



SUCCESS STORY

Enabling NSDC To Develop A Scalable Online Learning Platform For Nationwide Skill Development

Customer

National Skill Development Corporation

Country

India

Industry

Government



ABOUT THE CLIENT



The National Skill Development Corporation (NSDC) is a government-backed organization in India working in a public-private partnership with India's Ministry of Skill Development and Entrepreneurship. Through its online platform called the Skill India Digital Hub (SIDH), NSDC provides skill-based training to students in higher education, focused on making education more practical and career-oriented in line with India's National Education Policy (NEP) 2020.

SERVICES DELIVERED

AI Development



Custom Software Development



Mobile App Development



TECH STACK



UNDERSTANDING THE VISION AND THE REQUIREMENTS

The National Skill Development Corporation (NSDC) identified a critical need to align skill development with the evolving demands of India's emerging workforce. Rapid advancements across sectors like healthcare, IT, retail, and agriculture stated a need for robust digital infrastructure to bridge the skills gap while ensuring quality education aligned with the National Education Policy of India. This initiative aims to equip individuals with job-ready skills for the future economy.

Their vision was to develop a digital ecosystem where employers, training providers, and learners could seamlessly interact, ensuring that the supply of skills met the demand in the job market.

Recognizing the complexity and scale of this vision, Daffodil Software recommended building the platform on a cutting-edge microservices architecture combined with AI-first design principles. This modular approach allowed each functional component like personalized learning paths, skill tracking, and job matching to scale independently.

KEY REQUIREMENTS

01

Scalable Learning Management System (LMS)

A strong backend capable of supporting thousands of concurrent learners without compromising speed or user experience.

02

Personalized Learning Paths

AI-driven recommendation engines to tailor course suggestions and progression based on individual learner profiles, skill levels, and career aspirations.

03

AI-based Job Matching Algorithm

Intelligent matching between learner skills and available opportunities, enabling seamless transition from training to employment.

04

Blockchain-Powered Certifications

Tamper-proof, verifiable digital certificates to ensure trust and transparency in skill validation.

05

Multi-Stakeholder Portals

Dedicated interfaces for learners, employers, and training providers to interact, collaborate, and share resources effectively.

06

Data Security and Compliance

Adherence to global data privacy and security standards to protect sensitive learner and employer information.

07

Learner Support Module

Implement a centralized ticketing management system to handle queries from learners and third parties in real time.

Daffodil began by engaging closely with key stakeholders, such as policymakers, training providers, employers, and potential learners. The product discovery phase mapped user journeys for each stakeholder group and identified gaps in existing e-learning models. These insights helped shape a clear roadmap that balanced long-term vision with short-term deliverables.

Microservices-Based Architecture

To meet the demands of multiple features and stakeholders, we designed the platform using a microservices architecture. Each service, such as course management, authentication, certification, AI recommendations, and job matching, was decoupled for independent scalability and faster updates. This ensured high resilience, simplified maintenance, and the ability to add new modules without disruption.

User-Centric UI/UX Design

With diverse users from young graduates to senior professionals, rural learners to corporate employers, we invested heavily in UI/UX design. The result was an intuitive, multilingual interface with accessible layouts, personalized dashboards, and seamless navigation across devices. Employers were provided with intelligent dashboards for workforce insights, while learners could track their progress and certifications easily.

Modern Web Development With Next.js

For the web platform, we leveraged Next.js, a React-based framework, to deliver a seamless and high-performance experience. Its server-side rendering (SSR) and static site generation (SSG) capabilities were particularly valuable in ensuring fast load times and optimized SEO: critical for a platform catering to millions of learners across geographies. The framework's flexibility also enabled smoother integrations with APIs powering microservices, AI algorithms, and blockchain-ledger certifications.

Blockchain-Powered Certifications

We built a blockchain-backed digital credentialing system that issued tamper-proof, verifiable certificates. This allowed learners to showcase their skills confidently and enabled employers to trust the authenticity of achievements without manual verification.

Leveraging Cloud-Native Deployment For Faster Feature Releases

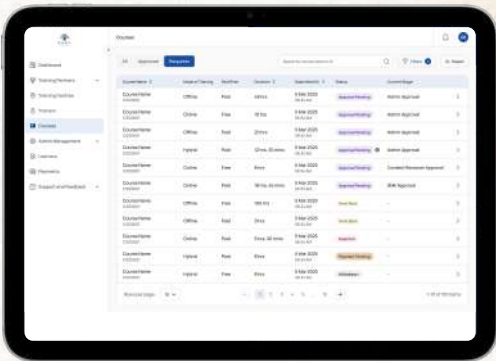
Our engineering team ensured the platform was secure, compliant, and scalable. Cloud-native deployment with auto-scaling supported high traffic surges during nationwide campaigns. Continuous integration/continuous deployment (CI/CD) pipelines accelerated feature releases, while monitoring and logging frameworks safeguarded uptime and performance.

KEY FEATURES TO ENHANCE PLATFORM PERFORMANCE

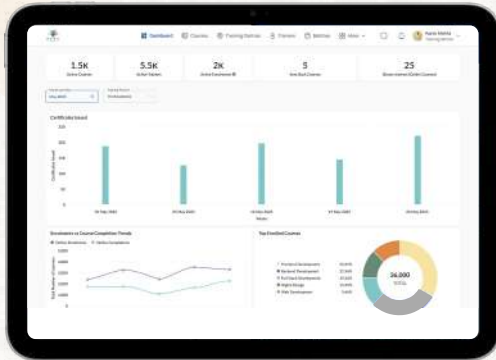
01 Admin Dashboard

The Admin Dashboard enables administrators to efficiently manage and track all course submissions with features like advanced filtering, export options, and real-time status updates for approvals, payments, and workflow stages.

It provides comprehensive modules for handling training partners, training centres, trainers, learners, payments, and support with centralized operational control. So, they get full transparency throughout the platform.





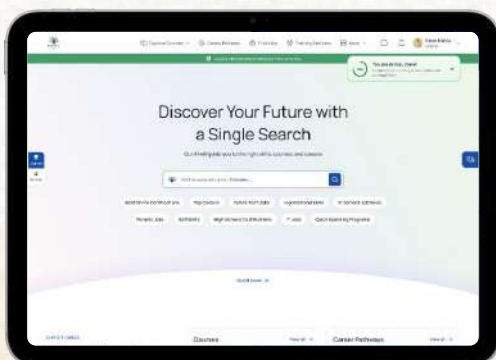
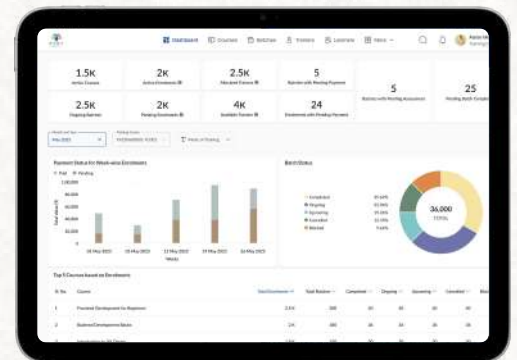


02 Training Partner Dashboard

A user-friendly platform for training partners to monitor and manage their skill development activities. It includes insightful visual analytics that track weekly certificates in real-time, show enrollment versus course completion trends, and give a clear breakdown of top enrolled courses by category, promoting informed decision-making to enhance course effectiveness.

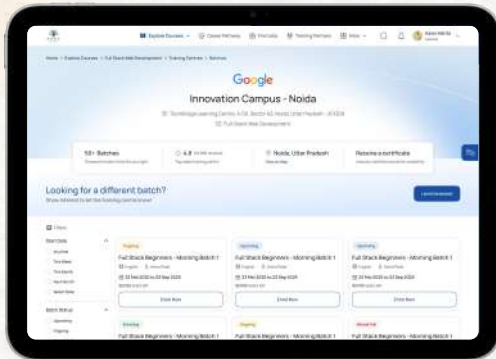
03 Training Centre Dashboard

This dashboard helps training centers easily keep track of their training progress and manage payments and batches effectively. It displays key metrics such as active courses, enrolments, allocated and available trainers, ongoing and pending batches, payment status etc., enabling detailed operational tracking.



04 Learner's Homepage

This landing page offers a unified user-centric experience to help learners advance their professional development. With curated courses from top providers like Udemy, Google, and Intel, it highlights the most popular courses across various domains, offering tailored courses suited to each learner's interests. The platform also showcases job opportunities from reputed companies for seamless access to skill-building resources.

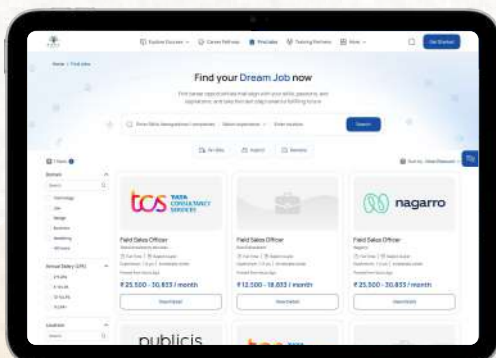
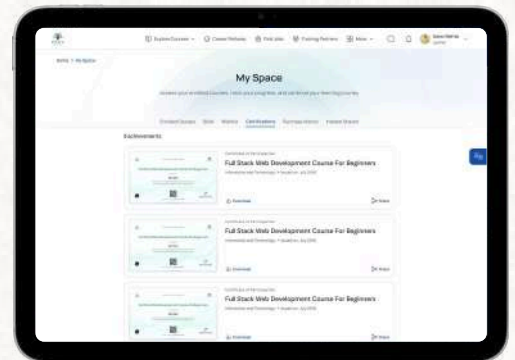


05 Multi-Modal Learning Delivery

The platform enables hybrid learning models that blend self-paced digital content with instructor-led sessions. This approach ensures flexibility, caters to diverse learning preferences, and bridges regional internet accessibility gaps, thereby creating an inclusive learning ecosystem.

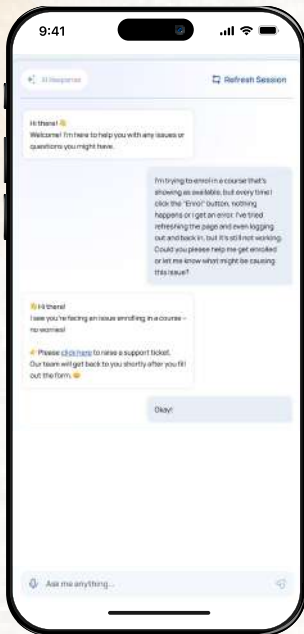
06 Blockchain-Based Certification

Certificates are issued using decentralized blockchain technology, ensuring they are tamper-proof and verifiable. This strengthens trust, eliminates fraud risks, and enhances credibility among learners and recruiters.



07 Integrated Job Board (JobX)

An intelligent job-matching engine connects verified learner credentials with 2000+ live job vacancies. By converting every completed course into a relevant job opportunity, it personalizes role recommendations and simplifies career placement, all without additional log-ins.

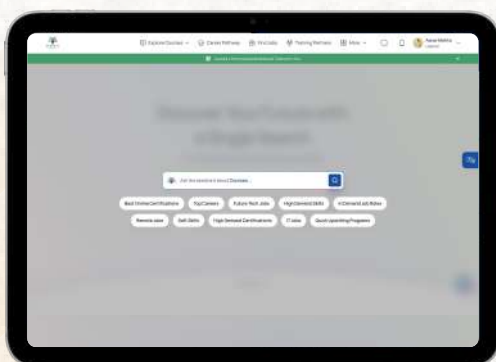
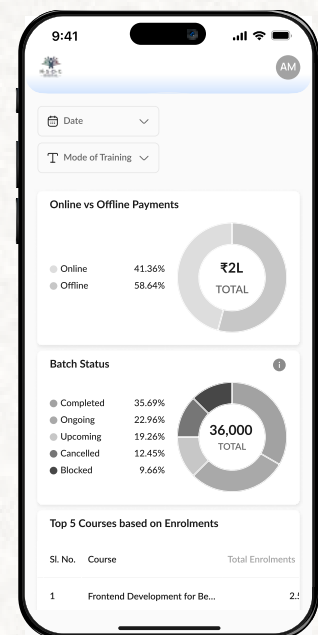


08 RASA-Based AI Chatbot

The AI chatbot, built on the RASA framework is powered by the LLaMA large language model, providing natural and intelligent interactions. Supporting Indian languages like English, Hindi, and Hinglish in both text and voice, it helps users navigate the platform, resolve queries, and explore career options in a conversational manner.

09 Mobile-First Approach With Android & IOS Apps

Recognizing that a large portion of learners, especially in rural and semi-urban regions would access the platform via smartphones, we developed native Android and iOS apps along with the web portal. These apps ensured uninterrupted learning with offline capabilities, push notifications for course updates, and localized interfaces for inclusivity.



10 Personalized Learning & AI Integration

The core of the learner experience was personalization. We embedded AI-driven recommendation engines that studied user behavior, past progress, and career interests to suggest tailored learning paths. Additionally, our AI-based job-matching algorithm connected learners with relevant job opportunities and training programs, ensuring that skills translate into employability.

IMPACT

In partnership with NSDC, the platform has opened up scalable, secure, and accessible digital learning opportunities for 1 million+ learners, even in remote areas. Users now enjoy access to 500+ courses in AI, drones, data-science & cloud computing from leading providers, delivered through flexible learning models. With the integrated job board, above 26,000 verified candidates reported placements across 25+ countries. While over 1 crore tamper-proof, verifiable digital certificates have been issued till date with the blockchain certification system.

At the ecosystem level, administrators gained enhanced visibility and efficiency in managing approvals, payments, and workflows, while training providers witnessed 60 % reduced error rate with real-time tracking of certifications, enrolments, and batches.

Overall, the platform has become a trusted, large-scale solution that connects education with employability, contributing directly to India's vision of becoming the global skill capital.

7,100

Courses
Offered

1.3 crore

Learners
Engaged

42,000

Training
Partners



HAVE A SOFTWARE PRODUCT VISION IN MIND?

Set up a personalized consultation with our technology expert

Let's Talk ↗



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