

SMARTEXAM

Expanding GovTech's Build on BoB into the EdTech Market

An AI-powered exam generation and validation platform,
built on BoB's rapid workflow engine.

THE EDUCATIONAL ASSESSMENT GAP

For Students & Parents: The removal of mid-year exams has created an "**Assessment Gap.**" This leads to high anxiety, reliance on expensive mock exams (up to \$130 per session), and no clear benchmark for progress.

For Educational Institutions: Creating high-quality, secure, and consistent exam papers is **slow and resource-intensive.** There is no standardized, efficient workflow for teachers to create, review, and approve assessment materials.



Hundreds sign up for tuition centre mock exams costing up to S\$130, after scrapping of all mid-year school exams

SINGAPORE — This is the first year that Primary 6 students will not have to sit for mid-year examinations at school, but 12-year-old Ziya Hasna's joy at the reprieve has been short-lived.

 TODAY

This is a workflow and validation problem, perfect for a BoB-powered solution.

OUR SOLUTION

SMARTEXAM

POWERED BY BoB

SMARTEXAM is an on-demand platform that leverages BoB to allow educational institutions to **instantly generate, securely review, and efficiently manage exam papers.**

For Educators (The Configurators):

Instantly create curriculum-aligned exams using AI via a simple BoB form.

For a School's Exam Committee (The Back-Office Users):

Use BoB's role-based workflow to review, edit, and approve papers, ensuring quality and consistency.

For Students (The End-Users):

Access affordable, high-quality practice papers to bridge the assessment gap and reduce anxiety.

Drastically reduces preparation time.

A secure, auditable approval chain.

Builds confidence and readiness.

THE BoB ADVANTAGE **SPEED, TRUST, AND CONFIGURABILITY**

SMARTEXAM Requirement

Need a simple user interface for teachers to specify exam details.

Need a secure, multi-step approval workflow (e.g., creator -> reviewer -> head of dept).

Need an audit trail of who created and approved each exam.

Need to get this to market quickly to address the urgent need.

How BoB's Core Features Deliver

BoB's Form Builder: Provides the front-end for our AI generator without writing a single line of UI code.

BoB's Role-Based Access & Routing: Manages the entire validation chain, ensuring only authorized staff can approve papers.

BoB's History Log: Provides a transparent and permanent record for quality control and accountability.

BoB's No-Code Platform: Allows us to deploy this solution in weeks, not months, focusing our effort on the core AI, not on building workflow infrastructure.

SMARTEXAM IN ACTION

A 3-STEP WORKFLOW

1 GENERATE

A teacher (The Configurator) uses a simple BoB form to define exam parameters like subject and question types, or simply uploads their own syllabus. The AI instantly generates a draft.

AI Exam Generator

Create customized exams effortlessly.

From Topic

From File

Subject

Quantum Physics

Grade Level

University Graduate

Exam Title

Midterm Exam, Quantum Physics 1

Question Specifications

Type

MCQ

Count

5

Optional Prompt/Guidance

Extremely difficult quantum physics paper

+ Add Question Specification

Generate Exam from Topic

SMARTEXAM IN ACTION

A 3-STEP WORKFLOW

2 VALIDATE

The draft is automatically routed via BoB's workflow to the Exam Committee (The Back-Office Users). They review the AI's sources, check for quality, and can regenerate questions before approval.

Midterm Exam, Quantum Physics 1

[Create New Exam](#)

Exam ID: exam-1ffbbaf8c7e143aa9abcc6e0070513d3

[Exam Paper](#) [Answer Key](#) [Generation Details](#)

Ingestion Summary

Message: Ingestion complete for 'Quantum Physics'.

Processed Sources: 39

Total Chunks Ingested: 11862

Collections Created: quantum_physics_text, quantum_physics_images

Sources Used (31)

- https://media.lrcdn.com/dms/image/v2/D4E22AQHMv9dvOmZAAg/feedshare-shrink_800/feedshare-shrink_800/0/1713622...
- https://media.wired.com/photos/670f87fe9cfe9e3de82bca3e/3:2/w_2560%2Cc_limit/Geometry-crSenor-Salme-AppleTileL...
- https://physics.aps.org/assets/4803d3c1-262b-4f97-8421-305f432e6bb1/e24_1.png
- <https://thumbs.dreamstime.com/b/d-rendered-quantum-wave-function-difurans-energy-pulses-d-rendered-quantum-wave...>
- <https://thumbs.dreamstime.com/b/illustration-quantum-tunneling-demonstrating-particle-behavior-wave-like-form-atomic-...>
- https://upload.wikimedia.org/wikipedia/commons/4/42/Quantum_harmonic_oscillators_animation.gif
- https://upload.wikimedia.org/wikipedia/commons/thumb/5/5c/Cube_of_theoretical_physics.svg/512px-Cube_of_theoretical...
- <https://utdirect.utexas.edu/apps/student/coursedocs/nlogon/download/9471861/>
- https://www.quantamagazine.org/wp-content/uploads/2022/10/Collapse_2880x2620_Lede-scaled.webp
- <https://www.quantamagazine.org/wp-content/uploads/2024/09/Geometry-crSenor-Salme-AppleTileLede-scaled.webp>
- <https://www.quantamagazine.org/wp-content/uploads/2024/09/Geometry-crSenor-Salme-AppleTileSocial.jpg>
- https://www.quantamagazine.org/wp-content/uploads/2024/09/PQ_Geometry-01.png

Generated Questions (5)

Question 1 (MCQ)

[Regenerate](#)

Which of the following best describes the primary focus of 'Quantum Mechanics I' as referenced in the provided context?

- A. The study of quantum optics and photon interactions
- B. An introduction to the fundamental postulates and concepts of quantum mechanics
- C. The application of quantum mechanics in engineering systems
- D. A detailed analysis of quantum many-body theory

[▼ Show Solution Details](#)

Explanation: The primary focus of 'Quantum Mechanics I' is typically to introduce students to the foundational postulates, mathematical framework, and core concepts of quantum mechanics, such as wave functions, operators, and the Schrödinger equation. The other options refer to more specialized or advanced topics that are usually covered in later courses.

Correct Option: B. An introduction to the fundamental postulates and concepts of quantum mechanics

Question 2 (MCQ)

[Regenerate](#)

SMARTEXAM IN ACTION

A 3-STEP WORKFLOW

3

DELIVER

Once approved, the final Question Paper and Answer Key are generated and securely stored in the organization's library, ready for distribution and use.

AI Exam Generator

Create customized exams effortlessly.

Midterm Exam, Quantum Physics 1

Create New Exam

Exam ID: exam-ffbbaf0c7e143aa9abcc6e0070513d3

Exam Paper Answer Key Generation Details

Exam Paper

Instructions: Answer all questions. For multiple-choice questions, select the most appropriate answer.

1. Which of the following best describes the primary focus of 'Quantum Mechanics I' as referenced in the provided context?

- A. A detailed analysis of quantum many-body theory
- B. An introduction to the fundamental postulates and concepts of quantum mechanics
- C. The application of quantum mechanics in engineering systems
- D. The study of quantum optics and photon interactions

2. According to the context, which course is most likely to cover the quantum mechanical properties of photons?

- A. Phys 610 Quantum Many Body Theory
- B. Quantum Mechanics I
- C. Quantum Mechanics for Engineers
- D. Quantum mechanics of photons

3. The image at <https://thumbs.dreamstime.com/b/illustration-quantum-tunneling-demonstrating-particle-behavior-wave-like-form-atomic-scale-depicts-where-339792848.jpg> is most relevant to which quantum concept mentioned in the context?



- A. Quantum many-body theory
- B. Quantum optics
- C. Quantum tunneling
- D. Theory of everything

4. Which of the following topics is explicitly mentioned as a subject in a graduate-level quantum physics course according to the context?

- A. Quantum chromodynamics
- B. Quantum field theory
- C. Quantum gravity
- D. Quantum many-body theory

5. Based on the context, which question is directly posed regarding the foundations of quantum mechanics?

- A. How does quantum mechanics explain tunneling?
- B. What are the applications of quantum mechanics in engineering?
- C. What are the fundamental postulates of quantum mechanics?
- D. What is the relationship between quantum mechanics and classical mechanics?

AI Exam Generator

Create customized exams effortlessly.

Midterm Exam, Quantum Physics 1

Create New Exam

Exam ID: exam-ffbbaf0c7e143aa9abcc6e0070513d3

Exam Paper Answer Key Generation Details

Answer Key

1. Which of the following best describes the primary focus of 'Quantum Mechanics I' as referenced in the provided context?

Correct Answer: B. An introduction to the fundamental postulates and concepts of quantum mechanics

Explanation: The primary focus of 'Quantum Mechanics I' is typically to introduce students to the foundational postulates, mathematical framework, and core concepts of quantum mechanics, such as wave functions, operators, and the Schrödinger equation. The other options refer to more specialized or advanced topics that are usually covered in later courses.

2. According to the context, which course is most likely to cover the quantum mechanical properties of photons?

Correct Answer: D. Quantum mechanics of photons

Explanation: The course titled 'Quantum mechanics of photons' is most likely to specifically cover the quantum mechanical properties of photons, as indicated directly by its name. The other options are either general quantum mechanics courses or focus on broader or different topics.

3. The image at <https://thumbs.dreamstime.com/b/illustration-quantum-tunneling-demonstrating-particle-behavior-wave-like-form-atomic-scale-depicts-where-339792848.jpg> is most relevant to which quantum concept mentioned in the context?

Correct Answer: C. Quantum tunneling

Explanation: The image depicts a particle behaving as a wave and passing through a potential barrier, illustrating the phenomenon where particles can cross barriers they classically shouldn't be able to. This is the essence of quantum tunneling, making it the most relevant quantum concept among the options.

4. Which of the following topics is explicitly mentioned as a subject in a graduate-level quantum physics course according to the context?

Correct Answer: B. Quantum field theory

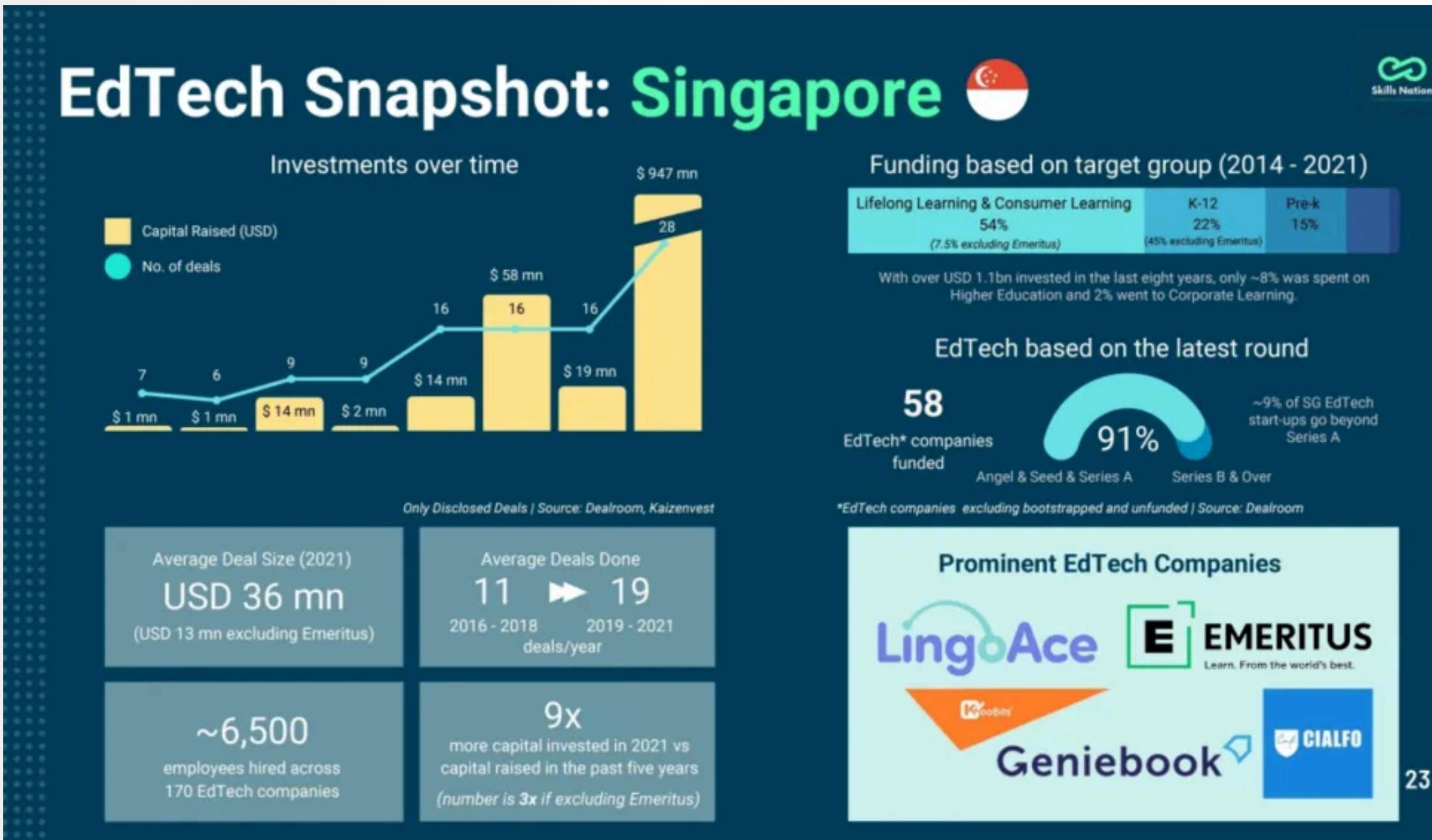
Explanation: Quantum field theory is explicitly mentioned as a standard subject in graduate-level quantum physics courses, as it forms the foundation for understanding advanced quantum phenomena. The other topics, while important, are typically more specialized and may not be universally included in a standard graduate quantum physics curriculum.

5. Based on the context, which question is directly posed regarding the foundations of quantum mechanics?

Correct Answer: C. What are the fundamental postulates of quantum mechanics?

Explanation: The question asks which is directly posed regarding the foundations of quantum mechanics. The fundamental postulates are the basic principles upon which the entire theory is built, making option 2 the most direct question about the foundations. The other options concern applications, specific phenomena, or relationships with other theories, not the foundational principles themselves.

TAPPING INTO SINGAPORE'S US\$2.2B EDTECH MARKET



MARKET SIZE

- US\$2.2 Billion by 2027.
- Only ~8% of EdTech funding goes to Higher Education, and even less to internal tooling for K-12. This is our underserved niche.

GO-TO-MARKET (GTM) STRATEGY

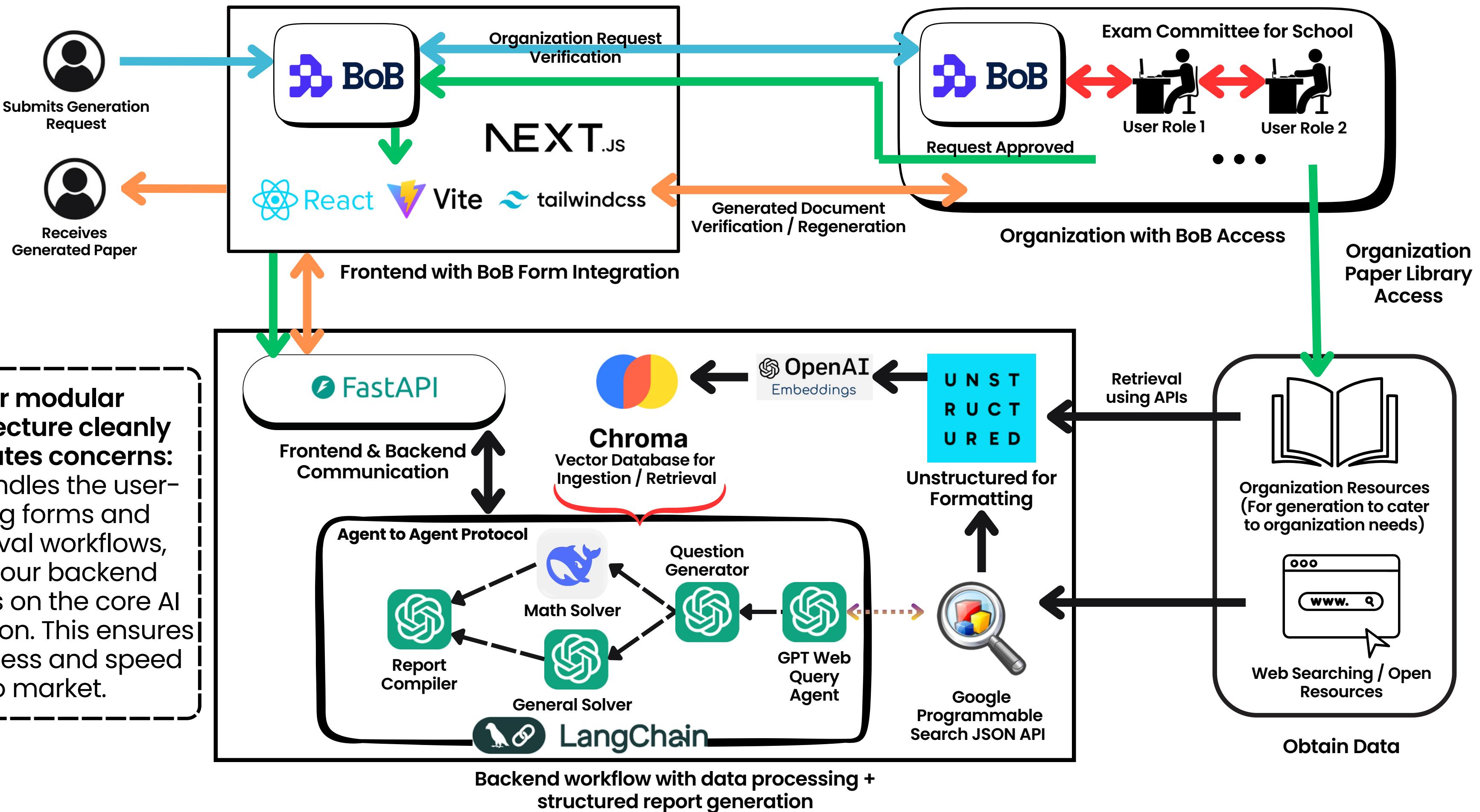
Target Customers:

- **Phase 1:** Private Tuition & Enrichment Centres (e.g., The Learning Lab, MindStretcher) – They need to innovate and offer value to compete.
- **Phase 2:** Institutes of Higher Learning (IHLs) & Private Education Institutions.

Pilot Program: Launch a pilot program with 2-3 mid-sized tuition centres to validate the product and gather testimonials.

Pricing Model: **Tiered Hybrid SaaS.** We offer a monthly subscription with a generous allowance of generated exams. This provides budget predictability for schools and aligns price with value. Overage is handled on a simple pay-per-exam basis.

TECHNICALLY FEASIBLE ARCHITECTURE



MEASURING **SUCCESS** AND **FUTURE GROWTH**

Success Metrics (Product Monitoring):

Adoption: Number of active educational institutions. (Goal: 10 pilot centers in Year 1).

Usage: Number of exams generated per week. (Goal: 1,000 exams/month by end of Y1).

Value: Average time saved per teacher in exam preparation (measured via user surveys).

North Star Metric: % of generated exams approved without modification (a proxy for AI quality).

Associated Risks & Mitigation:

Risk	Mitigation
AI generates inaccurate or biased content.	The BoB-powered human validation workflow is our core mitigation. The "intermediator" role is designed specifically to prevent this.
Dependency on LLM providers might be subjected to rate limits	The users can have the option to make use of their own LLM models.

Roadmap / Future Enhancements:



Integration with school learning management systems (LMS).



AI-powered performance analytics for students.



Expansion to corporate training and certification programs (a new market expansion for BoB!).

THANK YOU

REFERENCES

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SEE OUR PROJECT



<https://github.com/Rah-Rah-Mitra/SmartExam>