

***COMPANY** **INTRODUCTION**

The AI-Powered Educational Navigator

Executive Summary

Expert-Led Creation of Advanced K-Edu Content

South Korea's education market, comprising 3% of the national GDP, is defined by its intense competition, particularly in lecture and exam content. What sets K-Edu apart is its commitment to the effective delivery of knowledge, not just the creation of high-quality materials.

Since its founding in 2017, SEOMJAE has operated on the principle that "Great content entails Great education."

This belief has driven the company to become a leading force in the industry, producing 80% of private education content in Daechi-dong—South Korea's renowned educational hub.

Content

Revolutionizing the "One Class Fits All" Education Model via Technology

The conventional approach to education—one teacher lecturing to a large group of students—has remained unchanged since the Industrial Revolution. While societal advancements have transformed many aspects of life, education has remained static. This outdated, passive learning model no longer meets the demands of a rapidly evolving world where we need to cultivate innovators.

Early e-learning platforms from the 2000s, powered by internet and streaming technologies, fell short of transforming education. These systems perpetuated the traditional cycle of passive lecture-based learning followed by solitary studying, offering little real change.

SEOMJAE is leading a paradigm shift. Leveraging years of expertise, we are pioneering the development of AI-driven coaching systems designed to replace traditional human instructors. Our technology integrates personalized, AI-powered 1:1 coaching with advanced content delivery, breaking down the barriers of access and ensuring equal opportunities for all learners.

Technology

MENU

- * **Why** Do We Need Global Educational Navigator ?
- * **What** is our global navigator, and **Where** do we stand now?
- * **Why** we are the only solution in this field?
- * **How** should we proceed moving forward?

1

*

Why Do We Need Global Educational Navigator ?

At Seomjae, we are developing a

Global Educational Navigator

Students need a reliable guide to help them navigate their endless stream of questions.

The traditional education system has limitations in adequately addressing each individual's questions.

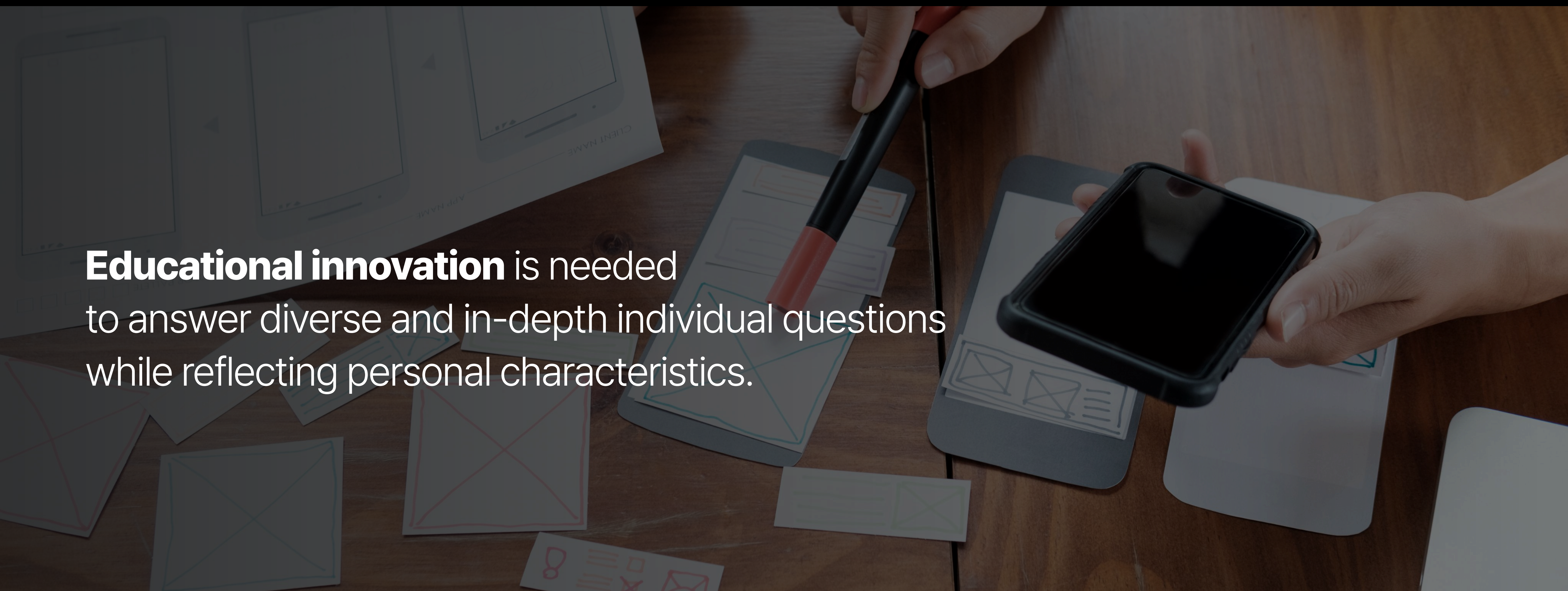
The traditional education model of a teacher instructing multiple students, as we know it, originated 200 years ago during the Industrial Revolution.

While phones have evolved from landlines into smartphones and much of society has been automated, how we learn has remained the same.

In an era where we must nurture talent capable of thriving and driving innovation in society, is it still acceptable to rely on "old-fashioned education" where dozens of students silently listen to a single teacher standing at the blackboard?

Through a new educational approach of AI-driven 1:1 coaching, our goal is to revolutionize the system, ensuring equal access to education for everyone. We aim to dismantle the unbalanced education system that focuses on a few top-performing students and fosters endless competition.





Educational innovation is needed to answer diverse and in-depth individual questions while reflecting personal characteristics.

The Future Of Education Must Be Highly Personalized, Interactive Like A Game, And Immersive.

"Education Should be As Close to a Video Game as Possible."

- If education is designed to be interactive and engaging, students will become naturally immersed, much like how kids play video games effortlessly.
- The goal should be to make learning as captivating as a good video game, where motivation comes from the activity itself.
- Disconnect the traditional grade levels from subjects, allowing students to advance based on their interest and ability, rather than age.
- Tailor learning to allow students to progress at their own pace, fostering a more personalized and effective educational experience.

-Elon Musk, 2023



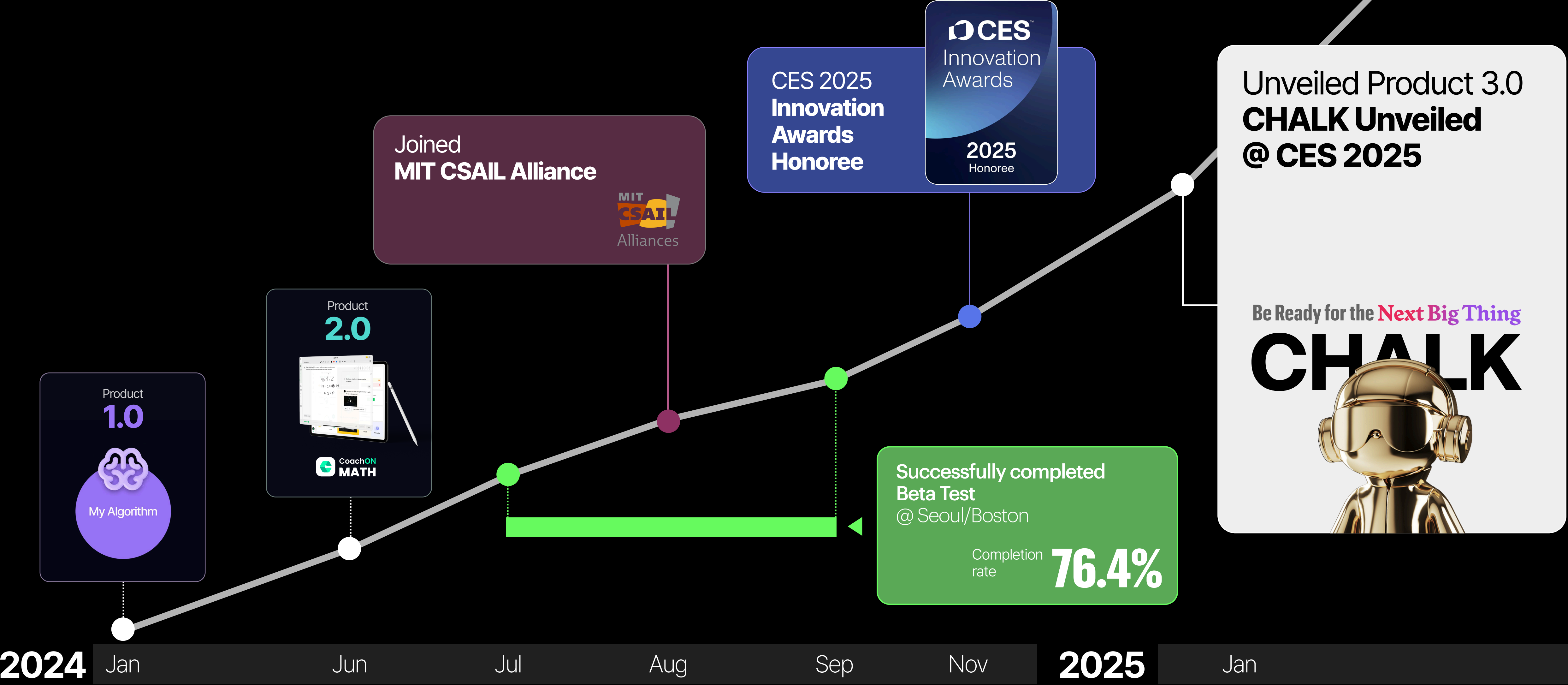
Hyper- Personalized Learning Solution.

A Game-Like Learning Experience

G-LMS

Gamified Learning Management System

2024 Achievements



Product 2.0

Results from the Beta Test

- Conducted beta tests for over two months in Boston, USA, and South Korea
- A total of 50 students, primarily upper elementary school students, participated in the trial
- 76.4% of students were able to successfully complete lectures of middle school level compared to the original 15.4%

SEOMJAE's AI Learning Management Service 'CoachON' Concludes Beta Testing

Kim Eun-jin | 2024.11.21 15:35



Poised to Redefine Self-directed Learning



SEOMJAE, the developer of the AI-driven learning management platform CoachON, has garnered significant attention within the education sector following the successful completion of its recent beta testing. Designed to offer a fully autonomous AI-powered learning management system, CoachON is poised to redefine self-directed learning by eliminating the need for human instructors.

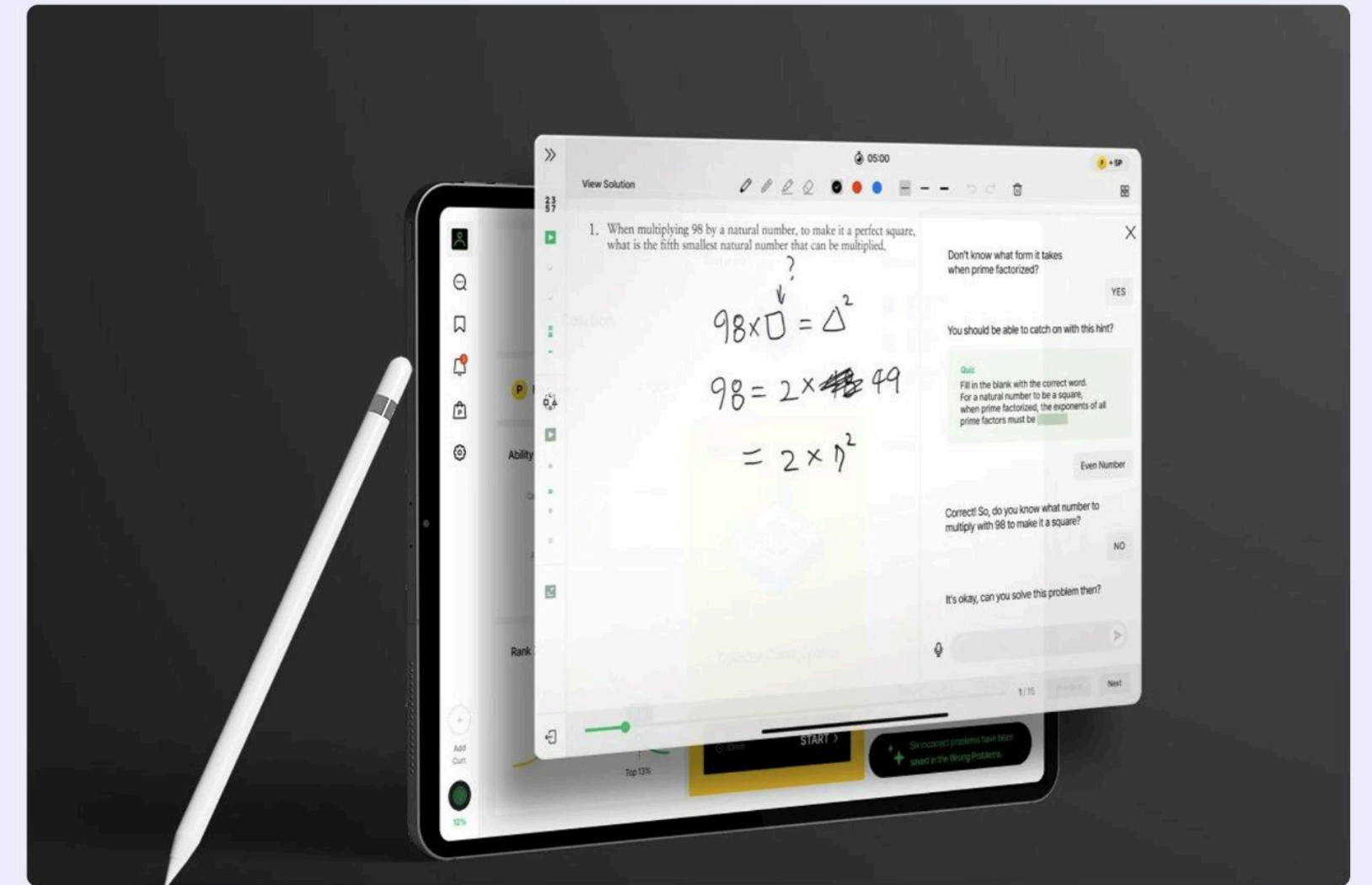
Between August and September 2024, SEOMJAE conducted a two-month beta test of CoachON with 50 students across two locations: Boston, USA, and South Korea. The majority of participants were upper elementary school students, and despite being introduced to middle school-level curricula, an impressive 76.4% of students successfully completed the program. This completion rate far exceeds the average 15% completion rate typically seen in Korean online education platforms.

CES 2025 Innovation Award

INNOVATION AWARDS / 2025 /



CoachON Math: AI-Powered Math Education Service



Seomjae Co.,Ltd.

2025 Honoree in Mobile Devices, Accessories & Apps

MOBILE DEVICES, ACCESSORIES & APPS

CoachON Math is a groundbreaking AI-based math learning platform designed to address the challenge of math proficiency among elementary and middle school students. With over 60% of U.S. middle schoolers struggling with math and 1:1 tutoring costs exceeding \$60 per hour, it democratizes access to quality education. The platform features an innovative model that stores the personas of world-class math educators, enabling it to deliver personalized, high-quality tutoring that mirrors the expertise of the best teachers. In collaboration with MIT CSAIL, this ensures real-time, step-by-step solutions tailored to each student's learning style, with plans to expand into other STEM subjects.

Current Partners

MIT CSAIL Alliances



Alliances

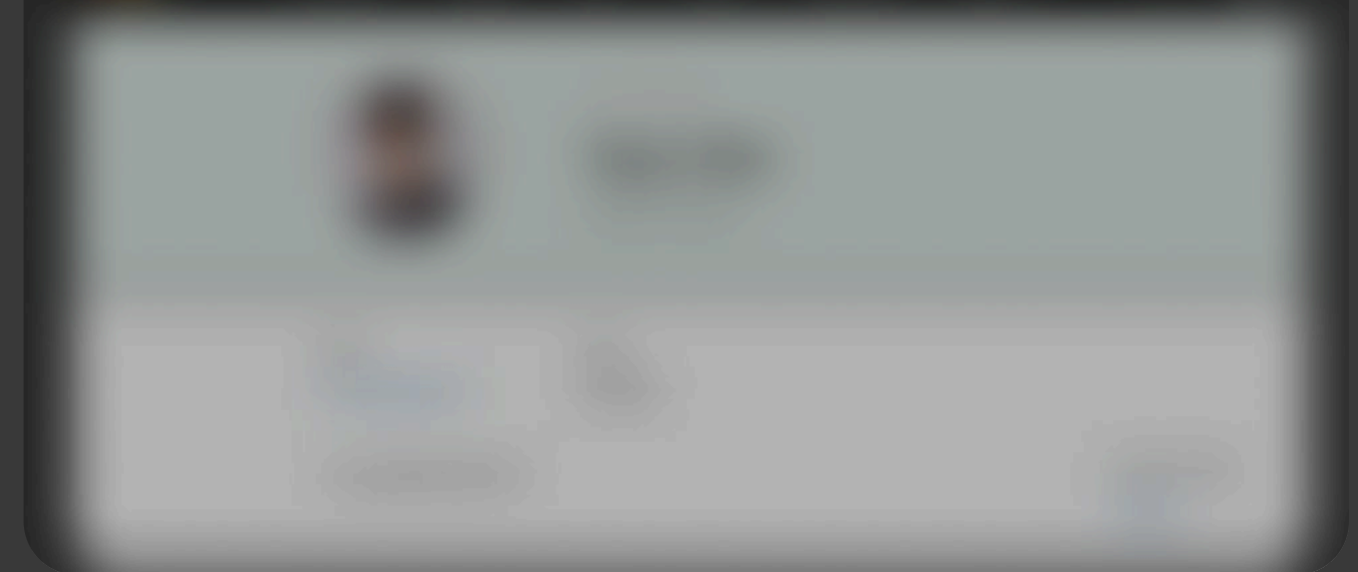
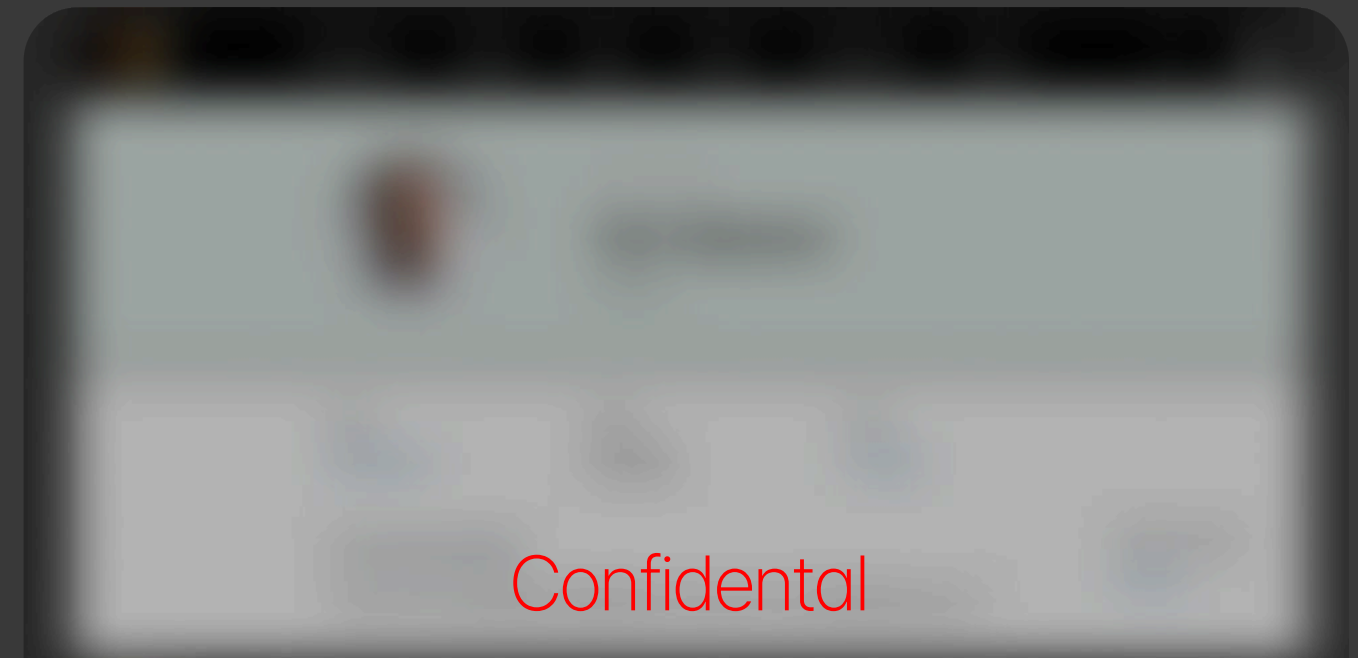
Participating As A Research Facility Member At MIT CSAIL

(Computer Science And Artificial Intelligenece Laboratory Alliance)

Approved Through Three Presentations

- **Point 1:** Interest in Developing Algorithms to Enhance AI Decision-Making (Reasoning) Using Data Architecture
- **Point 2:** Interest in the Lack of Research Labs Focusing on using Educational Data for AI

A collaborative framework with internal MIT laboratories



Current Partners

The Concord Review



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The Concord Review

Welcome

Welcome to TCR.org, the online home of [The Concord Review, Inc.](#) We believe that the pursuit of academic excellence in secondary schools should be given the same attention as the pursuit of excellence in sports and other extracurricular activities, and we have found that many students do exemplary work in history.

[The Concord Review](#) is the only quarterly journal in the world to publish the academic research papers of secondary students.

We encourage you to [submit](#) your history paper for consideration by TCR.

You may also want to submit papers to the [National Writing Board](#) to be assessed against an independent academic expository writing standard endorsed by Harvard, Michigan, Princeton, Stanford, Virginia, Yale, and 33 other selective colleges and universities.

Varsity athletics are celebrated everywhere. We celebrate



Now Available

Winter Issue

THE CONCORD REVIEW

I am simply one who loves the past and is diligent in investigating it.
K'ung-fu-tzu (551-479 BC) The Analects

Hungarian Water Polo <small>Mission San Jose High School, Fremont, California</small>	Ryka Chopra
Bank Panic of 1907 <small>Phillips Exeter Academy, Exeter, New Hampshire</small>	Steven Chen
Expansion of Christianity <small>Experimental High School - Beijing Normal University, Beijing, China</small>	Yayi Fu
Women's Suffrage in the South <small>Montgomery Bell Academy, Nashville, Tennessee</small>	Raleigh Maxwell
James Franck <small>Andover High School, Andover, Massachusetts</small>	Richard Chen
New York City School Crisis <small>Horace Mann School, Bronx, New York</small>	Eden Riebling
Korean Picture Brides <small>Columbus High School, Columbus, Georgia</small>	Gene Yoon
Dutch Disease in the South <small>Denver Jewish Day School, Denver, Colorado</small>	Holden Demain
Boston Tea Party <small>The United World College of South East Asia, Singapore</small>	David Guo
CIA Operations in the Soviet-Afghan War <small>The Thacher School, Ojai, California</small>	Madeline Lee



Will's Blog



[Commentary on the state of history and the essay in Secondary Education](#)

National Writing Board



Have you written a masterpiece? Let colleges know. Have your paper assessed by the [NWB](#)

"The copies [of The Concord Review] you sent are absolutely awesome! I share your work all the time, and I expect that you're going to get additional friends joining your mission sooner rather than later. Your work is vital to the direction our nation is taking."

-- Elliott Witney, Head of Schools, KIPP Houston

Author Spotlight

THE CONCORD REVIEW Interview

Vikram Shaw
The Cananache Transition, V26-2

Melodie Liu
Footbinding in China, V26-1

In the Media



["Stuff your 5,000-word limit! Students dare to write longer history papers," by Jay Matthews](#)



["We Can At Least Encourage The Crazy Ones," by Frederick Hess](#)

[More...](#)

Kudos



2

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What is our
global navigator, and
Where do we stand now?

LET'S CHALK IT UP



We are developing an **AI learning management service** that enables personalized 1:1 lessons anytime, anywhere.

#Personalizing System

#Gamification



Definition of **Personalized Solutions**

Data-Driven

Optimal Path Finder

Based on the user's data, finds the most effective path needed to achieve their goals

Personalized

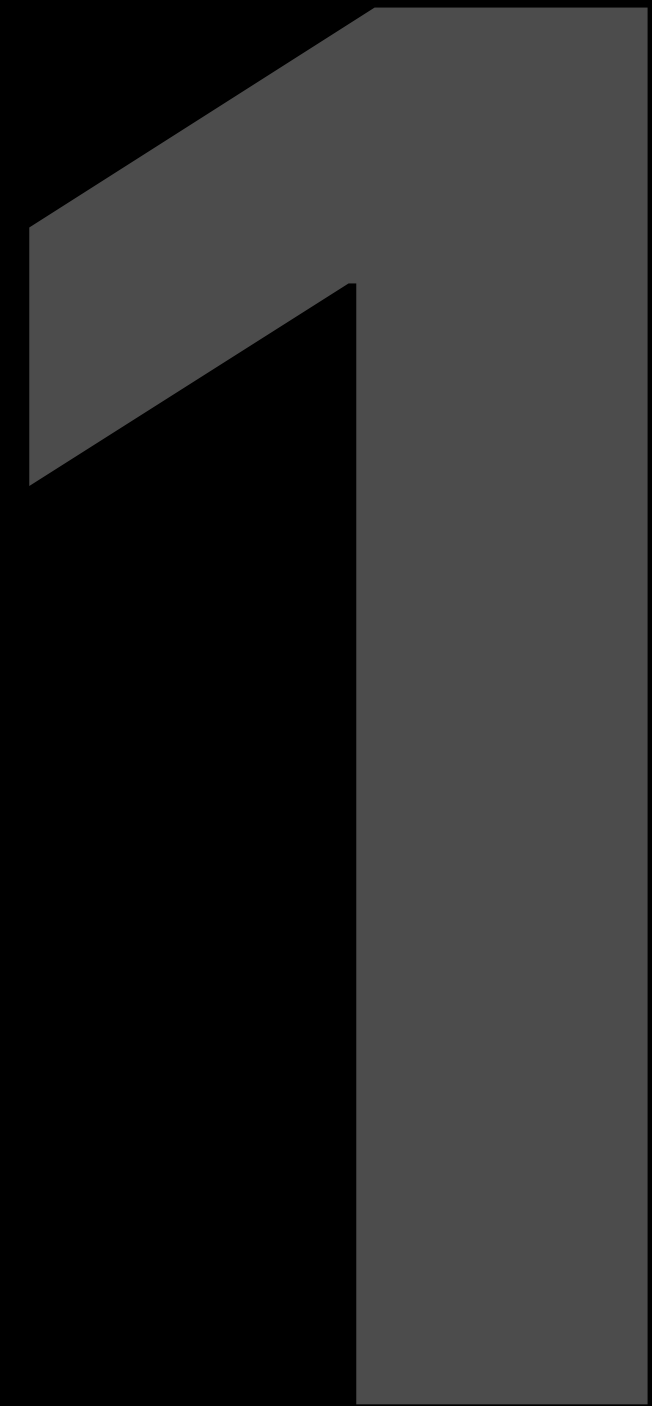
learning material provided

Like Netflix, creates a course that provides personalized learning material based on the individuals' preference

1:1 AI Tutor

A personal tutor available 24/7

Personalized



Data-Driven Optimal Path Finder:

Fast Track Finder

Based on the user's data, finds the most effective path needed to achieve their goal

A data-centric system that optimizes a learning path by designing the most efficient routes to achieve users' goals is our ultimate personalization tool.

From 4th grade to college admissions, we craft optimal learning tracks, monitor progress and performance in real time, and continuously update students' paths. By leveraging data to precisely identify what students know and don't know, we minimize unnecessary repetition and focus solely on the essentials. This makes learning approximately 40% more efficient compared to traditional tutoring.

From 4th grade to high school senior, **find optimal learning paths** with Fast-Track Finder

- A fast track course from grade 4 to med school and SKY's top majors
- Real-time feedback based on students' learning outcomes
- Goal-oriented and completion-based explanations
- **Plans for future integration of study abroad programs**

The screenshot displays a digital learning roadmap interface. At the top, it states "Studied for 2258 days" and "5 months left until Sehwa High School". Navigation options include "Change Academic Track" and "Roadmap History".

Four course cards are shown:

- Algebra2** (Liberal Arts, Achievement, Level of Education K-10)
- Pre calculus** (Liberal Arts, D-133, Level of Education K-11)
- AP calculus AB or statistics** (Liberal Arts, D-245, Level of Education K-12)
- Bowdoin College** (Liberal Arts, D-1440, GPA Needed 3.96+(weighted), Application Deadline January 5)

The main area features a timeline with four columns: "1 Month Ago", "Today", "1 Month Later", and "2 Month Later". A red horizontal bar spans across the timeline, labeled "pre Calculus for beginner or pre Calculus for Intermediate" with "37 Days Left". Below this bar, several "Side Quest" items are listed, some with checkmarks and others with colored dots (red and white).

A "Suggested" label is positioned above a blue horizontal bar. A "Manage Courses" button is located in the bottom right corner.

Product 3.0 Prep Course

Middle School Grades 7-9 (Basic, Advanced, Special Lectures)

Course	Level	STEM Completion Criteria	Liberal Arts Completion Criteria	Recommended Study Months
Algebra1 for beginner	Basic	Not applicable	B	1.5
Geometry for beginner	Basic	Not applicable	B	1.5
Algebra2 for beginner	Basic	Not applicable	B	1.5
Algebra1 for Intermediate	Intermediate	A	B+	2
Geometry for Intermediate	Intermediate	A	B+	2
Algebra2 for Intermediate	Intermediate	A	B+	2
Pre Calculus for beginner	Basic	Not applicable	B+	1.5
Pre Calculus for Intermediate	Intermediate	A	A	2
Calculus for beginner	Basic	Not applicable	B+	1.5
Calculus for advanced	Advanced	S	Not applicable	2
Calculus	Intermediate	Not applicable	A+	2
AP Calculus AB	Advanced	S	A+	3
AP Calculus BC	Advanced	S	Not applicable	3
statistics	Intermediate	Not applicable	S	2
AP statistics	Advanced	S	Not applicable	3
Linear Algebra for Intermediate	Intermediate	A	Not applicable	3
Linear Algebra for advanced	Advanced	S	Not applicable	3
Multivariable Calculus for Intermediate	Intermediate	S	Not applicable	3
Multivariable Calculus for advanced	Advanced	A	Not applicable	3
Elementary Basics (KOR)	Basic	Full elementary curriculum	Not applicable	1.5
Grade 1-1 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 1-1 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 1-2 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 1-2 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 2-1 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 2-1 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 2-2 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 2-2 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 3-1 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 3-1 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 3-2 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 3-2 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 1-1 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 1-2 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 2-1 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 2-2 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 3-1 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 3-2 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Middle School Equation Special Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1
Middle School Geometry Special Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1
Middle School Number Theory Special Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1
Middle School Functions Special Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1
Middle School Statistics and Probability Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1

Personalization

- Provides personalized special courses to improve weaknesses
 - 20,000 Lectures and 100K + Problem Sets Made by Educators
- Preparing Gangnam school district 8 special lectures

- **Currently, optimizing lectures and problems set with AI**
- **Anticipate optimized content creation through technological advancements for product release**

The Capabilities of a Global Education Navigator :

Unifying the process of data collection and studying

Students' Profile Information

- School
- Grade
- Textbooks
- Goals etc.

Students' Preference Data

- Preferred teaching styles of instructors
- Motivation factors like learning speed

Students' Preferred Learning Data

- Concept based learning - Problem based learning

Students' Learning Patterns

- Study period
- Weekly study volume

Students' Learning Records

- Weaknesses in concepts or topics for each learning stage
- Weaknesses in thought processing
- Test results
- Content usage records
- Course completion records

Etc.

- Students' concerns for each learning stage
- Parents' concerns for each learning stage

Personalized

2

Providing Preference-Based Customized Learning Content

Just like Netflix, we design various courses tailored to individual needs and preferences, offering personalized learning content.

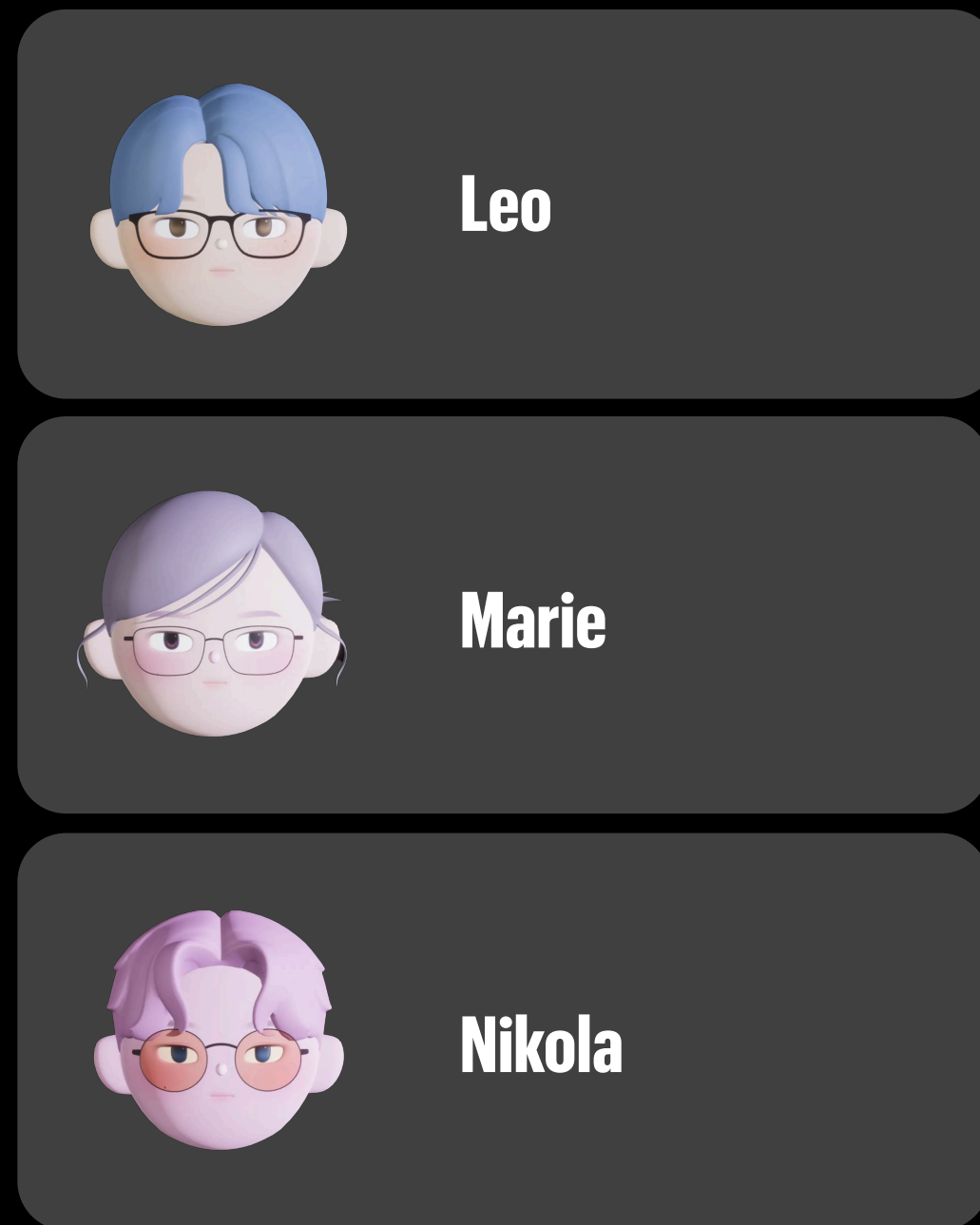
Traditionally, the creation of educational content has required the involvement of instructors. However, by leveraging AI, we can produce a more diverse range of content without the need for instructor participation.


We do not merely combine learning content in a standardized way. Instead, we carefully curate and provide various courses tailored to current needs, as well as to individual growth and preferences. This approach allows us to deliver a truly personalized learning experience, which sets us apart.

Personalization of Lessons and Classes

- **Diverse Instructor Personas**

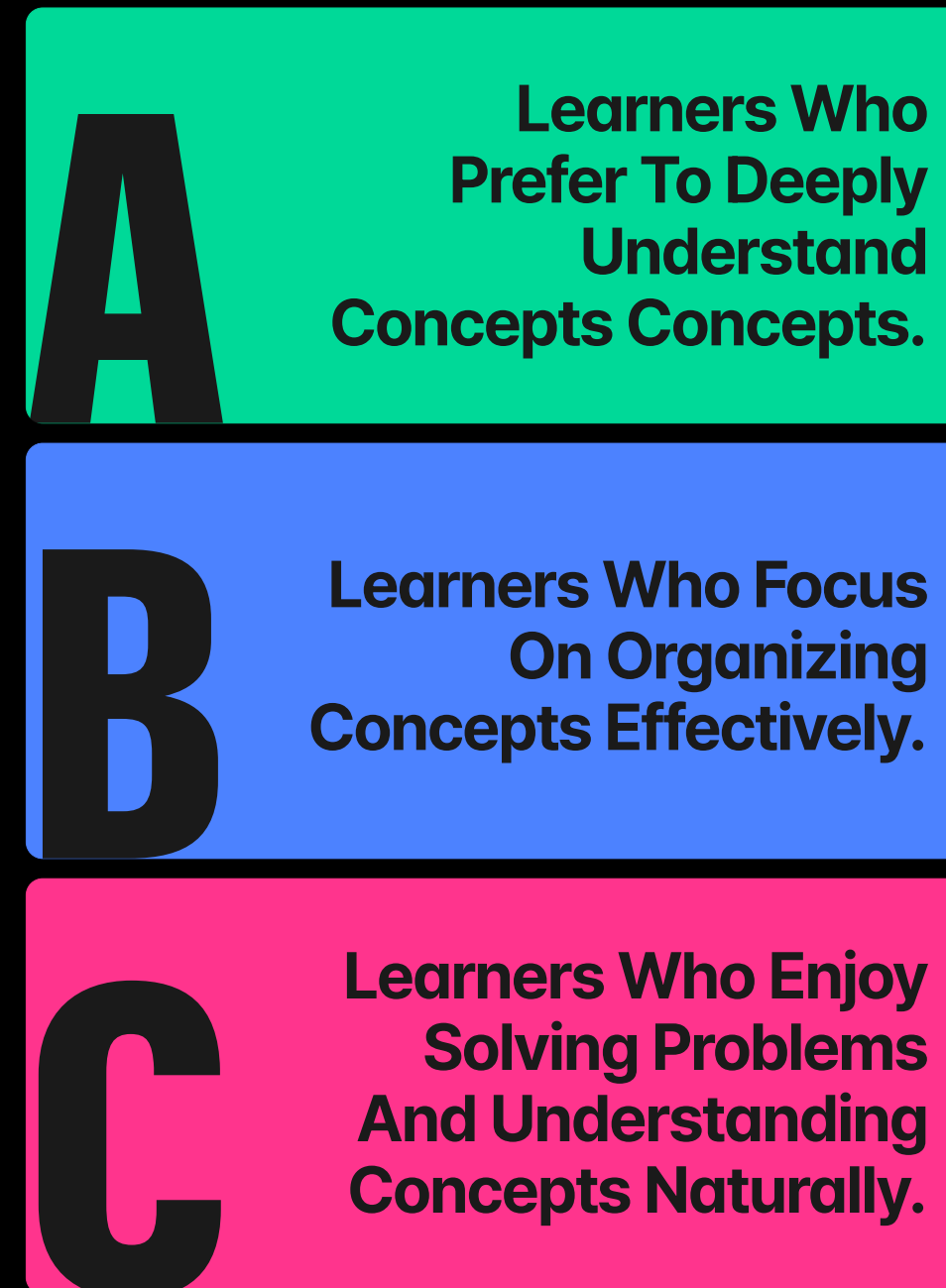
Students can choose the instructor's voice from three different personas:



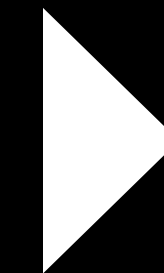
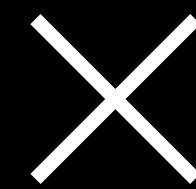
 Students select the instructor voice they prefer.

- **Varied Teaching Styles Based on Learner Preferences**

Students can select their preferred teaching style from three approaches:



 Students select Teaching Styles Based on their Learning Style



9 Case

Example Lecture by AI Teacher

NEXT



Step 1

Finding the value of $b \rightarrow$ If a is misinterpreted

The quadratic equation with roots 1 and 3 is

$$\begin{array}{l} 2(x-1)(x-3) = 0 \\ \text{Expansion} \curvearrowright 2(x^2 - 4x + 3) = 0 \end{array}$$



Generating Similar Problems and Explanations Using AI Algorithms

Twin Problem

Content data / Problem Management

+ Create twin problem

Similar Problem (13 Total)

There is a square sheet of paper with a side length of 24. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective Main

Pythagorean theorem

Pythagorean Theorem

There is a square sheet of paper with a side length of 18. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_15

Pythagorean Theorem

There is a square sheet of paper with a side length of 12. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_18

Pythagorean Theorem

There is a square sheet of paper with a side length of 28. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_17

Pythagorean Theorem

There is a square sheet of paper with a side length of 16. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_16

Pythagorean Theorem

There is a square sheet of paper with a side length of 20. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_15

Pythagorean Theorem

There is a square sheet of paper with a side length of 28. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_14

Pythagorean Theorem

There is a square sheet of paper with a side length of 20. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_13

Pythagorean Theorem

There is a square sheet of paper with a side length of 16. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_13

Pythagorean Theorem

There is a square sheet of paper with a side length of 32. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_13

Pythagorean Theorem

There is a square sheet of paper with a side length of 40. Its vertices are labeled A, B, C, D , and the midpoint of the side AD is labeled M as shown in the figure. If the paper is folded so that vertex C meets with midpoint M , the length of the folded line is l . Find the value of l^2 .

Subjective

Pythagorean theorem_13

Pythagorean Theorem

Generate Similar Problem

Twin problems can be generated up to 10 at a time, it may take up to 2 minutes.

- 3 +

cancelation Create

Problem Lookup/Fix

Problem Management / Problem Lookup/Fix

Main

Basic information Problem information **commentary** Clinic

Inspection status ● Inspection incomplete ● **Inspection completed** Proofreading and proofreading ● Inspection incomplete ● **Inspection completed**

Inspection status: ● Question: Kim Seon-gu (2024. 12. 24) ● Commentary: Kim Seon-gu (2024. 12. 24) ● Clinic: Kim Seon-gu (2024. 12. 24) ● **Inspection completed**

Proofreading: ● Problem: Yudaen (2024. 12. 27) ● Commentary: Yoo Da-eun (2024. 12. 27) ● Clinic: Yudaen (2024. 12. 27) ● **Inspection completed**

* Commentary content AI upload B Preview

B U A A = = = ¶ C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z 0 1 2 3 4 5 6 7 8 9 +

STEP1 Define and express the lengths of the segments formed by the folded shape

To express the lengths of the newly formed segments by folding the paper, let's start by labeling the newly formed points and intersections as shown in the diagram below.

When the paper is folded, vertex B moves to a new point which we labeled as B' .

Additionally, we can label the points where the folded line intersects sides AB and CD as Q and N , respectively.

Finally, let's label the point where side AB' intersects line $B'M$ as P . If $MN = NC = x$, then, $DN = 24 - x$.

Powered by SEOMJAE

Upload SVG Select a template

save

STEP1 Define and express the lengths of the segments formed by the folded shape

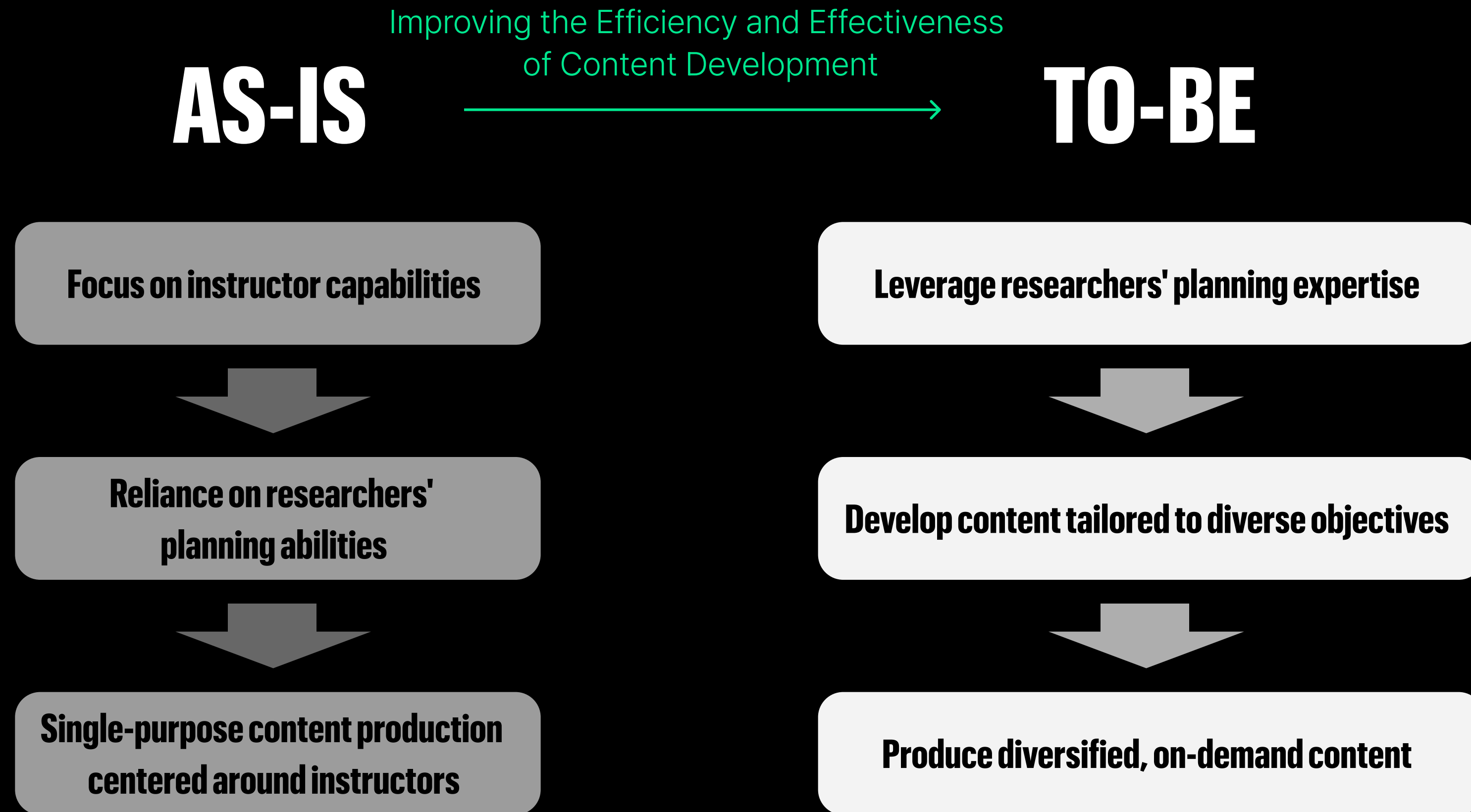
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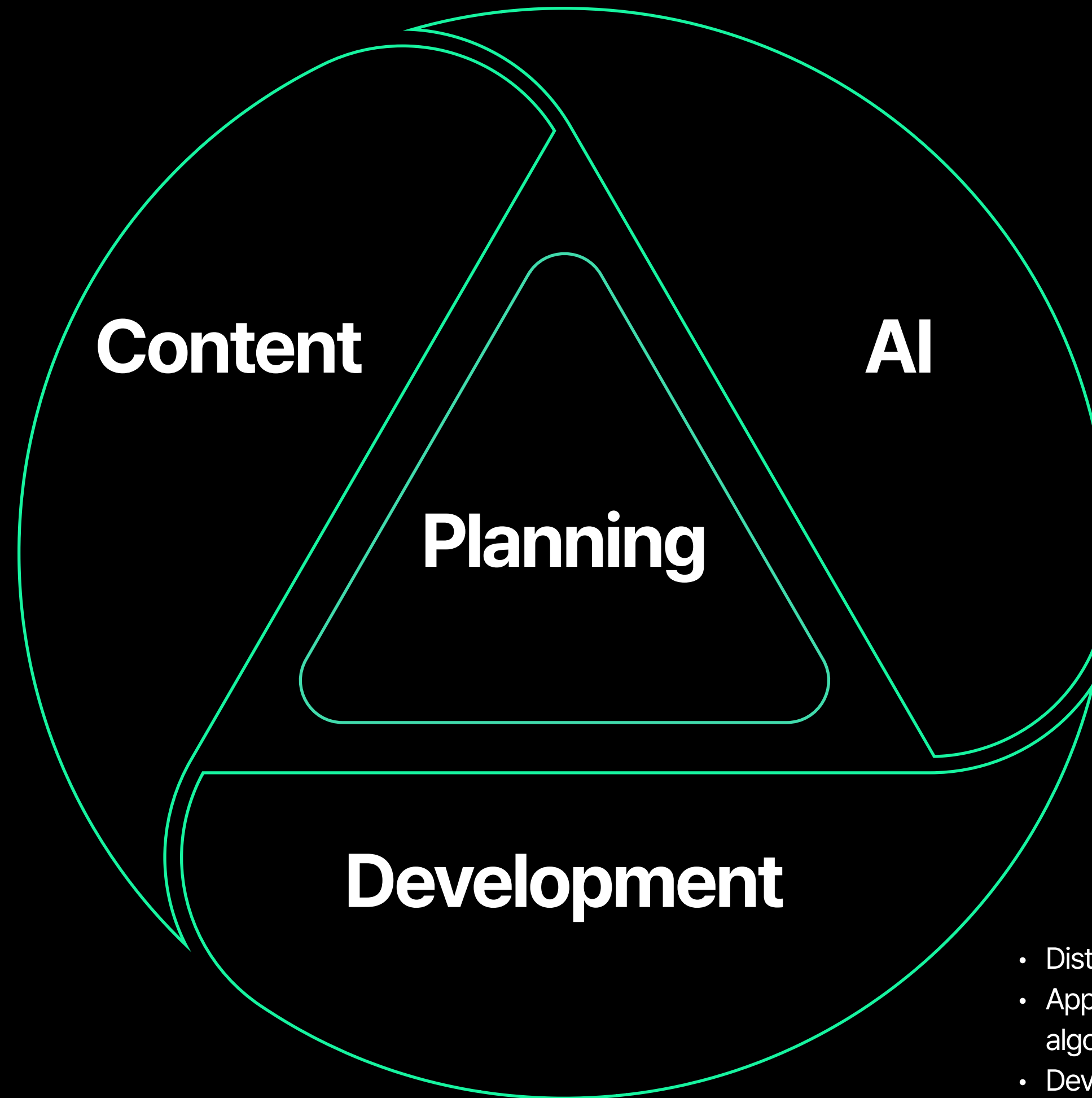
A Work Approach Centered On Content Planners



Organizational Structure :

Key Pillars of SEOMJAE

- Create practical learning content, videos, and scenarios
- Analyze and research markets important for education
- Assemble a team of experienced instructors and content creators



- Responsible for core algorithms of SEOMJAE's LMS
- Design precise database systems for AI tutors
- Build a team specializing in AI and computational mathematics

- Distribute AI tutors and content efficiently
- Apply and research cutting-edge technologies for interactivity and algorithms
- Develop systems for an innovative and user-friendly learning experience
- Create interfaces and systems for coaching-oriented classes
- Assemble a team with expertise in UI/UX design and planning

Personalized

3

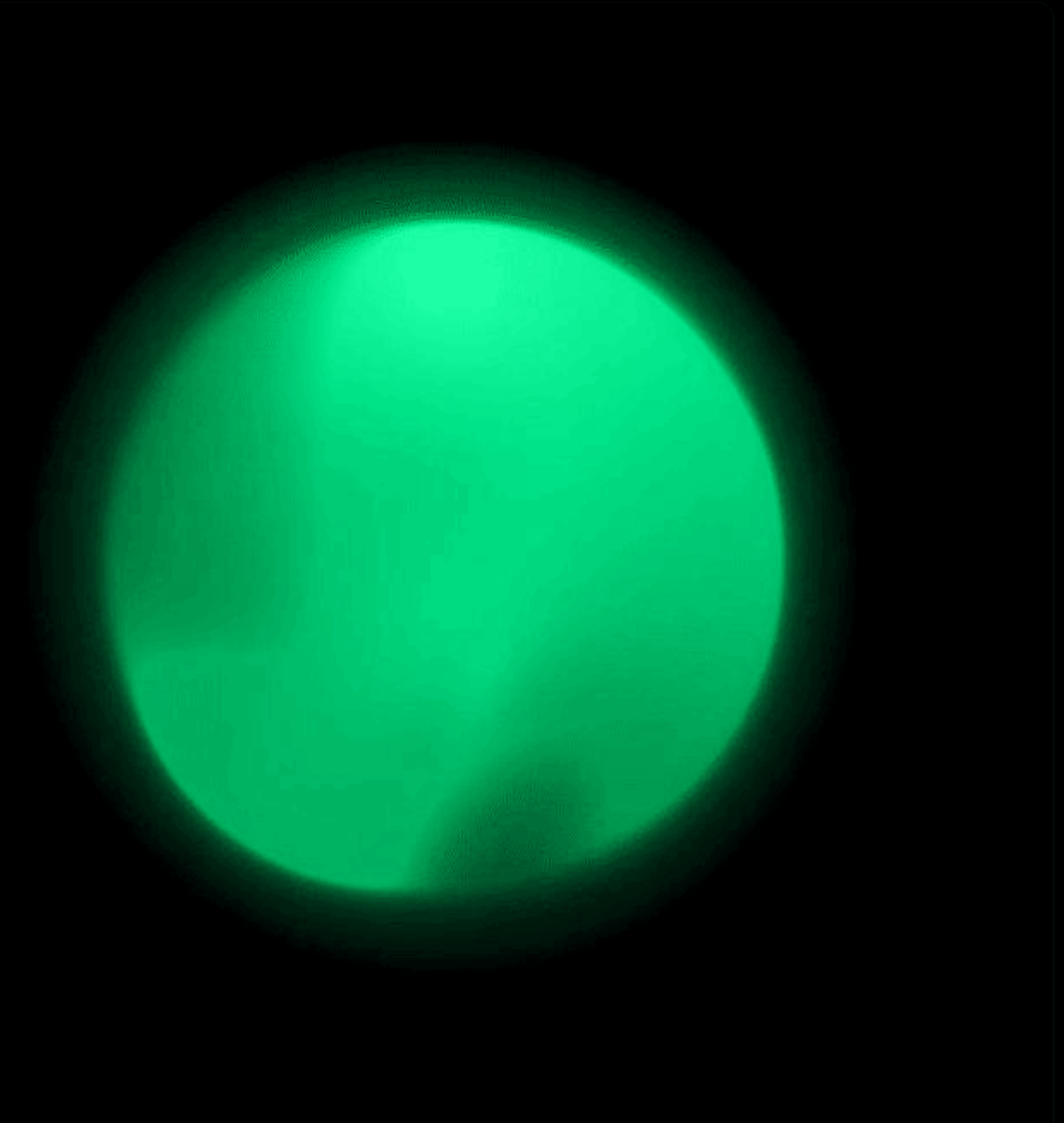
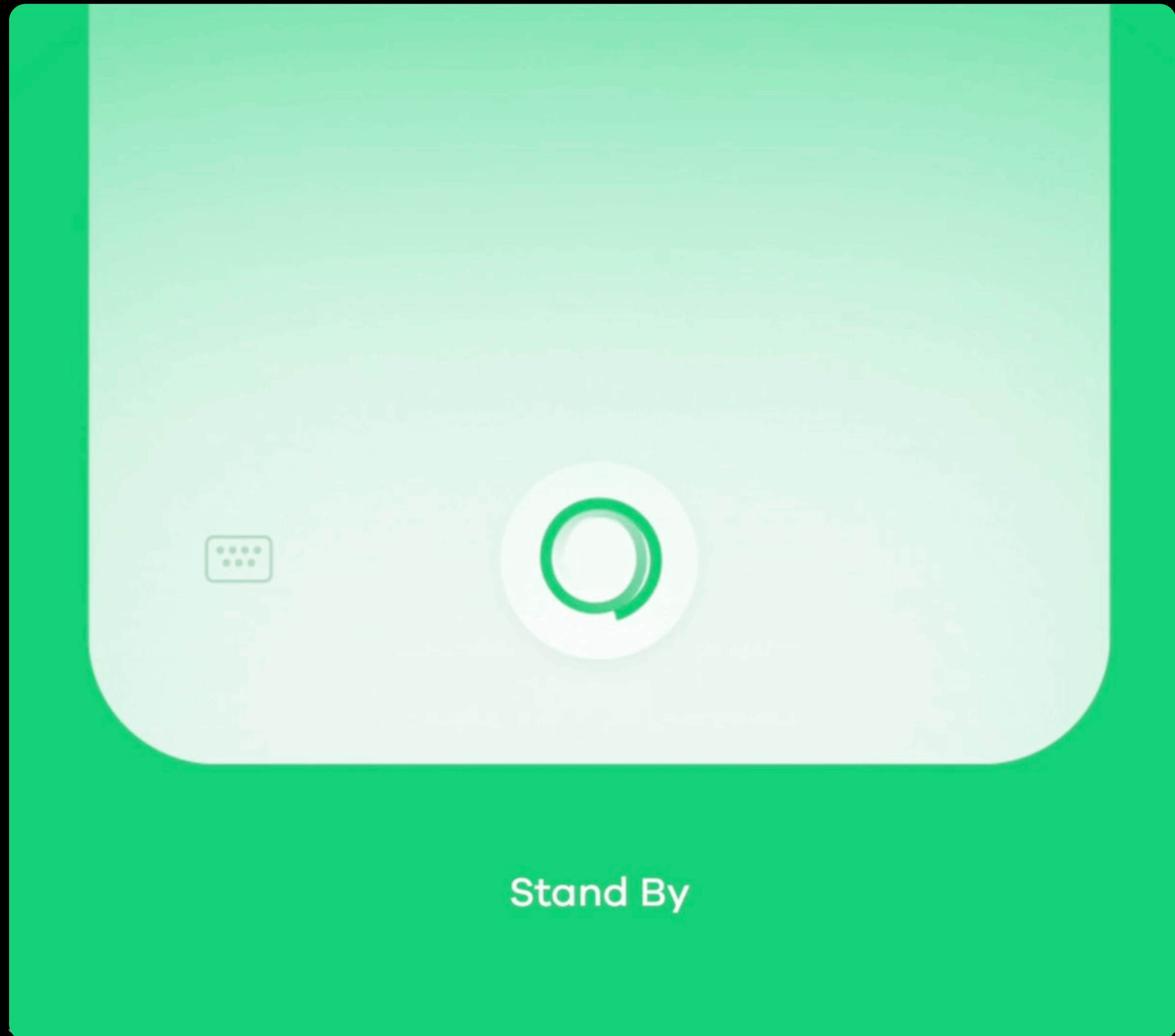
AI Tutoring

24/7 Personalized AI Tutors

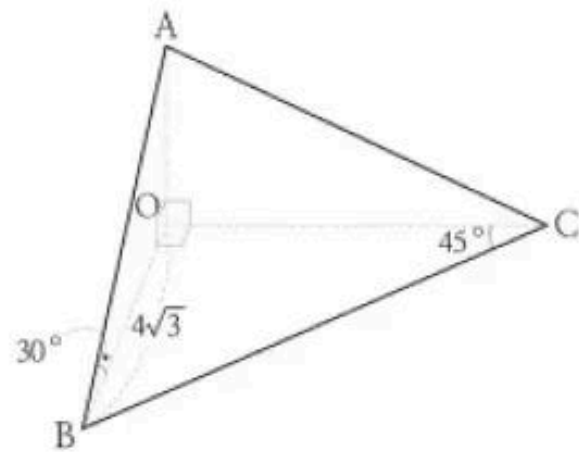
- AI tutors enable 1:1 tailored lessons without the need for human instructors.
- Address students' challenges in real-time by answering questions as they arise.
- Provide immediate feedback and support for diverse queries.
- Deliver customized AI tutoring for individual learning needs.

AI Q&A Feature

- Users can ask questions **via the mic button** for instant assistance.
- AI uses OCR technology to detect errors and shortcomings in user input, providing **targeted guidance**.



1. In the triangular pyramid shown below, \overline{OA} , \overline{OB} , and \overline{OC} are perpendicular to one another. $\angle ABO = 30^\circ$, $\angle OCB = 45^\circ$, $\overline{OB} = 4\sqrt{3}$. What is the volume of this triangular pyramid?



- Ⓐ $4\sqrt{3}$
- Ⓑ 8
- Ⓒ $4\sqrt{5}$
- Ⓓ 16
- Ⓔ 32

$\angle ABO = 30^\circ$
 $\angle OCB = 45^\circ$
 $\overline{OB} = 4\sqrt{3}$
 $\overline{OC} = \frac{4\sqrt{3}}{\tan 45^\circ} \dots$

AI Tutor

Alerts

Solutions

Weaknesses

Did you calculate the area of the base using trigonometric ratios?

No

The problem says that in the triangular pyramid shown below, \overline{OA} , \overline{OB} , and \overline{OC} are perpendicular to one another.

$\angle ABO = 30^\circ$, $\angle OCB = 45^\circ$ and, $\overline{OB} = 4\sqrt{3}$

You need to find the volume of this triangular pyramid.

Do you understand everything so far?

No

First, let's calculate the area of the base and the height of the triangular pyramid using trigonometric ratios.

Have you tried using the formula for the volume of a pyramid to solve the problem?

I haven't even started yet

Did you calculate the base area using trigonometry?

Type your question here.



Handwriting OCR Recognition

Speech Recognition

Learning Management with **Gamification**

Building a Personalized World via Studying

Welcome to Coach kim's World
4,253 views

15,000 P

First Land Accumulation

15% remaining until completion.

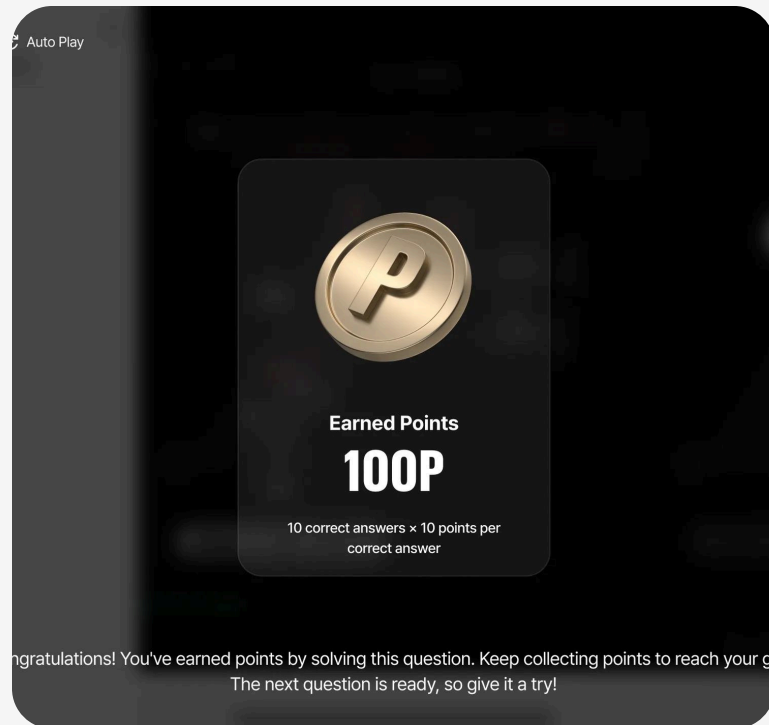
Rewards	Points
1 Building Floor	320/800

Mission

- Combination of Euclid's Fifth Postulat...
- Prime and Composite Numbers

Start

Building a Personalized World via Studying



Complete Daily Missions

→ Earn Amazon Points by solving daily tasks and challenges.



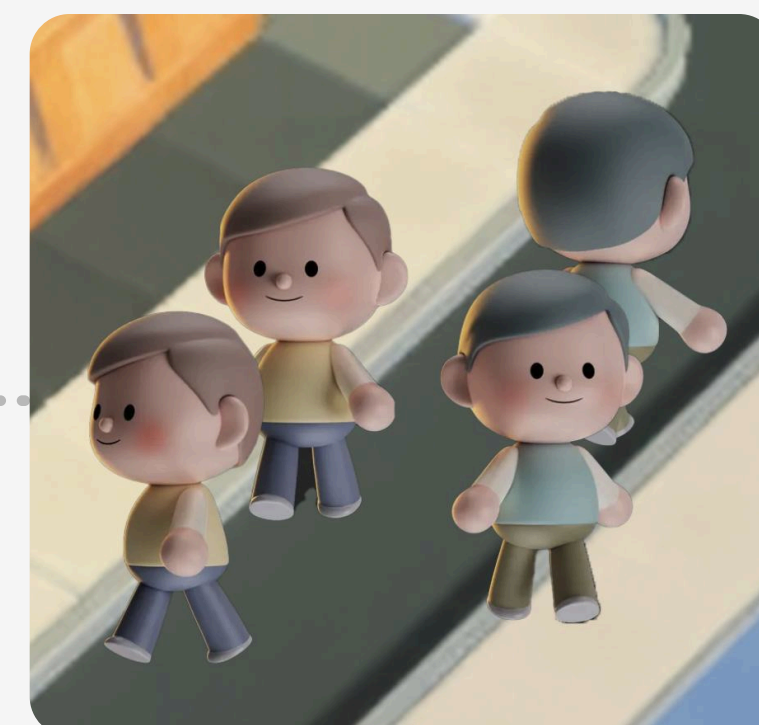
Construct Buildings

→ Complete mission blocks to unlock and expand your building structures.



Add Infrastructure

→ Finish missions and homework to enhance your world with infrastructure upgrades.



Attract Visitors

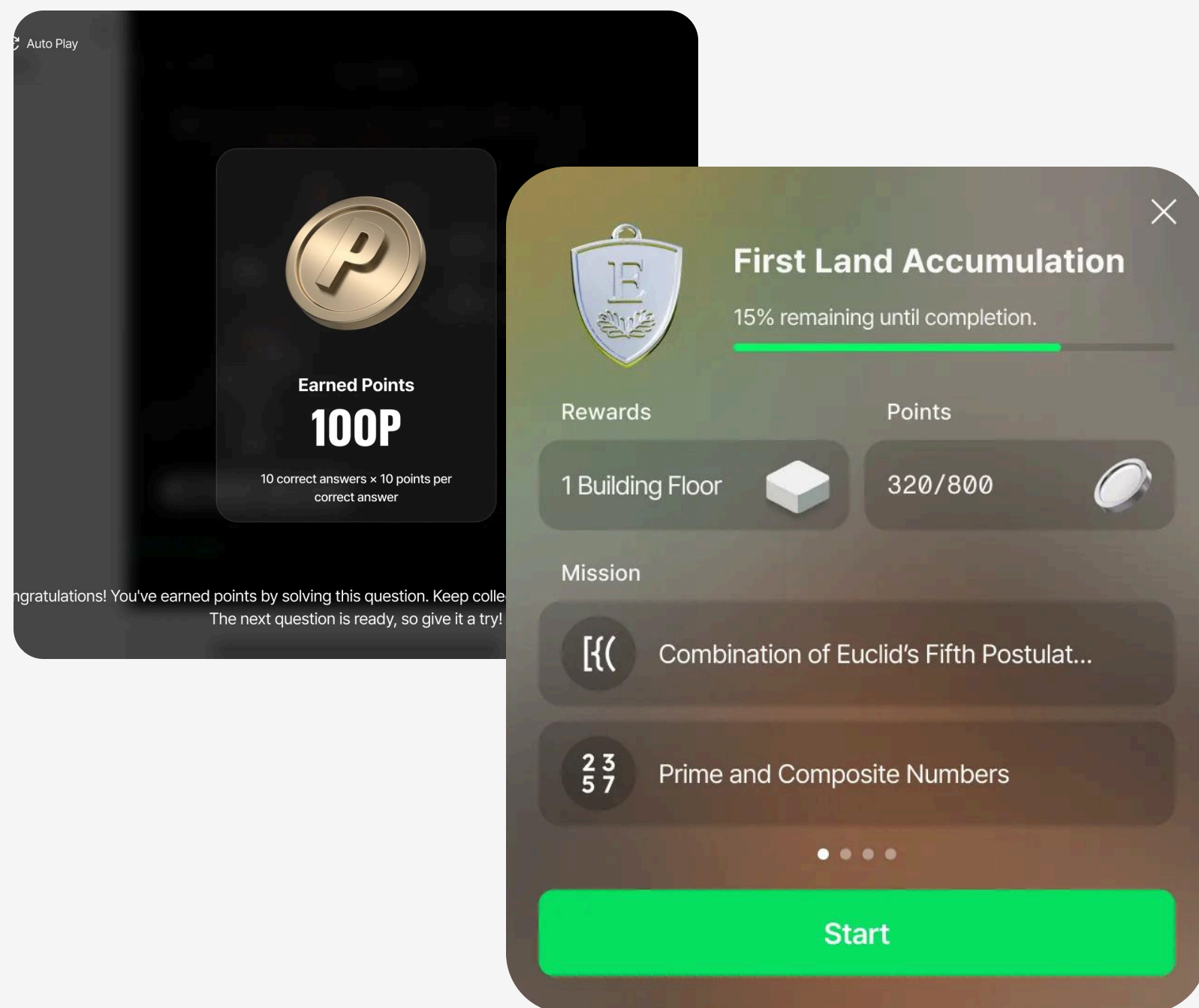
→ As your world becomes more intricate, it will draw in more visitors, increasing your rewards.



Your Own Personalized World

→ Shape your unique world through study achievements and creative customization.

Building a Personalized World via Studying



- **Solve missions** that arise in the city to receive **mission completion rewards**.
(Each mission has a story, such as cleaning streets, repairing broken airplanes, etc.)
- **Completing missions** grants completion rewards and allows you to **build your landmark**.
- **The higher your achievements**, the **more glamorous buildings** you can construct.
- You can **decorate the surroundings of buildings** with **additional missions**.
- **Glamorous buildings** attract many visitors, **generating significant income**.
- Points you earn can be used like currency.
- Consistent studying keeps your city maintained.
- (If the minimum study level is not met, the number of visitors decreases.)
- **Visit your friends' cities** and **leave footprints**.

Product Development Schedule

	1.0 My Algorithm Concept 23.07-23.12	2.0 CoachON Prototype 24.01-24.07	3.0 CHALK Productization 24.08-25.02	4.0 CHALK + Official Product 25.03-25.09	5.0 CHALK + Upgraded 25.10-26.02
Features	<ul style="list-style-type: none"> • Basic coursework 	<ul style="list-style-type: none"> • Game features, management • chatbot introduction 	<ul style="list-style-type: none"> • Game enhancement • Q&A using voice/text • persona selection 	<ul style="list-style-type: none"> • Network functionality • personalized challenges • natural Q&A 	<ul style="list-style-type: none"> • Subject expansion • study-abroad roadmaps • multilingual support
Technology Engine		<ul style="list-style-type: none"> • V1 	<ul style="list-style-type: none"> • V2 	<ul style="list-style-type: none"> • V3 	<ul style="list-style-type: none"> • V4
Target	-	<ul style="list-style-type: none"> • Grades 4-6 (elementary) 	<ul style="list-style-type: none"> • Grades 4 to Middle 1-2 	<ul style="list-style-type: none"> • Grades 4 to High School 	<ul style="list-style-type: none"> • Grades 4 to High School
Subject	<ul style="list-style-type: none"> • Middle 1 (basic) 	<ul style="list-style-type: none"> • Middle 1 (basic) 	<ul style="list-style-type: none"> • Middle 1-3 (Basic, Advanced, Special Lectures) 	<ul style="list-style-type: none"> • Middle 1 - High 2 (Basic, Advanced, Special Lectures) 	<ul style="list-style-type: none"> • Middle 1 - High 3 (Basic, Advanced, Special Lectures)
Market	<ul style="list-style-type: none"> • Math 	<ul style="list-style-type: none"> • Math 	<ul style="list-style-type: none"> • Math 	<ul style="list-style-type: none"> • Math 	<ul style="list-style-type: none"> • Math
Courses	<ul style="list-style-type: none"> • 1 	<ul style="list-style-type: none"> • 1 	<ul style="list-style-type: none"> • 24 + a 	<ul style="list-style-type: none"> • 100 +a 	<ul style="list-style-type: none"> • 200 +a

3*

Why we are the only
solution in this field?

Technology Development Goals

We aim to **leverage state-of-the-art large language models (LLMs)** to develop a **fully autonomous AI system** capable of delivering personalized, preference-based educational experiences. The system will dynamically **adapt to individual learning styles and needs.**

Fundamental Requirements for an Effective AI Tutor

1

Accuracy

→ Consistently provide correct answers and avoid errors.

2

Versatility

Adapt to various situations and respond appropriately.

Ontology

Introduction to the Concept of Ontology

In Foundry, the Ontology is the digital twin of an organization, **a rich semantic layer** that sits on top of the digital assets (datasets and models) integrated into Foundry.

Ontology structures integrated data, delivering **meaningful representation of knowledge.**

Ontology = **Imposing
rules on
data**



ONTOLOS™

Ontology-based OS → ONTOLOS

We develop agents and models with educational sophistication and real-time responsiveness.

1 **Accurate Answers**

Providing educational and precise solutions beyond GPT-based models.

2 **Flexible Responses**

Understanding students' problem-solving processes and situations to deliver appropriate multimodal feedback.

3 **High-Level Problem Solving**

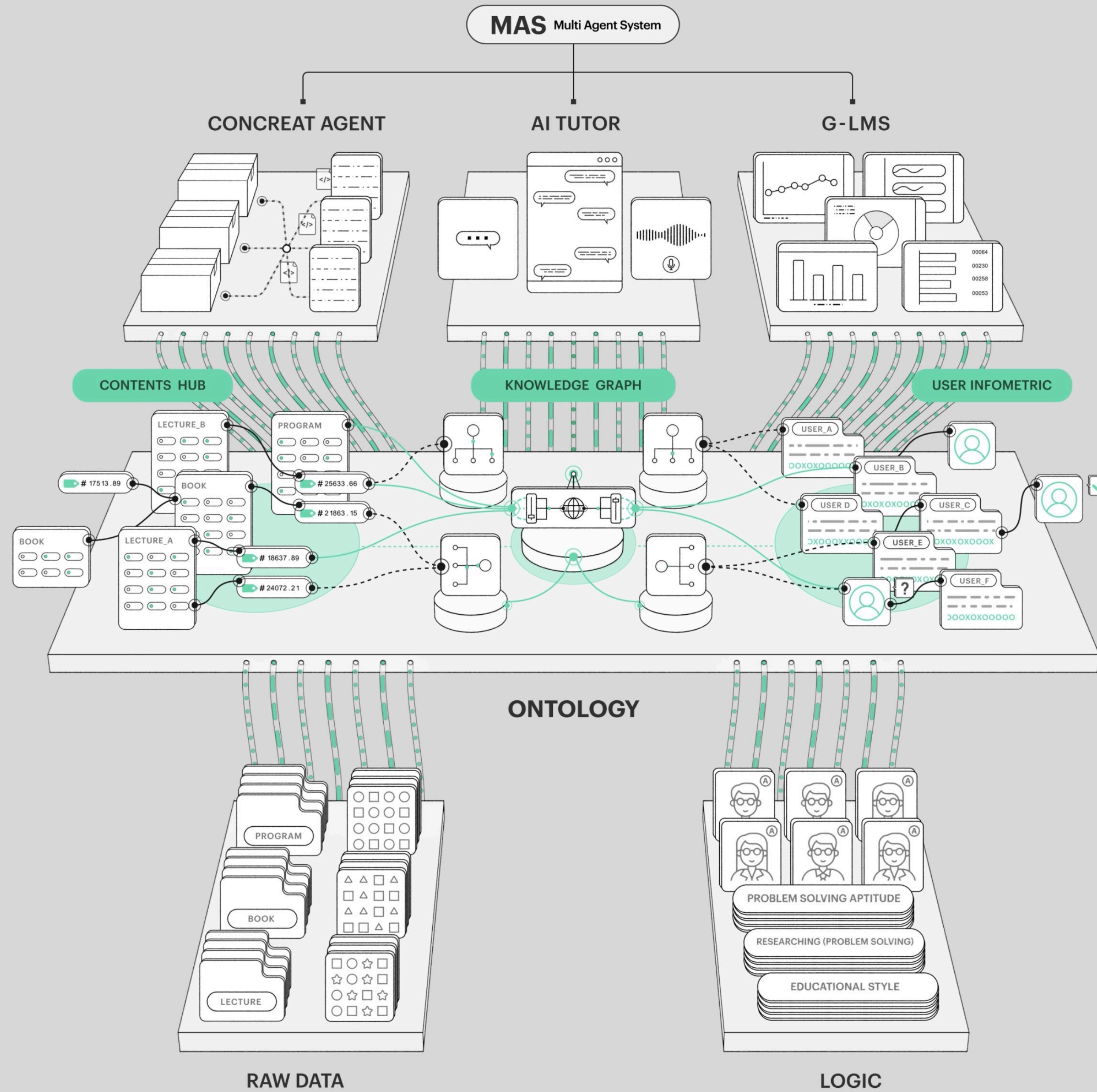
Resolving advanced middle and high school problems in real time through various solution methods.

ONTOLOS 개념도

LAYER 3
Agentic AI Integration

LAYER 2
Ontologization

LAYER 1
Data & Acquisition



● OntoLOS : Ontology Based AI Operating System

Structure

Layer 1 :

Data & Logic Acquisition

This phase focuses on systematically acquiring essential educational data and formalizing the cognitive processes of domain experts.



데이터

- Collect educational data (e.g., lectures, quizzes) for content creation.



도메인 로직

- Capture expert decision-making to replicate in educational contexts.

Layer 2 :

Ontologization

This phase involves defining relationships among collected data and systematically connecting them to establish an interconnected data ecosystem.



Knowledge Graph

- Organize concepts and relationships into a hierarchical structure.



Purified Data

- Convert raw data into a usable format with Knowledge Graph tags.



Links

Connect data within the Data Hub for seamless interaction.

Layer 3 :

Agentic AI Integration

This phase focuses on designing and integrating AI agents capable of leveraging the ontology to deliver tailored solutions for diverse educational needs.



ConCreat Agent

AI that generates customized learning content.



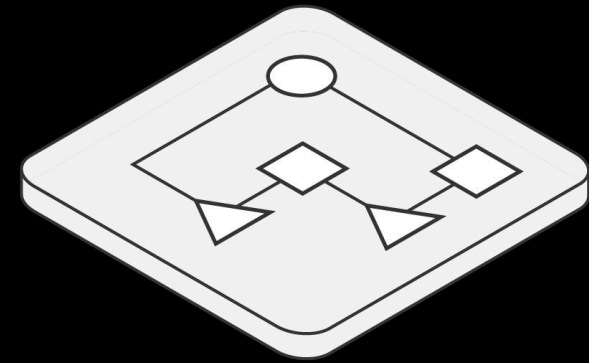
Tutoring Agent

Adaptive AI providing context-aware guidance.

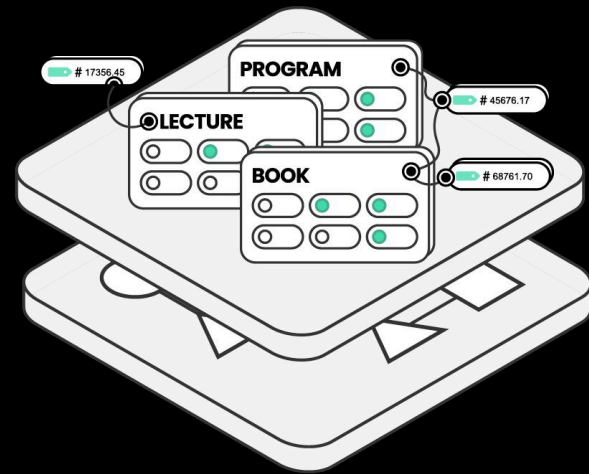


Learning Management Agent

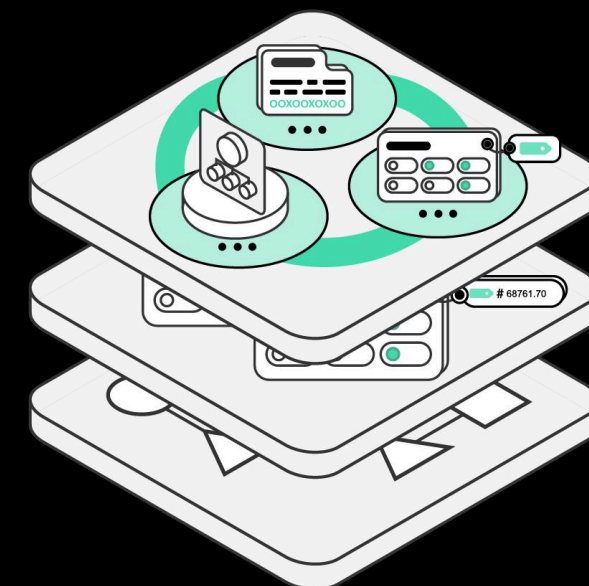
AI that analyzes progress and offers recommendations.



STEP 1



STEP 2



STEP 3

Ontologization

STEP 1

Data Structuring

Domain experts and AI Ontology specialists design a Knowledge Graph to systematically define the relationships between mathematical concepts.

STEP 2

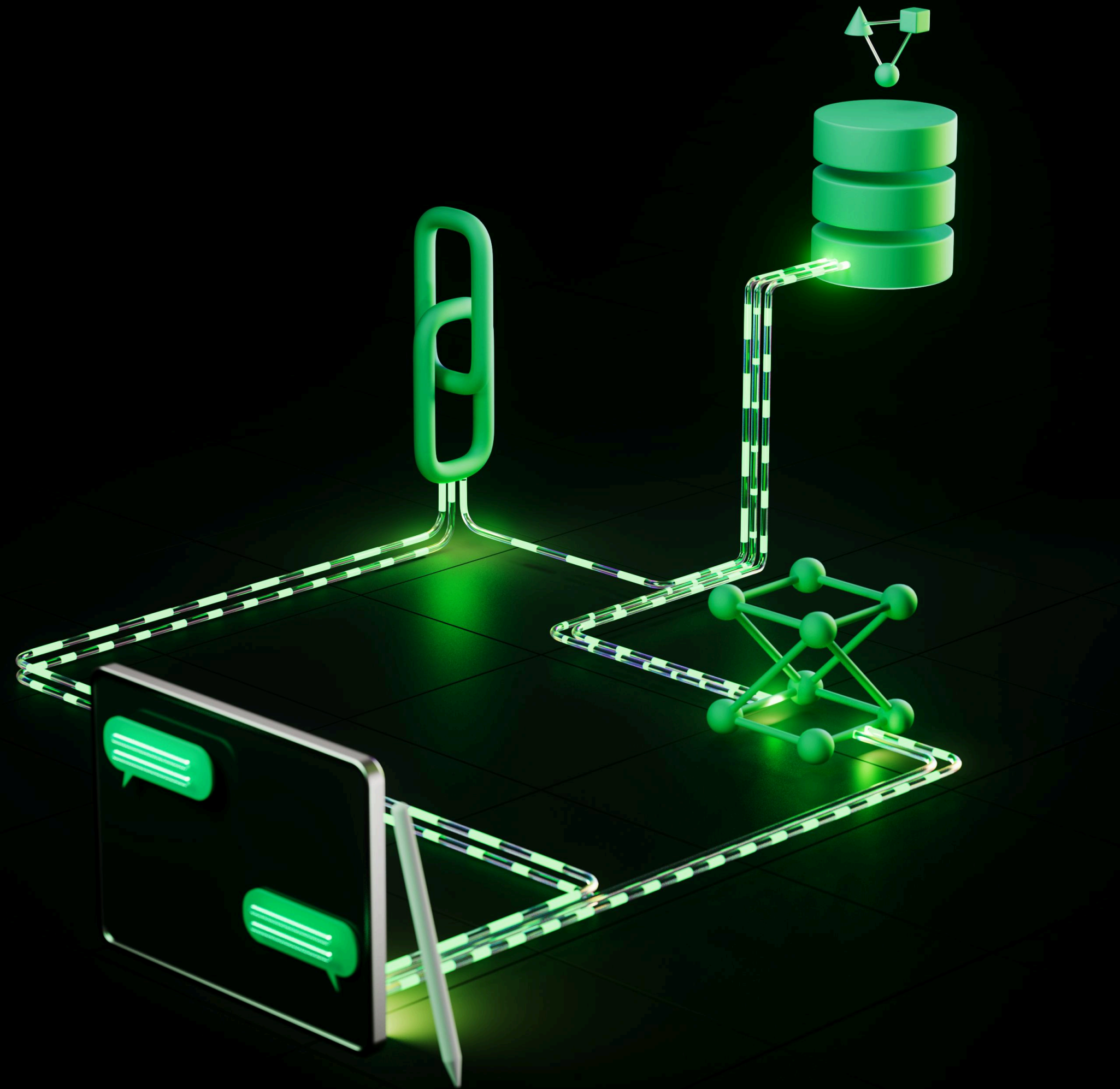
Tagging

Tagging key concept information required for usability to each piece of content data.

STEP 3

Linking

Based on the tagged information, establish relationships between data through linking.



Agentic AI Integration

STEP 1

Analysis

Analyze the thought processes of domain experts.

STEP 2

Pipeline Design

Identify suitable AI models, algorithms, and technologies for each stage and design the Agentic AI pipeline.

STEP 3

Ontology Binding

Bind the Agentic AI with the ontology to ensure that each pipeline element can access the required information in real-time.

Application

APPLICATION 1

Real-Time Problem Solving

Tutoring Agent in Chatbot

Reflection of Teacher's Persona

The chatbot uses the tone and speech patterns of instructors extracted from lecture data.

Advanced Problem-Solving

Solves problems based on mathematical reasoning and provides explanations tailored to the student's level.

Questions and Answers Tailored to User's Situation

Offers questions and answers suited to the user's level and condition, maintaining a structured dialogue.

Utilization of Media

Enhances understanding by incorporating images, videos, quizzes, and other resources.



$B(x_2, y_2)$, and $C(x_3, y_3)$ has coordinates given by:

$$G \left(\frac{x_1 + x_2 + x_3}{3}, \frac{y_1 + y_2 + y_3}{3} \right)$$

This formula essentially finds the average of the x-coordinates and the y-coordinates of the vertices to determine the centroid.

Example:

Let's say you have a triangle with vertices at $A(1, 3)$, $B(4, 2)$, and $C(2, 5)$.

- X-coordinate of centroid G_x :

$$G_x = \frac{1 + 4 + 2}{3} = \frac{7}{3}$$

- Y-coordinate of centroid G_y :

\

•



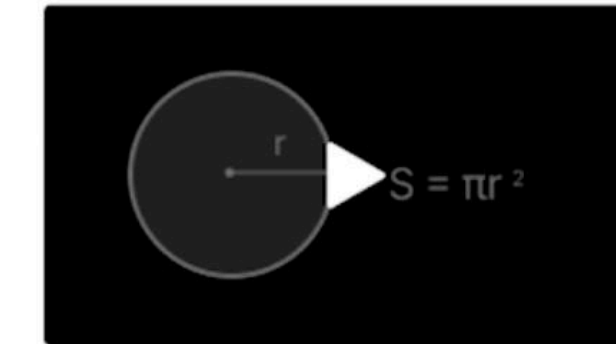
CHALK

There are three median lines in a triangle, and they all meet at one point. That point is the centroid.



Then how do you find the centroid?

Let me explain how to find the centroid simply. First, you need to find the midpoints of the triangle. In triangle ABC, draw a line from A to the midpoint of BC, from B to the midpoint of AC, and from C to the midpoint of AB. The point where these three lines meet is the centroid. How about watching the summary lecture again? It will only take 3 minutes.



Thanks! Let me know if you have more questions.

Just keep studying steadily, don't give up! You're doing well. Feel free to ask anytime!



Application

APPLICATION 2

Agent Supporting the Analysis and Creation of Learning Content like Lectures, Questions, and Explanations

ConCreat Agent in Content Create System

Analysis of Lecture, Question, and Explanation Content

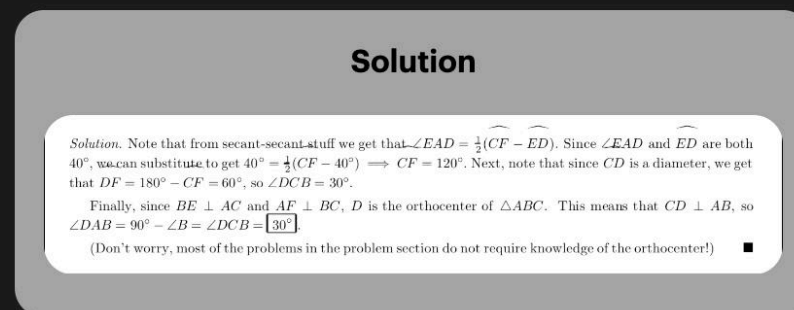
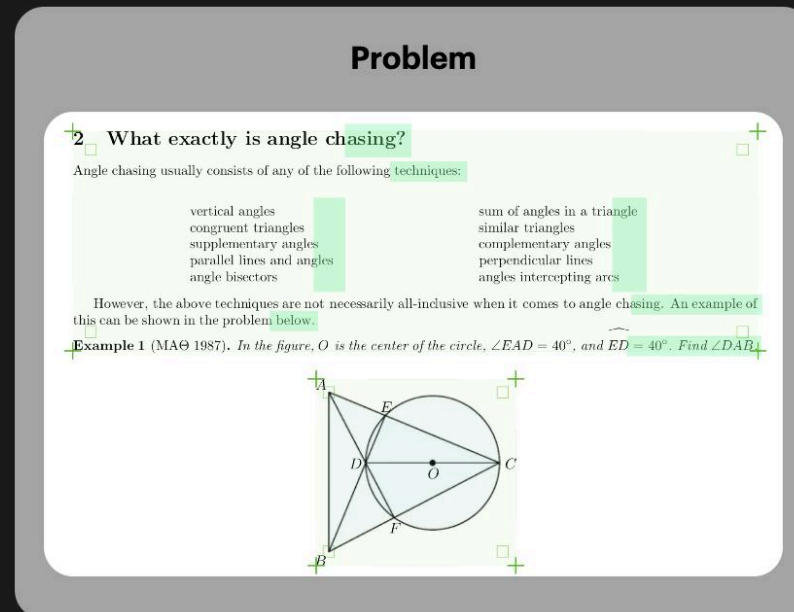
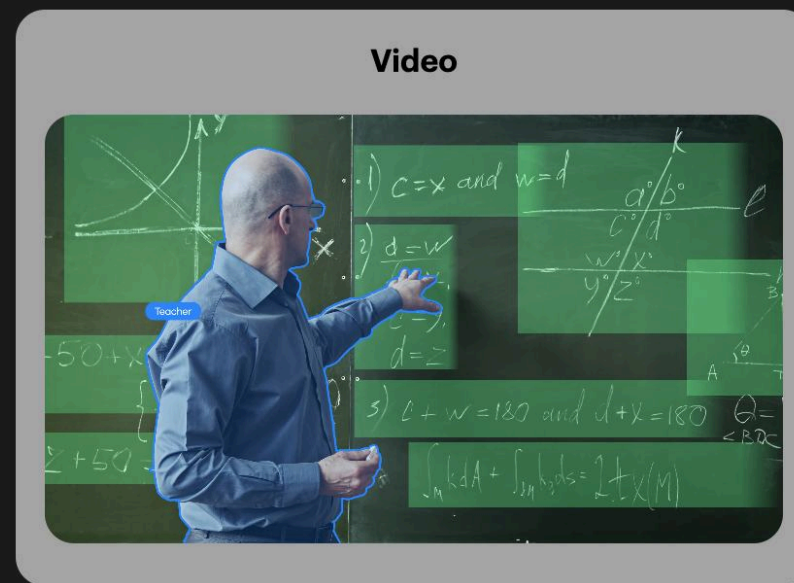
Identifies the characteristics of problems by analyzing video lectures, questions, and explanations.

Automatic Lecture Script Creation and Voice Generation

Generates lecture scripts (TST) and voice (TTS) tailored to the instructor's unique characteristics.

Automatic Generation of Questions and Explanations

Creates similar problems and similar questions, including detailed explanations.



APPLICATION 3

Agent Supporting the Management of Learning

Through G-LMS

Real-Time Feedback

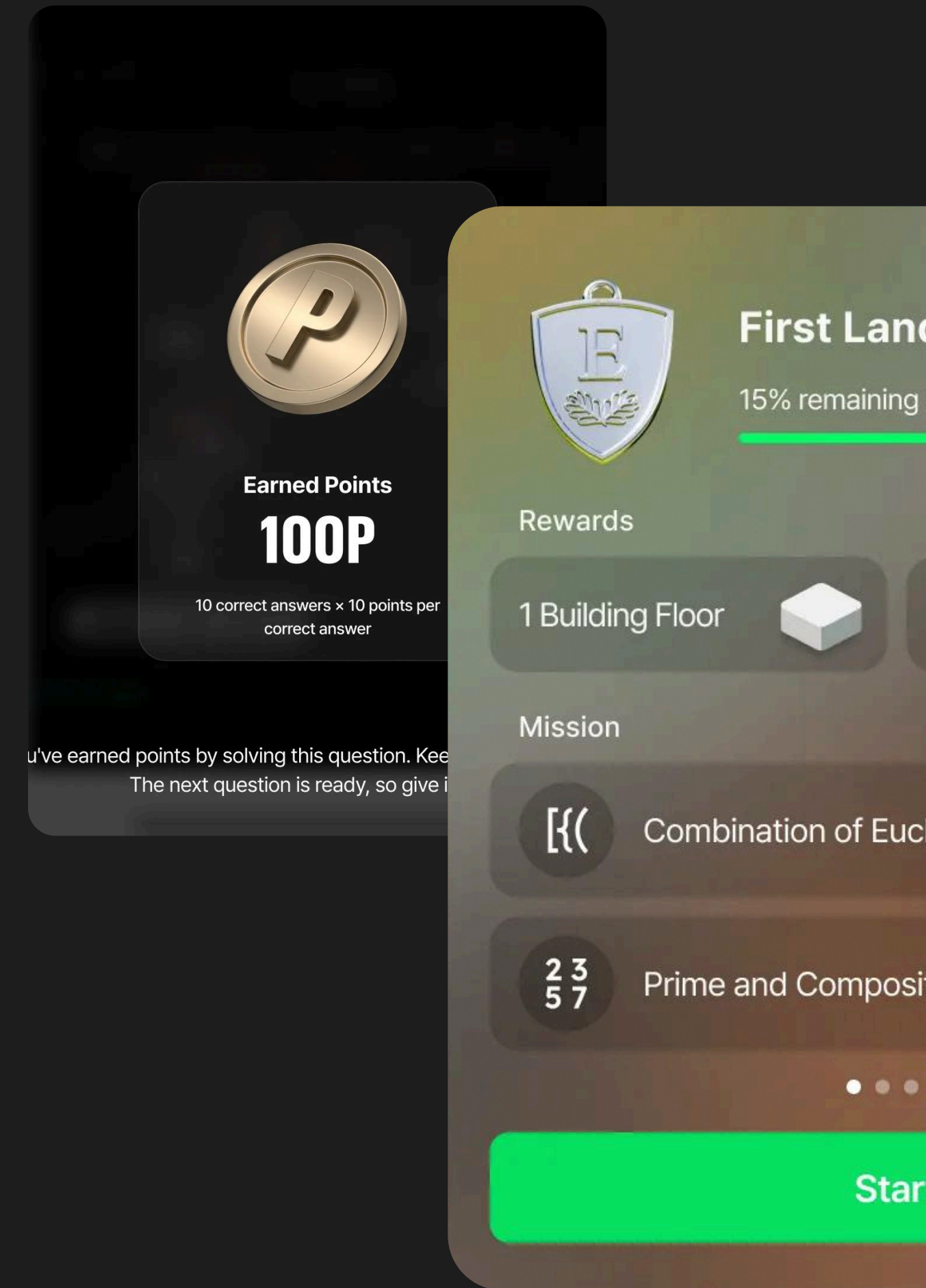
Adopts the tone and speech patterns of instructors extracted from lecture data.

Real-Time Analysis

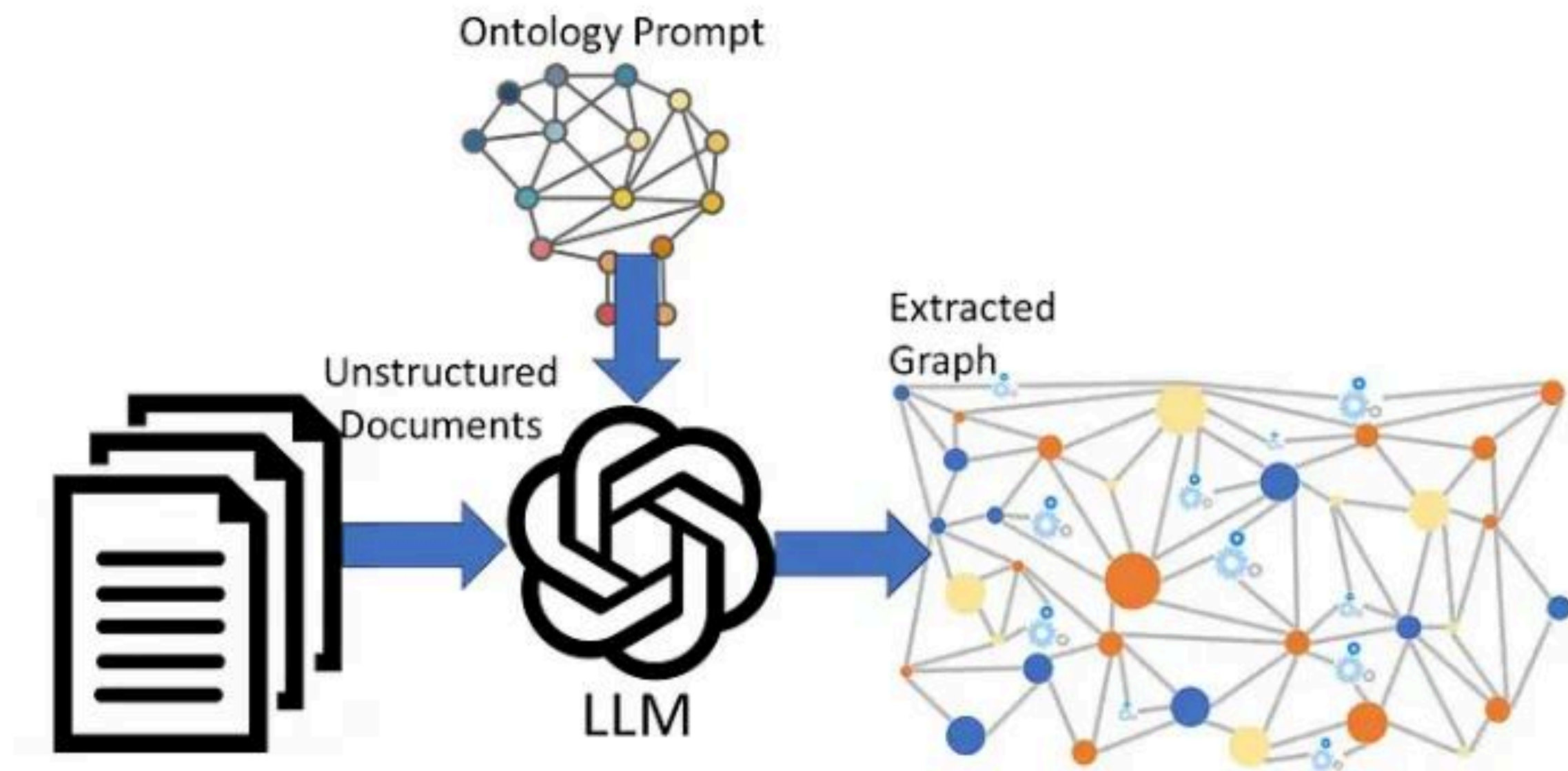
Solves problems based on mathematical reasoning and provides explanations tailored to the student's level.

Data Management

Proposes customized roadmaps to help students achieve their goals based on their learning data.



Product Expansion Strategy: Domestic Subject Expansion



**Automation of
creating
Ontology Based
Data Architecture**

4*

How should we proceed
moving forward?

Global Expansion Strategy

A global expansion strategy based on K-Edu Contents

Efficient Learning

Goal Achievement Optimization

Navigation

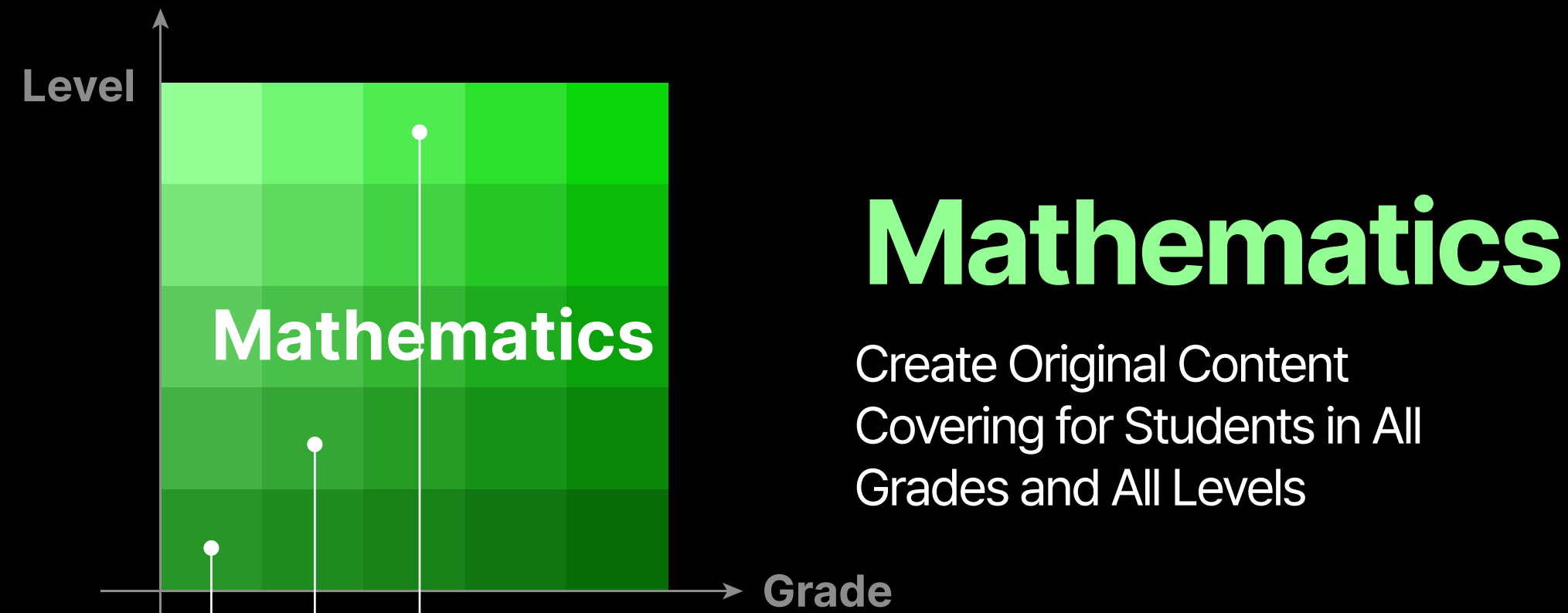
K* Education CONTENT

Addition of Global Math Content and Roadmap

**IB-AP-SAT
MATH**

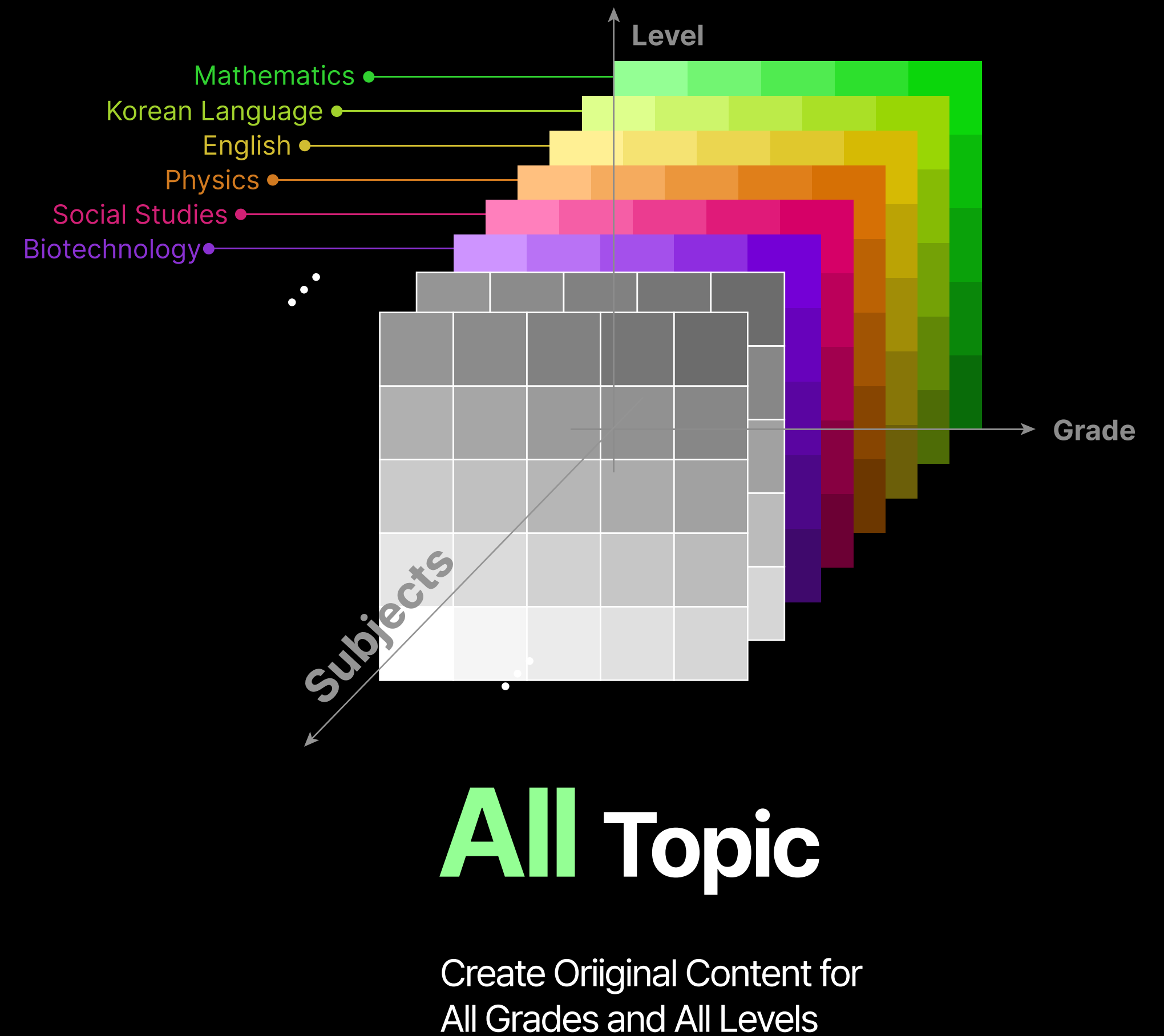
Product Expansion Strategy : Domestic Subject Expansion

Phase 1: Original Content



Course	Level	STEM Completion Criteria	Liberal Arts Completion Criteria	Recommended Study Months
Algebra1 for beginner	Basic	Not applicable	B	1.5
Geometry for beginner	Basic	Not applicable	B	1.5
Algebra2 for beginner	Basic	Not applicable	B	1.5
Algebra1 for Intermediate	Intermediate	A	B+	2
Geometry for Intermediate	Intermediate	A	B+	2
Algebra2 for Intermediate	Intermediate	A	B+	2
Pre Calculus for beginner	Basic	Not applicable	B+	1.5
Pre Calculus for Intermediate	Intermediate	A	A	2
Calculus for beginner	Basic	Not applicable	B+	1.5
Calculus for advanced	Advanced	S	Not applicable	2
Calculus	Intermediate	Not applicable	A+	2
AP Calculus AB	Advanced	S	A+	3
AP Calculus BC	Advanced	S	Not applicable	3
Statistics	Intermediate	Not applicable	S	2
AP statistics	Advanced	S	Not applicable	3
Linear Algebra for Intermediate	Intermediate	A	Not applicable	3
Linear Algebra for advanced	Advanced	S	Not applicable	3
Multivariable Calculus for Intermediate	Intermediate	S	Not applicable	3
Multivariable Calculus for advanced	Advanced	A	Not applicable	3
Elementary Basics (KOR)	Basic	Full elementary curriculum	Not applicable	1.5
Grade 1-1 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 1-1 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 1-2 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 1-2 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 2-1 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 2-1 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 2-2 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 2-2 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 3-1 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 3-1 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 3-2 Basic (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1.5
Grade 3-2 Advanced (KOR)	Advanced	A-level math + Top-tier math	Not applicable	1.5
Grade 1-1 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 1-2 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 2-1 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 2-2 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 3-1 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Grade 3-2 Basic (Alternative Path) (KOR)	Intermediate	Level B	Not applicable	3
Middle School Equation Special Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1
Middle School Geometry Special Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1
Middle School Number Theory Special Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1
Middle School Functions Special Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1
Middle School Statistics and Probability Lecture (KOR)	Intermediate	Level B-C intermediate difficulty	Not applicable	1

Phase 2: Original Content Expansion



End of Document*



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