Project Proposal

"Introducing Multilingual AI-Powered Platforms for Students and Teachers Supports Tests, Question Banks, and Assignments, AI DoubtSolving Teacher. "

Gyansopan

Submitted To:

Date:[/   /   ]

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Table of **Contents**

Subject

We respectfully request the [Name of Organization] to consider implementing our AI-powered software tool, GYANSOPAN. The platform is designed to assist students and teachers with tests, question banks, and assignments in multiple regional languages. By leveraging GYANSOPAN, we aim to bridge educational gaps, enhance learning experiences, and ensure equitable access to educational resources for all students across the state, regardless of their linguistic backgrounds or geographical locations. Moreover, GYANSOPAN is accessible from any device, further facilitating seamless learning opportunities for every student.

About GYANSOPAN

The term "GYANSOPAN" is derived from two Sanskrit words: "GYAN," meaning "Knowledge," and "SOPAN," which translates to "Steps." Together, GYANSOPAN represents the journey or steps toward acquiring knowledge.

GYANSOPAN is an AI-powered web platform accessible through any browser on various devices. It is specifically designed to assist educational institutions—such as schools and universities along with teachers, students, and parents. The platform's main goal is to improve students' academic performance and skill development.

Key features of GYANSOPAN include comprehensive question banks available in multiple regional languages, a wide range of tests and assignments for students, and in-depth tracking of student performance. This includes monitoring students' ability to solve different types of questions, the time spent on each, and other essential metrics.

The platform also leverages Optical Character Recognition (OCR) technology to extract data from PDF documents. This enables GYANSOPAN to efficiently generate question banks and academic materials.

Additionally, GYANSOPAN integrates Bloom's Taxonomy for content classification and incorporates open-source data from various internationally recognized competitive exams, including Olympiads like the Ramanujan Contest and the Gauss Contest.

To further enhance the experience, GYANSOPAN features AI-based proctoring to monitor and detect any unauthorized activity during tests and assignments. It provides AI-driven analysis and generates detailed reports, allowing teachers and parents to assess student performance with ease and accuracy.

Problem Statement for GYANSOPAN

Background: In India, students face significant barriers to accessing quality education and assessment tools. These challenges are particularly evident in rural and underserved areas, where geographical limitations, language barriers, and a lack of educational infrastructure create disparities in learning opportunities. Additionally, educational institutions struggle with inefficiencies in administrative processes, resource management, and assessment procedures.

Problem Definition

The current education system in India faces critical challenges that hinder equitable learning and efficient evaluation. These challenges include:

Limited Accessibility and Inclusivity

- Students in rural and remote areas lack access to standardized examinations and learning resources.
- Language barriers limit students' ability to understand and engage with educational materials, especially in states with diverse linguistic demographics.
- There is an urgent need to bridge the gap between urban and rural education systems, ensuring equal opportunities for all students across Indian states and districts.

Inefficiencies in Operational and Resource Management

- Educational institutions face high administrative burdens due to manual processes in registration, exam management, and student assessments.
- Resource allocation for exams and assessments is inefficient, resulting in increased costs and logistical challenges, particularly in government schools.
- Dependency on physical materials creates financial strain and environmental concerns, making digital transformation a necessity.

# Gaps in Educational Quality and Personalization

- Lack of detailed performance analytics prevents targeted improvements in teaching and learning outcomes.
- Students do not receive personalized learning experiences based on their strengths, weaknesses, and interests.
- Educators spend significant time on administrative tasks, reducing their ability to focus on instructional activities.

Challenges in Assessment and Evaluation
- Traditional assessment methods lack flexibility, customization, and real-time feedback.
- Policymakers and educators require comprehensive data insights to track student progress and improve educational strategies.
- Students need continuous learning opportunities, including mock tests and assignments, to prepare for higher education and national-level competitive exams like JEE, NEET, and UPSC.

Insufficient Technological Integration and Security
- Current education systems do not leverage AI-driven automation for scalability and efficiency.
- Examination integrity is compromised due to inefficient monitoring and security loopholes, leading to concerns about malpractice.
- There is a lack of modernization in educational tools, hindering students' ability to compete on a global scale and prepare for international assessments.
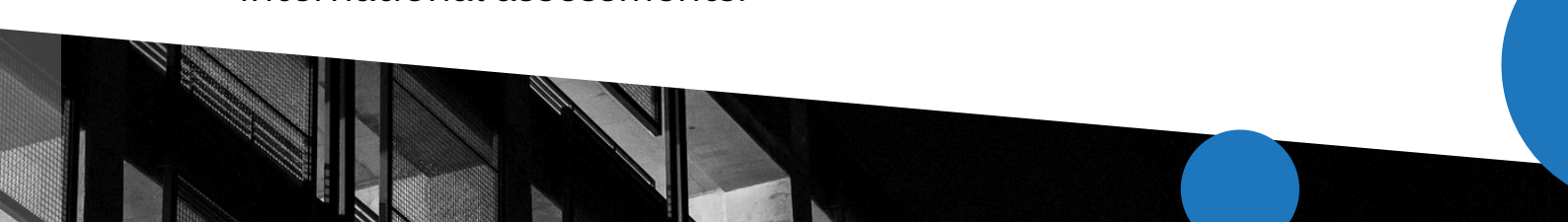
Need for a Solution

The above challenges highlight the necessity of an innovative, technology-driven platform that:

- Ensures equitable access to educational resources and assessments across diverse geographical and linguistic backgrounds in India.
- Streamlines administrative processes, reducing workload and costs for institutions, particularly in government-run schools.
- Implements AI-driven analytics for personalized learning and improved teaching methodologies tailored to the Indian curriculum.
- Provides flexible and secure assessment methods that cater to students' diverse learning needs, including CBSE, ICSE, and state board examinations.
- Enhances the overall Indian education system by incorporating modern technological solutions aligned with the National Education Policy (NEP) 2020.

GYANSOPAN aims to address these challenges by leveraging advanced technologies to create an accessible, efficient, and high-quality education system that benefits students, educators, and policymakers across India.

GYANSOPAN Features: For Teachers

- ***AI Avatar Generator:*** *Teachers can create personalized AI avatars, allowing them to represent themselves as virtual instructors in an engaging and innovative way.*
- ***AI Question Generator:*** *Effortlessly generate questions based on textbooks and custom content, simplifying the creation of assessments and assignments.*
- *Unlimited Course Creation: Teachers can create an unlimited number of courses, offering flexibility to design a wide range of learning experiences.*
- *Unlimited Test Creation: Generate an unlimited number of mock tests and live tests for continuous assessment and feedback for students.*
- ***Proctored Test Feature:*** *Teachers can create proctored tests to monitor students' activities during exams, ensuring integrity and preventing malpractice.*
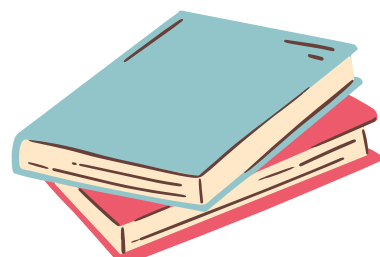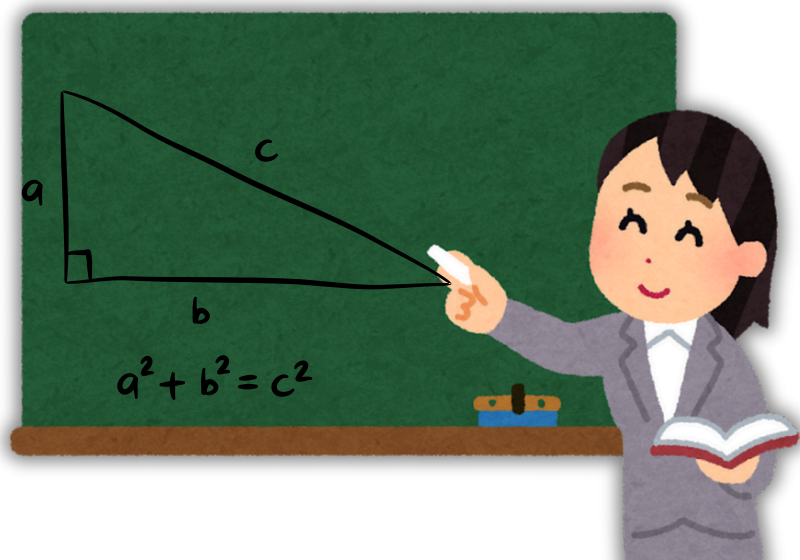
GYANSOPAN Features: For Students

- **Access to Unlimited Assignments and Tests:** Students have unlimited access to assignments and tests, allowing them to practice and improve at their own pace.
- **AI-Powered Performance Insights:** Personalized insights into progress, strengths, and areas for improvement using AI-driven performance analysis.
- **AI Tutor for Doubt Solving:** Students can interact with an AI-powered tutor for real-time assistance in resolving doubts and questions.
- **Public Question Bank:** Access to a shared public question bank for various exams, such as NTS, MTS, and scholarships, supporting effective test preparation.

For Institutions:

- Centralized Dashboard: Institutes have access to a centralized dashboard for tracking student performance, teacher activities, and course progress, providing a holistic view of the academic ecosystem.
- Bulk Enrollment Management: Institutes can efficiently manage bulk enrollments for courses and tests, making it easier to scale educational offerings to large groups of students.
- Institutional Analytics: Advanced analytics and reports allow institutions to monitor overall student performance trends, teacher effectiveness, and course success, enabling data-driven decisions.
- Proctored Exam Oversight: Institutes can use the proctored exam feature to ensure exam integrity for large student bodies, minimizing the chances of malpractice and maintaining fairness.

Platform Features

- **_Cloud Hosting:_** _Hosted on the cloud, ensuring global access and seamless operation from any location, with high scalability and security._
- **_Online Workshops and Demonstrations:_** _The platform allows the hosting of interactive online workshops and demonstrations for live engagement between teachers and students._
- **_Multilingual Feature:_** _The platform offers support for multiple languages (e.g., Marathi, Hindi, English, Odia, etc.), ensuring accessibility for users across different linguistic backgrounds._
- **_User Friendly Interface:_** _Users can easily operate the entire system through its simple, interactive interface._

Implementation of GYANSOPAN

GYANSOPAN has been successfully implemented at Bhaskaracharya Pratishthan Pune, a distinguished Educational and Research Institute specializing in Mathematics. This platform facilitated the conduct of the BMTSC (Bhaskaracharya Mathematics Talent Search Competition) competitive examination for the academic years 2022-2023 and 2023-2024. Bhaskaracharya Pratishthan, recognized by the National Board of Higher Mathematics NBHM (Government of India), is entrusted with the responsibility of administering the Regional Mathematics Olympiad examination in the Maharashtra and Goa states region. For further information, please visit https://www.bprim.org/ .

About Us

Chainworks Digital Private Limited is a start-up company, registered in Mumbai ROC Maharashtra. The company is founded by the alumni of IIT Bombay and Pune University. The company is financially supported by the SOCIETY FOR INNOVATION & ENTREPRENEURSHIP (SINE), a section of IIT Bombay. The company is actively working with the State Government of Maharashtra for Organ Donations and Transplants software MAHAAYUDAAN's design, development, implementation and its maintenance.

With over 15 years of collective expertise in product research, development, and implementation, Chainworks is committed to guiding clients from ideation to execution, helping them thrive in a rapidly evolving digital economy. The company's mission is to empower enterprises and governments to embrace the transformative potential of blockchain technology by focusing on innovative, secure, and scalable solutions that ensure transparency, efficiency, and trust.

Chainworks' core values include innovation, integrity, customer-centricity, collaboration, excellence, and sustainability. The company emphasizes secure and scalable solutions, transparency, agility, a knowledge-driven approach, and accountability in all its projects. By leveraging cutting-edge technology and a commitment to excellence, Chainworks aims to revolutionize the way businesses operate in the digital age. For further information, please visit https://www.chainworks.io.