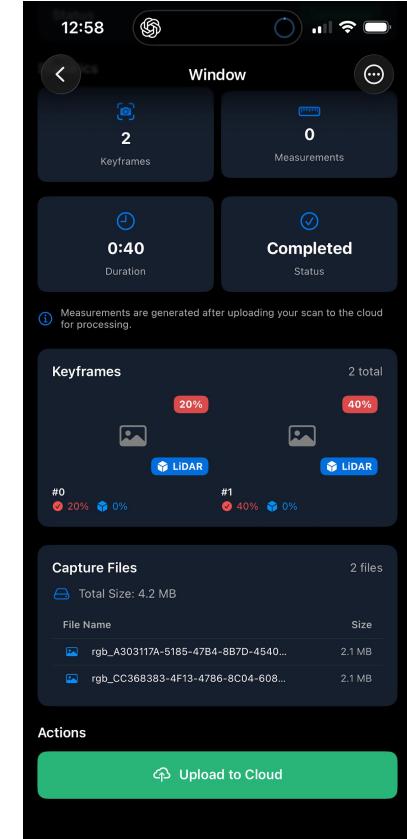
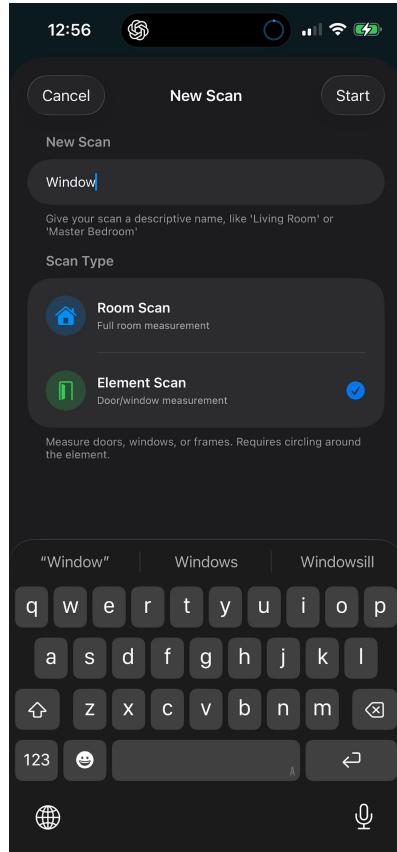
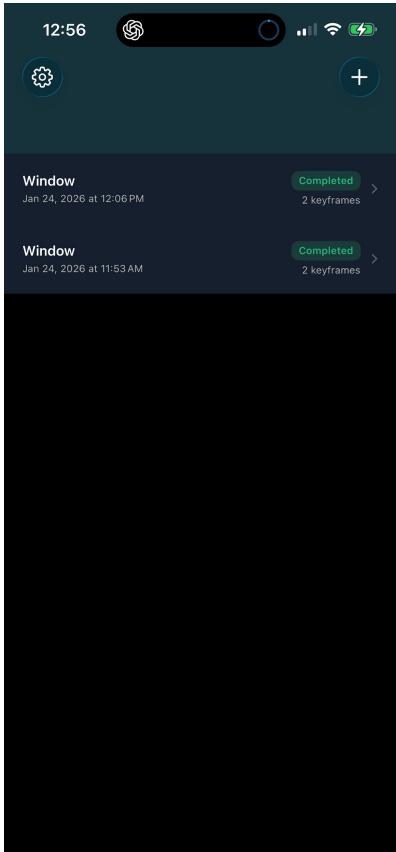


Cline x Cerebas x Z.AI GLM 4.7 and Xcode



Consumer Mobile Metrology for Residential Use Cases

January 2026

My Background

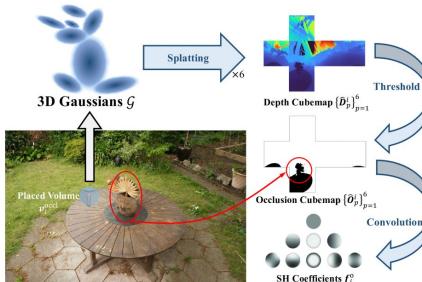
- Solution Architect
- Previous Java Developer
- Currently an AI agent software developer supervisor
- (*almost*) ZERO expertise with iOS Apple programming other than knowing that it is *hard*

What is the Vibe Coding Challenge? (Part 1)

- Sophisticated large language models (LLMs), such as Claude Opus 4.5, struggle to generate applications beyond rudimentary business functionality.
- Metrology, the science of measurement, is a domain requiring a high degree of specialized expertise.
- While LLMs have substantial access to the underlying knowledge, generating a reliable, specification-compliant implementation has not been successful to date.
- This difficulty necessitates either:
 - Human expert intervention to guide both the scientific and programming aspects.
 - Implementing an expert decomposition process to resolve complexities encountered after the initial application scaffolding is complete.

What is the Vibe Coding Challenge? (Part 2)

- Mobile Application
 - iPhone 14 Pro target device
 - Xcode on MacOS (Intel)
 - Windsurf with Cline + GLM 4.7 extension
- Cloud Post-Processing (OBE - Overcome By Events)
 - Docker Compose container
 - Create 3D Gaussian Splat for visual walkthroughs
 - Create measurements and floorplans for renovations, new appliances, furniture, etc.



Medida provides **1/8"** accurate digitized measurements for window and door installers **100% of the time**. Eliminate mismeasurements, speed up project cycle time, and improve customer satisfaction with our **AI-powered virtual measuring system**.

What is the Vibe Coding Challenge? (Part 2)

Can we ask ChatGPT Deep Research (or whichever deep research you prefer) to create a “PhD-level” analysis of how to implement a metrology solution on a mobile device?

The screenshot shows a ChatGPT interface with the following content:

Medida-Class Mobile Scanning SDK (RGB + Depth, Cloud-Allowed)

Introduction and Goal

Medida's vision is to enable millimeter-accurate 3D measurements and photorealistic models from a simple smartphone scan. The target platform is an iPhone 14+ equipped with LiDAR (RGB-D sensor) and IMU, scanning indoor architectural scenes (rooms, doors, windows) under real-world conditions (low-texture walls, mixed lighting). The goal is to design a state-of-the-art pipeline that produces two key outcomes: (1) metric-accurate geometry (with errors on the order of only a few millimeters) and (2) high-fidelity, consistent textures, suitable for renovation and construction use-cases. By leveraging on-device capture and cloud processing, the SDK should transform a handheld scan into a usable 3D model and precise measurements ‘in minutes,’ effectively replacing manual tape measurements.

Context: The renovation measurement industry still relies on manual measurements with tape measures – a slow, error-prone process unchanged for centuries. Medida (founded 2024) has demonstrated the demand for a smartphone solution by deploying in 35 U.S. states, achieving \$3M ARR with a LiDAR+AI scanning system that eliminates the need for a human surveyor. Their solution currently focuses on doors and windows with “millimeter-level accuracy,” now expanding to kitchens, flooring, bathrooms. This research task aims to identify how such accuracy and photorealism can be achieved, and to propose a pipeline that meets Medida-class performance in real-world indoor environments.

Core Challenges and Research Questions

To reach Medida's goals, several core questions must be addressed:

- **Mm-Level Accuracy:** What pipeline can extract millimeter-accurate measurements from handheld RGB-D scans on an iPhone? How to minimize errors from sensor noise and SLAM drift so that key dimensions (e.g. door width) are within a few mm of ground truth?
- **Photorealistic 3D Reconstruction:** How can we achieve high-fidelity geometry and texture simultaneously? We seek realistic surface appearance (high-res

At the bottom, there is a footer note: "ChatGPT can make mistakes. Check important info."

...and have that be *correct* and ready for implementation?



Medida is an Israeli startup focused on the renovation sector, utilizing **AI-powered technology** to provide **millimeter-level accuracy** in measurements using smartphone scans. The company has raised **\$4 million** in seed funding and is targeting profitability by early **2026**. Medida's innovative system aims to eliminate common mismeasurements and speed up project cycle times, significantly improving customer satisfaction in the home renovation industry.

The image shows a screenshot of the Medida website. At the top left is the Medida logo (a stylized 'M' with a plus sign) and at the top right is a 'Schedule a Demo' button. Below the header is a video player showing three testimonial snippets from Pella, Feldco, and Champion Windows. The video player interface includes play, volume, and progress bars. Below the video, the text reads: "Used by over 30 leading window & door remodelers, including:" followed by logos for Pella, CHAMPION Windows, homefix™, Feldco, THOMPSON CREEK WINDOW COMPANY®, and PJ Fitzpatrick.

Schedule a Demo

Why generate AI marketing copy when
customers can speak for themselves?

Sam Amidon
Sales Manager
Pella Buffalo

Ron Gerstung
President
Feldco

Victor Yanev
President
Champion Windows

00:00 / 04:27 00:00 / 03:43 00:00 / 03:28

Used by over 30 leading window & door remodelers, including:

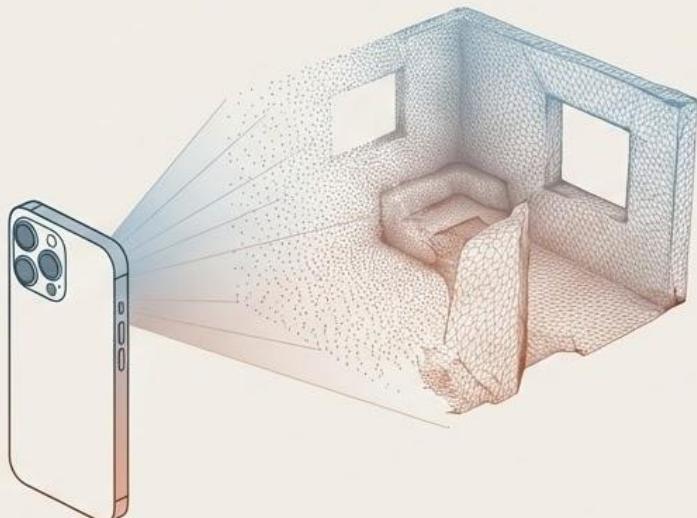
Pella CHAMPION Windows • Sunrooms • Home Exteriors homefix™

Feldco THOMPSON CREEK WINDOW COMPANY® PJ Fitzpatrick

WINDOWS • SIDING • ROOFING • DOORS • BATHS

Medida-Class Mobile Scanning SDK

Advanced Cloud-Allowed 3D Reconstruction Pipeline

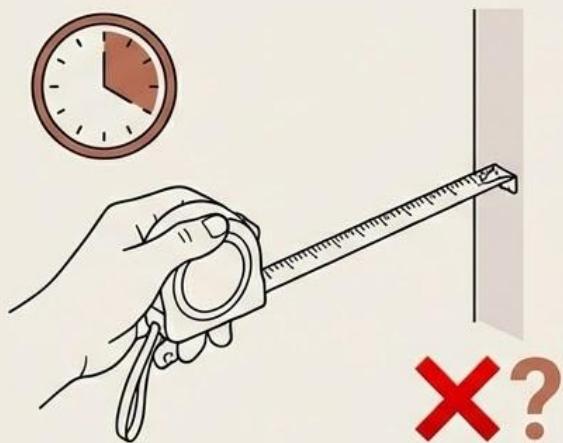


Enables millimeter-accurate measurements and photorealistic models from standard smartphone (iPhone 14+ with LiDAR).

Professional-Grade 3D Scanning in Your Pocket.

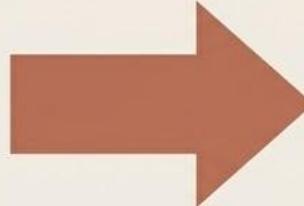
Core Value Proposition

Traditional Method

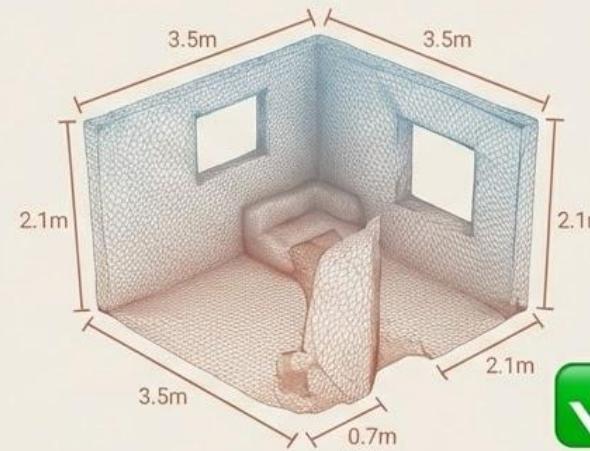


Slow, error-prone manual tape measures.

Revolutionizing
Renovation &
Construction



Medida-Class Solution



Fast, professional-grade 3D scanning.
Transforms handheld scan into usable
3D model and precise, verified
measurements "in minutes."

Key Features & Differentiators



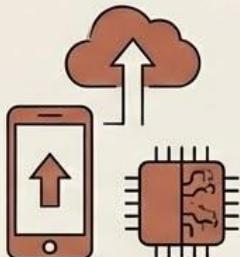
Millimeter-Level Accuracy

Cloud-based pipeline with global Bundle Adjustment, Manhattan-world alignment, and uncertainty-aware TSDF volumetric fusion.



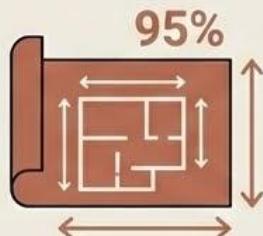
Photorealistic Output

Global color calibration, seam-optimized texture atlas, and optional neural rendering (e.g., 3D Gaussian Splatting).



Smart Cloud Offload

Real-time on-device capture/UX and heavy, high-fidelity computation on the cloud.



Automated Measurement Extraction

Identifies architectural elements and reports metric dimensions with quantified uncertainty.

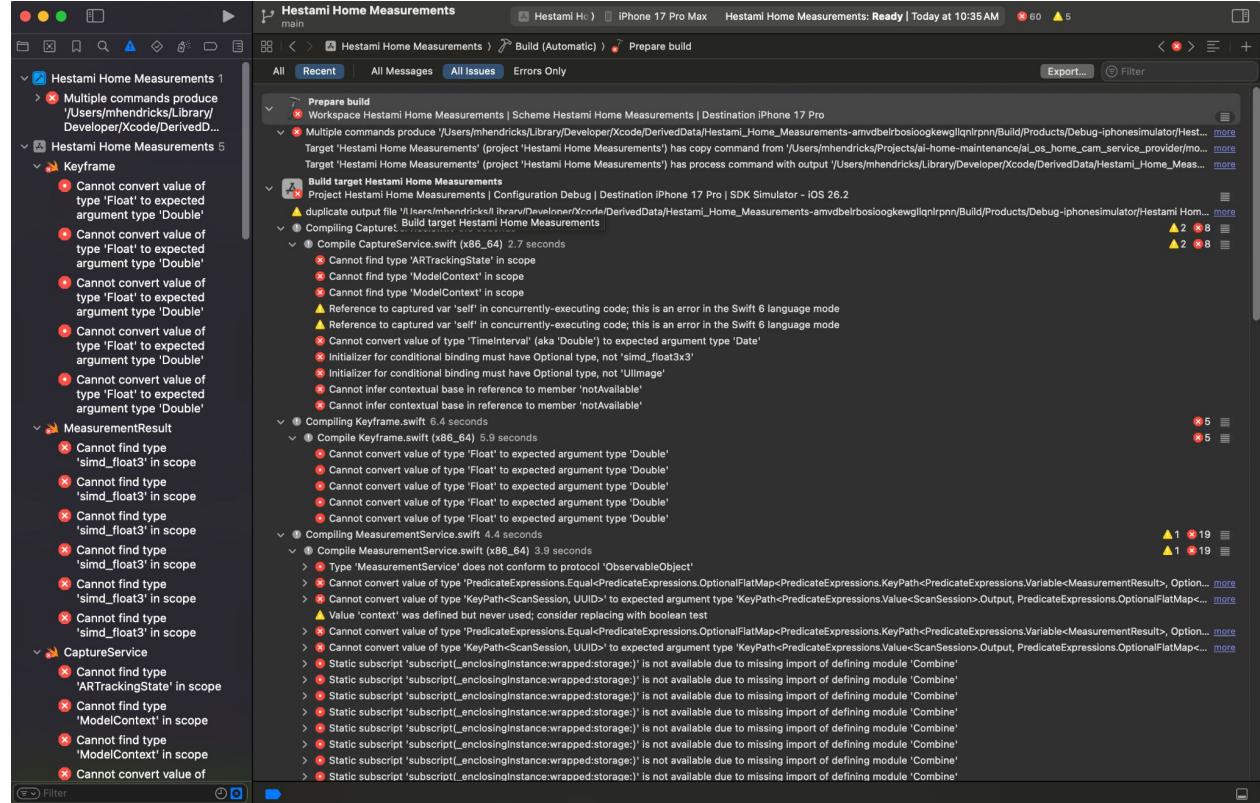
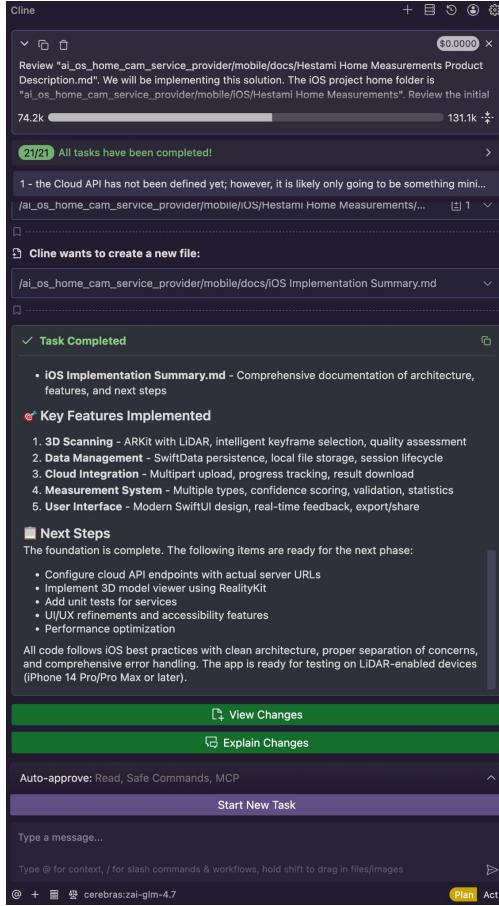
Z.AI GLM 4.7 - Observations and Feedback

- Windsurf - OK performance (but great performance with Claude Opus 4.5)
- Cline - Trustworthy performance (TBD performance with Clause Opus 4.5)

It's not clear what particular platforms are doing (or not doing) that make underlying LLMs perform better or worse. E.g., Google Gemini 3 is not too bad, even helpful in VS Code plugin; however in Antigravity, its use would not be recommended IMHO.

Pleasantly surprised by how well GLM 4.7 built out the iOS app + Cerebras was fast (“connectivity throttling” notwithstanding)

Cline x Cerebas x ZAI GLM 4.7 and Xcode



Cline x Cerebas x Z.AI GLM 4.7 and Xcode

