

GENIUS GROVING: STUDENT-TUTOR CONNECTION PLATFORM

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ABSTRACT:

Genius Groving is a state-of-the-art online studenttutor matching platform that aims to connect learners with teachers, creating a broad range of academic and skill-based courses. It serves students of all ages with customized learning experiences in the form of school tuitions, coding lessons, language lessons such as Tamil, English, and French, and short-duration courses like Vedic Mathematics and personality development. The site is made to serve the various educational requirements of learners and link them with well-qualified tutors who specialize in a particular domain. Genius Groving employs latest web technologies to develop a dynamic, interactive learning platform that combines state-ofthe-art features in a simple, easy-to-use interface. Moreover, it provides features such as live video classes, real-time chat, personalized student dashboards, and intelligent course recommendations, providing a richer and more personalized learning experience. Students are able to find courses of interest to them, based on skill levels, language, and more, allowing them to easily locate a suitable tutor for their studies. Tutors also receive benefits in the form of features that enable them to schedule classes, monitor student progress, and get feedback, allowing them to conduct a smooth teaching experience. This does not only facilitate academic development but also personal growth by providing wide-ranging learning experiences. By merging quality learning with advanced technology, Genius Groving plans to provide a contemporary, inclusive digital learning environment that enables students to realize their full potential.

Keywords: *Genius Groving, online classes, student tutor, live video, chat, school courses, coding,*

languages, Tamil, English, French, Vedic Maths, personality, dashboard, schedule, progress, learning, education, tutor, student.

1. INTRODUCTION

Genius Groving is a cutting-edge web-based student-tutor matching platform created to transform the way students access education. It is a bridge between learners and professional teachers by offering various academic and skill courses for various learning needs. Covering school curriculum, programming languages, local languages like Tamil, English, and French to short courses such as Vedic Mathematics and personality development, Genius Groving caters to all kinds of learners from all ages and walks of life. The site is developed with utmost focus on personalization and student engagement. By taking advantage of advanced web technologies, Genius Groving offers engaging and interactive learning experience through functionalities like live video lessons, real-time messaging, smart course recommendations, and student dashboards specific to individual students. These tools not only enable effective learning but also enhance learning. Students can search and register for courses that are of interest, level of proficiency, and preferred learning languages with ease. Tutors also have access to a range of features that facilitate them to manage their calendars, track progress of students, and receive feedback to improve the quality of instruction. Genius Groving stands apart from other schools in integrating better education with modern technology to generate a friendly, inclusive, and effective virtual learning environment. It aims at facilitating students' scholarly and personal growth by making the tools and support they need available to them to thrive. Genius Groving is a web-based

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student-tutor platform with a mission to bridge the students with professional tutors on various subjects of studies and skills. It provides personalized learning experience through school tuitions, computer programming, languages like Tamil, English, and French, and short courses like Vedic Mathematics and personality development.

Genius Groving, drawing from modern web technologies like HTML, CSS, JavaScript, and Bootstrap 5 for responsive user interface and PHP and MySQL for scalable backend, offers an interactive and immersive learning experience. The site offers live video classes, real-time chat, personalized dashboards, and intelligent course recommendations for the user experience Students can browse and enter courses that suit their interest and ability best, and tutors can schedule, monitor, and receive feedback efficiently. Blending proper education with new technology, Genius Groving aims to empower the students and tutors in a fresh, simple online environment.

2. LITERATURE SURVEY

Early Growth and Expansion (2011–2013): Online tutoring in the early days of the 2010s remained restricted to mere video calling and emailing. Skype calls and Tutor.com were yet to pick up pace. The technology was primitive with little interactivity and barely anything in the way of features that were specifically for student interaction. Internet availability and hardware were the only factors to dishearten massive use.

Availability of Cell Phones and Interactive Tools Development (2014–2016): In 2014, mobile technology and broadband innovations powered new tutoring sites with improved video and interactive whiteboard quality. Apps started putting students and tutors onto tablets and smartphones to further ease learning and facilitate convenience. Tracking progress and gamification were included to enhance motivation and interest.

Integration of Personalization and AI (2017–2019): From 2017 to 2019, AI was used by online teachers in an effort to supply tailored learning paths. ITS gained momentum as machine learning was employed such that teaching was structured around learning outcomes. Automated exams,

immediate feedback, and course recommendations based on individual requirements enhanced performance. Websites also moved into other areas of study, such as coding and learning a foreign language.

Expansion and Remote Learning Boom (2020–2021): The COVID-19 pandemic accelerated the adoption of online tutoring globally. Platforms rapidly scaled with features like live video courses, real-time messaging, and in-built scheduling. User experience improvements such as better interfaces and parent dashboards allowed for the accommodation of all age learners. Attention to safety and privacy increased, and hybrid paradigms of teaching were adopted by most tutors.

Advanced Features and Holistic Learning (2022–

2023): 2022 virtual learning portals were integrated and interactive. They included AI-powered chatbots for real-time support to the student, intelligent dashboards for monitoring longer-term performance, and group teaching platforms for team teaching. Offline learning features were delivered via mobile apps and multimedia presentation of content. Portals started to include soft skills and personality development training along with courses for academicians.

Future Trends and Smart Learning Ecosystems (2024–2025): In the coming years, online tutorial websites are going in the direction of end-to-end holistic learning websites. AI will create hyperpersonalized learning, which will forecast learning issues before time. Virtual and augmented reality will build fully immersive classroom classes. Websites will sync with schools, parents, and afterschool programs to facilitate overall growth. Live analytics and AI agents will assist educators in creating lesson plans and interactions to enable online tutoring as effective as classroom teaching.

3. PROBLEM STATEMENT

A major issue with existing online tutoring sites is a lack of proper integration and organization between students and tutors. Students often struggle to find a proper tutor for their specific subject, ability level, or learning style, whereas tutors are struggling to manage their schedules and reach suitable learners. This incompatibility causes underutilization of

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available tutors and frustration with finding timely help from students. The second aspect is the low degree of personalization and interactivity offered by most platforms. Even though live video classes exist, they lack real-time monitoring of progress, adaptive learning routes, and multimedia interactive content. This means that there is a less effective learning environment and lower motivation for students.

Additionally, trust and safety concerns extend to both students and tutors. Students care about tutors' qualifications and standards of teaching, while tutors care about assured payments and respect in their conduct during sessions. Most websites are short on rigorous verification, review, and open feedback systems to create trust.

Finally, the online learning experience in most tutoring sites remains clunky or old-fashioned. Scheduling lessons, getting billed for them, and communication are normally performed via multiple stand-alone applications, which produce inconvenience and disorder. The lack of real-time feedback, personalized course recommendations, and mobile-friendly interfaces can drive technologyadopting learners to alternative learning resources or face-to-face tutoring.

4. PROPOSED SYSTEM METHODOLOGY

The online tutoring web site platform Genius Groving, with the following primary features is the suggested platform to enhance the learning and teaching process

1. User-Friendly Interface The website is powered with a simple and neat interface to browse through available courses by students, look at required tutor profiles, contrast course length and price, and enrol into lessons. Filtering supports searches by topic, skill level, preferred language, and availability to ensure efficient and quick finding of courses.

2. Student Dashboard and Learning Management The students will be having an integrated dashboard with course schedules, learning progress, assignment submission, and recorded lectures. This keeps the students organized and connected with the process of learning. Intelligent suggestions will also offer suggested courses based on past activities of learning.

3. Tutor Panel and Class Scheduling: The tutors can use resources to handle their profiles, post new courses or add them, set up live classes, and communicate with enrolled students. The site further supports monitoring of student performance and feedback that enhances planning of classes as well as teaching efficacy overall.

4. Integration of Real-Time Video Classes and Chat The system supports live video-based courses through safe, low-latency streaming. Support for instantaneous chat within the system allows tutors and students to converse both in and outside the class hours, facilitating immediate doubts removal and more interaction.

5. Multi-Subject and Skill-Based Course Listings: The courses are available in a variety of categories from school, tuitions, computer programming languages, spoken languages such as Tamil, English, French, etc., and short-term upgradation of skills (e.g., Vedic Maths, personality development). With this wide variety, the system supports differential learning needs as well as age groups.

6. Secure Payment and Flexible Enrolment Options Students can choose courses and safely pay using in-built web-based payment processors. The website supports variable learning modes such as one-on-one sessions, group classes, and subscription learning.

7. Verified Tutor Profile and Review System: Tutors go through a quality and credibility check process. Students are able to view ratings, reviews, and credentials prior to becoming members. Postsession review maintains platform quality and trust.

8. Mobile Friendly and Accessible Design: The system is completely responsive and mobile-compatible, which allows students to study their courses and materials anytime and anywhere. Offline learning materials, downloadable study notes, and video recordings of classes are also accessible for constant learning.

9. Data Privacy and Platform Security User details, including payment, class history, and individual details, are encrypted and stored with conventional industry practice privacy. This ensures

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that the students as well as the tutors get a secure and uniform learning environment.

5. ARCHITECDTURAL DESIGN

The architecture diagram shows a knowledge-based e-learning system based on Formal Concept Analysis to generate adaptive learning experiences for students. The system consists of both students and teachers, mediated by a dynamic set of interconnected modules and databases whose collective function gives an adaptive and efficient learning environment. Essentially, the learner interacts with three main system elements: Education Module - where students gain access to learning materials and participate in teaching material. Learning Recommendations - makes learning recommendations based on the learner's progress and profile. Learner Profiles - stores comprehensive records of the learner's preferences, progress, performance, and learning behaviour. These modules are supported by a Knowledge Base, which is the system's core repository of formatted learning content. The knowledge base material comes from a database that stores Course Materials, such as objectives, exercises, tests, and other instructional content. A key intermediate module uses to generate a Knowledge Structure from instructional content. This enables the system to reason about the classification and organization of information logically, thereby enhancing the relevance and precision of learning recommendations. The instructor participates in managing and updating course materials through the Manipulate Course Details module. Educators can input or revise course objectives, contents, and evaluations, rendering the platform current and pedagogically effective. The training module provides learning material to students on an individualized basis, based on their needs and learning path. The learner profile at the same time tracks the performance of the user, learning history, and interests to guide the system to modify its suggestions and learning path in real time. On the contrary, the instructor utilizes the system to play around with course information, such as uploading and organizing course materials, learning objectives, practice exercises, and quizzes. The content is saved in a shared course repository, and it serves as the basis for constructing the knowledge model.



FIG 5.1 ARCHITECDTURAL DESIGN

6. USECASE DIAGRAM

Genius Groving platform use case diagram graphically shows actors and system features interacting with each other. It is used to establish how various users like students, tutors, and administrators interact with the system. The diagram shows the most critical services offered by the platform such as student sign-up, tutor login, course browsing, booking lessons, providing feedback, one is able to register, login, view courses offered, schedule a lesson with a teacher, pay, and leave reviews. Teachers, on their side, can manage their own profiles, set their working times, and execute scheduled lessons. Admin also manages user management, feedback monitoring, and course visibility. Use case diagram is an overall view that can easily allow one to visualize system behaviour, user roles, and functional requirements. It further facilitates communication between stakeholders involved and developers during systems design requirements evaluation.





FIG 6.1 USECASE DIAGRAM

7. EVALUATION AND DESCRIPTION

Genius Groving online tutoring portal has been built that makes it easy and convenient for students to connect with quality tutors. Rather than going to coaching centers or searching physically, students can now search and register for different courses from home. Students can sign up, log in, search for available tutors and courses, compare, and schedule live classes anywhere at any time. For mentors and teachers, it provides easy scheduling management, enrollments, and feedback. Availability and bookings in classes can be seen easily, eliminating confusion and double-booking. The system was thoroughly tested to provide easy usage and smooth integration. The users could login, navigate the site, and book sessions without any difficulties. The site was easy to manage on desktops as well as mobile. Tutors appreciated having everything in one centralized control, from their calendar to communicating with students.

Overall, the Genius Groving website helps the teaching and learning process to be more efficient, systematic, and accessible to both.

8. CONCLUSION

The Genius Groving solution effectively addresses the limitations of traditional tutoring systems via a new generation, easy-to-use online platform. It enhances the learning experience as a whole by giving students instant access to qualified tutors, live class schedules, and secure online booking and payment systems. It also offers tutors and training centers robust functionality to organize courses, monitor bookings, and automate administrative tasks. This web-based platform is extremely simple and convenient for students to register for classes. No need for a visit to a tuition centre or paperwork. Students are able to sift through courses, pick the right tutor, and schedule sessions in an instantanywhere and at any time. Proper scheduling is maintained through the system, displaying available and booked slots, avoiding confusion and scheduling conflicts. Tutors also benefit from efficient processes, fewer manual tasks, and extra time to focus on teaching. The platform maximizes overall efficiency and enables the provision of highquality education consistently. One of the strongest advantages of Genius Groving is that it will be able to scale with the expansion of the platform. The more users and classes on the platform, the higher the number of features such as additional topics, advanced communication tools, and alternative payment options can be added. This makes the platform flexible, future-proof, and capable of responding to evolving needs of users. In brief, Genius Groving is an efficient and quick, convenient, and immensely successful solution that redefines the nature of student-tutor interaction. Whether it is a learner seeking trouble-free learning or an educator seeking to develop and simplify their services, this site offers a fantastic, modern solution.

9. FUTURE ENHANCEMENT

The website of Genius Groving has bright chances to expand in the coming years for the betterment of students, teachers, and administrators alike. One of the main technologies being integrated in the works is Artificial Intelligence (AI) and Machine Learning (ML). Personalized learning routes, auto-suggested teachers, and smart feedback systems would be some of the features that would be incorporated. These would help make the learning experience more customized for students based on their performance, behavior, and interests. It can further

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be expanded by designing a standalone mobile application for Android and iOS operating systems where all of the courses, class schedules, reminders, and real-time user messaging can be accessed at the touch of one's fingertips on any device. The mobile application will also provide support for push notifications to send reminders and updates, expanding the level of student engagement.

Another notable feature here includes access to recorded classes and video-on-demand libraries, allowing one to watch lessons at their own discretion either for revision or absenteeism from class. Independent and flexible learning are available here, especially ideal for students with busy timetables. To make the platform international, payment gateway support internationally and multi-language support can be included. International students from around the world and languages can make use of the platform and their local money and payment mode.

From motivation and interactivity point of view, the system may be used to support learning elements as challenges, quizzes, badges, such and leaderboards that promote learner engagement and retention. Advanced dashboards for student and tutor tracking can also be designed that support graphical representation of performance metrics, attendance, course completion status, and feedback to make it visible. For educators and school administrators, more advanced features like autoclass scheduling, data-driven decision support, and student performance-based reputation systems would enhance efficiency as well as openness.

Genius Growing can be scaled up to collaborative learning environments in the long term through collaborative classes, interactive whiteboards, live sessions of doubt-clearing, and integration with third-party teaching platforms like Google Classroom, Zoom, or Microsoft Teams. These future developments will continue to expand, refine, and make the platform even more scalable, intelligent, inclusive, and responsive to the shifting needs of modern-day online learning. The continuously developing technology will continue to empower Genius Groving to develop and offer a richer, interactive, and quality learning experience to its global students.

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