes.

She is an active member of the International Association of Engineers (IAENG) society.

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HARSH CHAWDA is currently pursuing his B.Tech. in Computer Science and Engineering from MIT ADT University, Pune, India. His research interests include mainly cybersecurity, especially on designing secure systems and advanced authentication mechanisms.

Harsh has been a contributor to innovative projects, including the "Study Now, Pay Later" platform. He was very instrumental in designing secure login mechanisms and ensuring compliance with data privacy regulations. His work reflects a strong commitment to enhancing user security while making it easy to integrate technology seamlessly.

Apart from these academic activities, Harsh has been involved in many workshops and competitions related to cybersecurity, thus making himself sharper in recognizing and mitigating vulnerabilities. He would like to venture into research in the area of cybersecurity with an emphasis on where privacy, cryptography, and systems' resilience meet.

NIKHIL THORAT is a student pursuing B.Tech. in Computer Science and Engineering at MIT ADT University, Pune, India. His interests of research areas include AI and ML with applications in the area of educational technology and financial systems.

As a final-year undergraduate, Nikhil has actively contributed to projects that leverage AI/ML to enhance personalized learning experiences and address real-world challenges, including his work on the "Study Now, Pay Later" platform. He is passionate about using technology to bridge gaps in education and empower learners with innovative solutions.

Besides his academic activities, Nikhil has participated in many hackathons and technical events to hone his skills in software development and problem-solving. He intends to continue research in AI/ML, aiming for developing scalable and impactful technological solutions.