



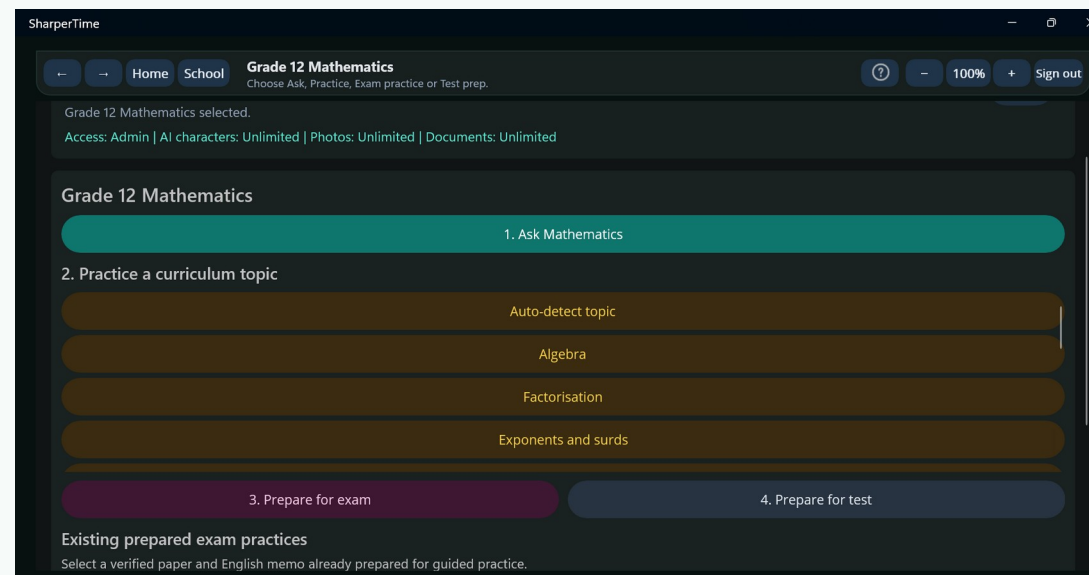
SharperTime

AI-powered Grade 12 Mathematics tutoring for African learners

A working Windows and Android platform for practice, hints, diagnostic marking, multimodal input and lesson videos.

Sharper X (Pty) Ltd
Founder: Lesego Mohaule
Johannesburg, South Africa

Application deck for Google Africa Applied AI Lab



The problem

Affordable, personalised mathematics help is still difficult to access.

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Google Africa Applied AI Lab

Many learners need help exactly when they are studying alone.

- Private tutoring is effective but too expensive for many families.
- School mathematics is multimodal: equations, working, graphs and diagrams.
- Generic AI tools do not provide a structured learning flow, marking and feedback.
- Learners need immediate correction, not only final answers.

R35–R50

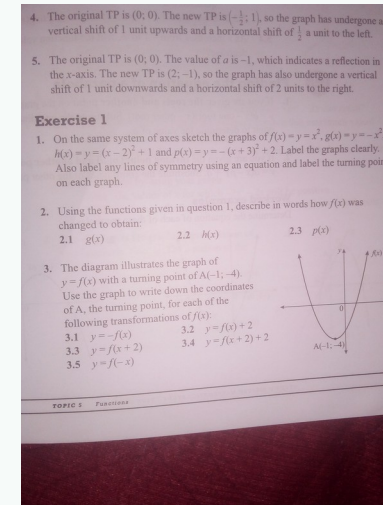
Target 30-day price

Grade 12

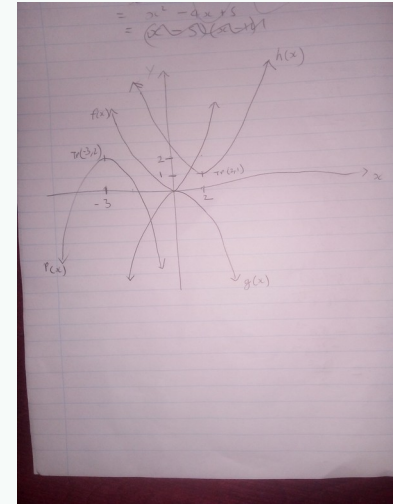
Initial launch focus

**Local →
Africa**

Expansion path



Textbook question



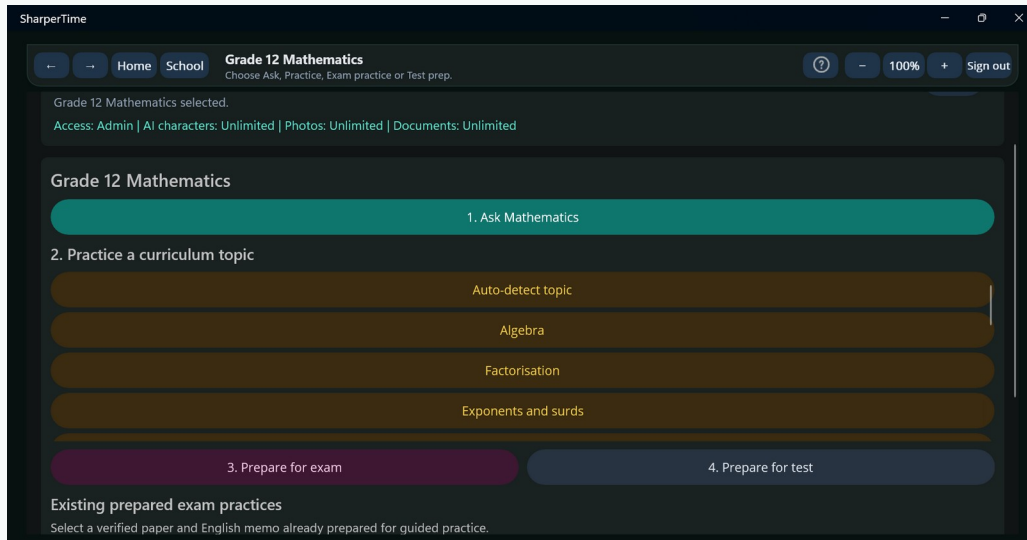
Handwritten graph

The solution

A focused AI tutor built around real mathematics workflows.

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SharperTime combines structured learning with multimodal AI.

- **Ask** Learners ask mathematics questions naturally.
- **Practice** Difficulty-based practice with hints and guided feedback.
- **Mark** The app checks answers and explains mistakes.
- **Capture** Textbook images, handwritten work, voice and graphs.
- **Learn** Short lesson videos connected to revision and practice.

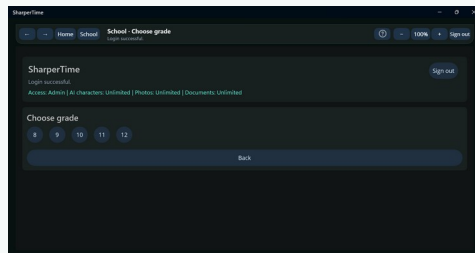
Not a generic chatbot — a learning platform designed for a focused Grade 12 Mathematics launch.

Product already working

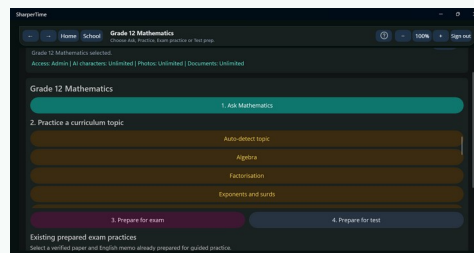
A real app experience has been recorded and demonstrated.

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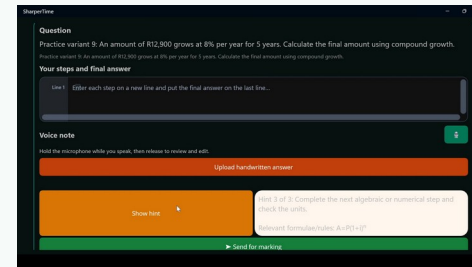
Google Africa Applied AI Lab



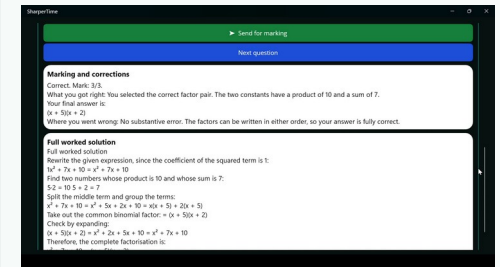
Choose grade



Select topic / mode



Get a hint



Receive marking

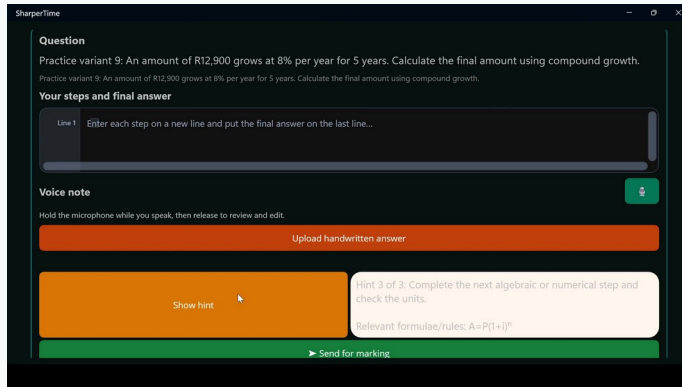
The product demo shows the actual app: topic choice, difficulty selection, hints, answer entry and diagnostic correction feedback.

AI tutoring and practice workflow

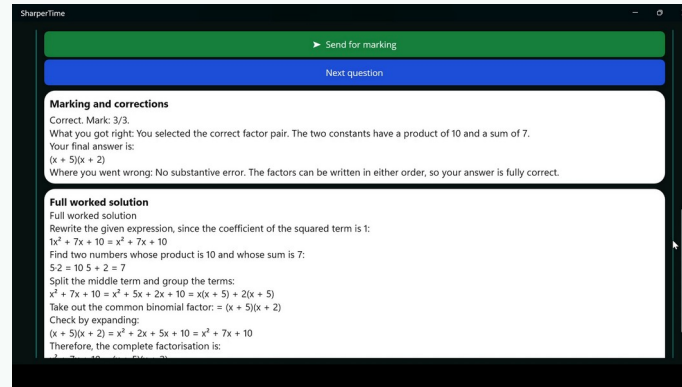
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The learner does the work; the app guides, checks and explains.

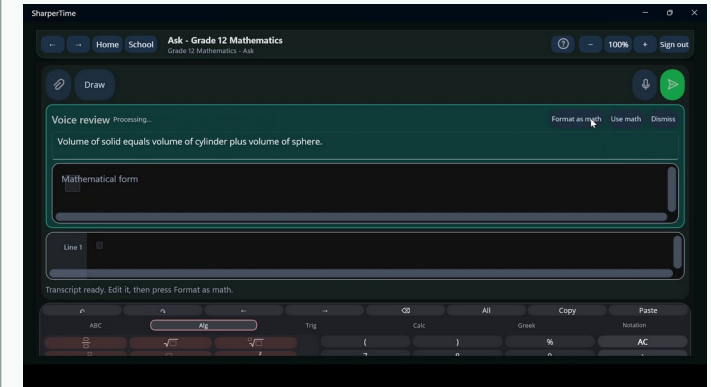
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Optional hints and formulas



Diagnostic marking



Review before sending

1

Select topic and difficulty

2

Attempt a real question

3

Ask for hint when needed

4

Receive marking and correction

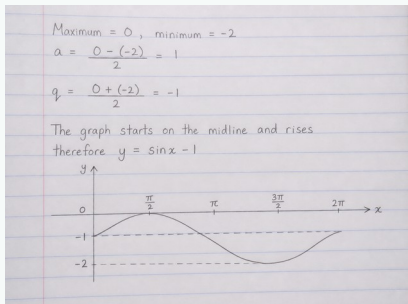
The current product focuses on user-selected difficulty, hints and corrective feedback rather than giving full solutions as the default learner experience.

Multimodal AI learning

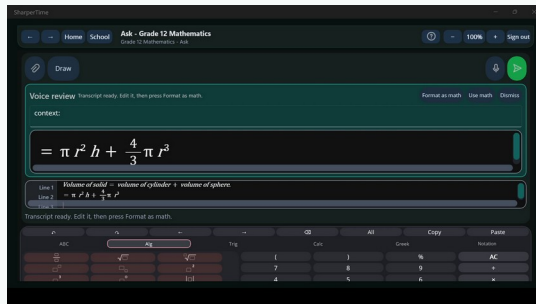
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SharperTime works with the way learners actually produce mathematics.

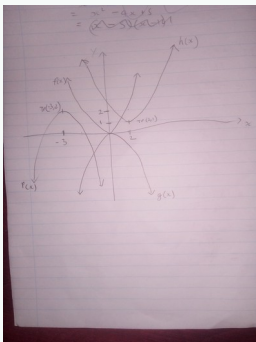
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Handwritten solution



Voice to maths



Hand-drawn graph

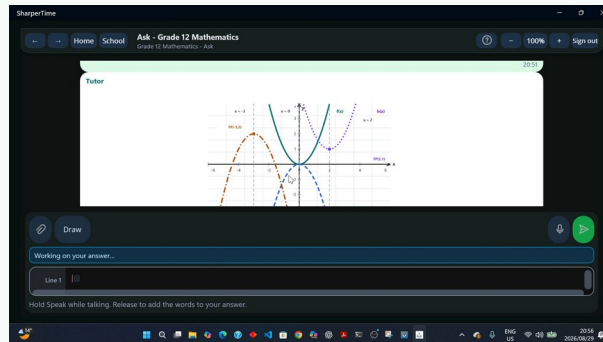


Image upload and analysis

Inputs

- Typed mathematics
- Voice converted into mathematical notation
- Textbook and photo uploads

- Handwritten working and graphs

Outputs

- Editable transcription and confirmation
- Mathematics reasoning and marking
- Specific feedback and correction
- Graph-aware responses

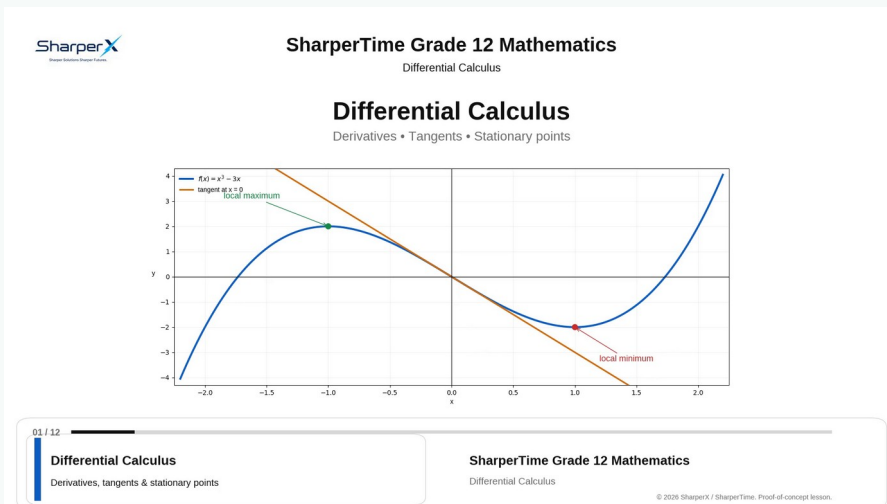
This matters because school mathematics is not just a text-chat problem.

Lesson-video content engine

Google AI tools can help create, refine and expand short CAPS-aligned lessons.

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Differential Calculus lesson sample

SharperTime Grade 12 Mathematics
Differential Calculus

Now write the tangent equation

$$y - y_1 = m(x - x_1)$$

Point: (0, 0) and gradient: $m = -3$

$$y - 0 = -3(x - 0)$$
$$y = -3x$$

The derivative supplies the gradient; the graph supplies the point.

08 / 12

Equation of the tangent
Use the point and the derivative gradient

SharperTime Grade 12 Mathematics
Differential Calculus

© 2020 SharperX / SharperTime. Proof-of-concept lesson.

Worked-example teaching style

Initial focus

High-school Mathematics,
starting with Grade 12.

Content expansion

All topics, subtopics and sections
for each grade.

Future scope

Other high-school subjects and
TVET engineering.

Why Google AI can accelerate SharperTime

SharperTime

Google AI can become materially impactful across product quality and scale.

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Gemini

- Stronger multimodal maths understanding
- Better handling of handwriting, images, diagrams and graphs
- Richer explanations and tutoring interactions

Gemma / efficient models

- Lower-cost routing for routine tasks
- Potential support for low-connectivity environments
- Reusable feedback and question-classification workflows

Google tooling

- Lesson-video creation and content iteration
- Question refinement and evaluation workflows
- Support for Apple/Mac expansion and cloud-scale delivery

Goal: improve multimodal accuracy, question quality, lesson-content scale, latency and cost while keeping the learner experience simple.

Business model & pricing

A simple subscription model with controlled AI costs.

Target subscription

R35 – R50 / 30 days

The launch pricing keeps the offer affordable while preserving a target SharperX operating share and fair-use AI allocation.

- Direct-to-learner and parent subscription at launch.
- School partnerships become a distribution channel after the product is proven.
- AI usage is managed through credits, fair-use limits, model routing and monitoring.

Metric	R35 plan	R50 plan
Gross subscription	R35.00	R50.00
PayFast card fee incl. VAT	R3.59	R4.14
SharperX operating share	R25.00	R25.00
Tax / reserve planning	R1.41	R6.75
Learner API credits	R5.00	R14.11

No funding ask is included in this application deck. Tax figures are planning reserves only; actual company tax depends on taxable profit and accountant review.

Go-to-market

Start locally, prove renewals, then expand outward.

Google Africa Applied AI Lab

Beachhead

- Marikana and surrounding communities in North West
- Gauteng school and community outreach
- Direct school visits, demos and local trust-building

Digital channels

- YouTube ads and lesson videos
- X / Twitter and Facebook
- Website launch page, product demo and community sharing

Launch path

- September launch on website and Google Play Store
- Focused on Grade 12 Mathematics first
- Expand across Africa after the core model is proven

Product roadmap

Focused Grade 12 Mathematics launch first, then disciplined expansion.

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Now

Windows and
Android app
Grade 12
Mathematics

Sep 2026

Launch on website
and Google Play
Store

2027

Add other grades
and high-school
subjects

Next

Expand to Apple,
Mac
and more devices

Platform

Add SIP live
tutoring
and a shared
canvas

Later

TVET engineering
and broader Africa
rollout

Future SIP service: AI-assisted private tutoring with video/audio calls similar to Meet, Teams and Zoom, plus a shared maths/text canvas for tutors and learners.

Founder advantage

Technical founder with QA, AI/data, engineering and teaching experience.

SharperTime

Google Africa Applied AI Lab

Lesego Mochaule

**Founder & Director
Sharper X (Pty) Ltd**

Johannesburg, South Africa

BSc (Hons) Big Data Analytics
BSc Geo-Informatics
National Diploma Electrical Engineering
ISTQB Certified Tester Foundation Level

- **Software QA**

Functional, regression, usability, web and mobile testing; Appium and Selenium experience.

- **AI & data capability**

Python, C#, Java, SQL, TensorFlow, PyTorch and data-analysis tools.

- **Education link**

Former computer-science lab assistant and practical learner-support experience.

- **Builder mindset**

Can build, test, iterate and launch the product rather than only outsource development.

The founder profile matches SharperTime's immediate needs: build, test, launch, measure and improve.



Personalised AI tutoring that can scale from smartphones to schools across Africa.

Why Google Africa Applied AI Lab

Technical support, venture-building and Google AI tooling can help SharperTime improve multimodal performance, scale lesson content, refine questions and expand distribution.

Sharper Solutions. Sharper Futures.

Sharper X (Pty) Ltd

