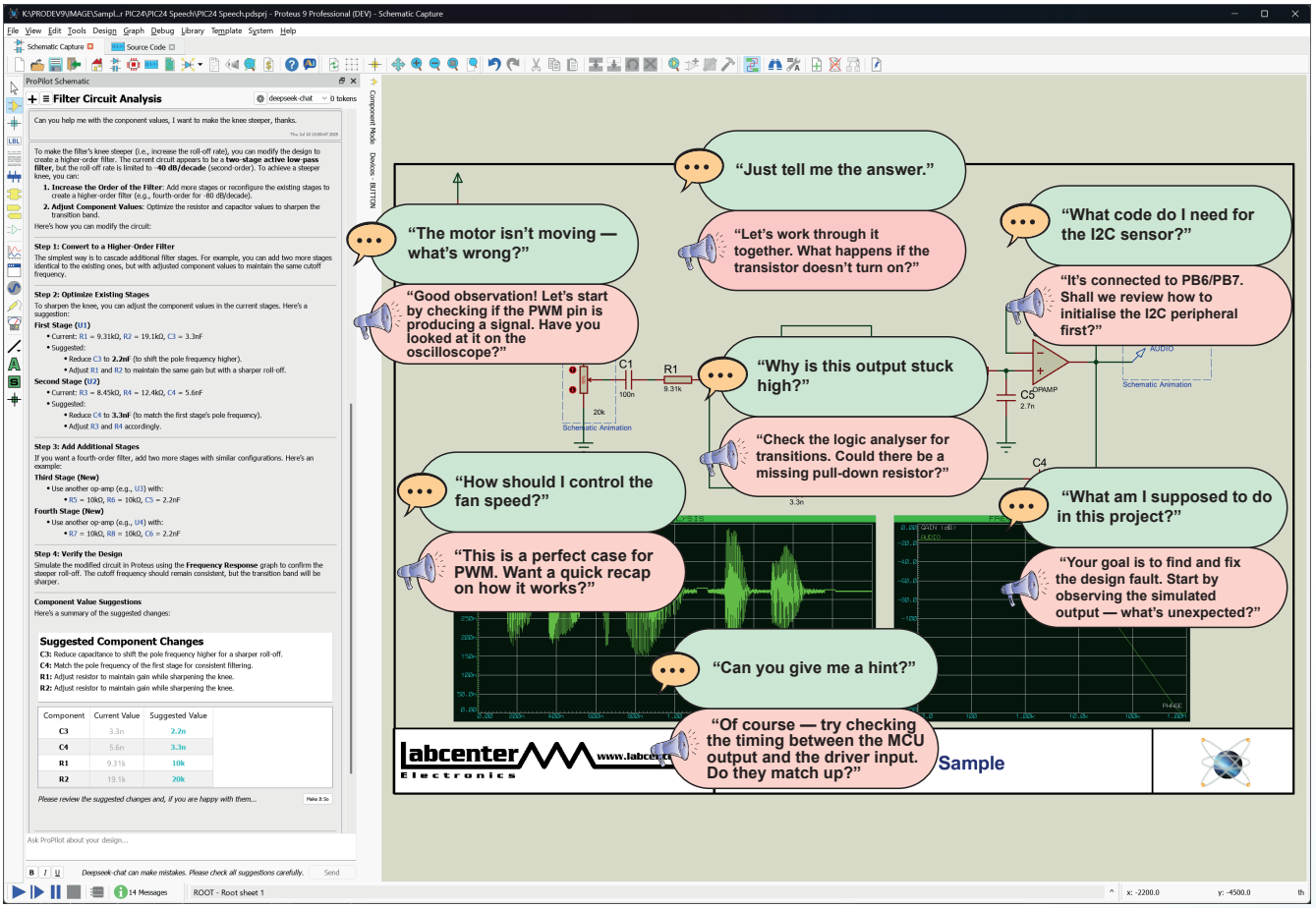
PROTEUS ProTutor

Introducing Your Intelligent Lab Assistant

- ✓ Tutor Mode helps students to think, not just follow.
- ✓ Lesson Plan Mode supports structured projects.
- ✓ Understands your schematic and source code.
- ✓ Guides students with hints and probing questions.
- ✓ Ideal for fault-finding, and investigative learning.
- ✓ Helps students develop embedded code.



"ProTutor transforms electronics education by guiding students through design, coding, and debugging with intelligent, context-aware support — promoting real understanding while reducing the teaching burden."

PROTEUS ProTutor

"Teaches, not just tells"
Guided questions and hints encourage deeper learning.

"Understands your design"
Reads the circuit and simulation to give relevant help.

CONTEXTUAL SUPPORT THAT BUILDS UNDERSTANDING

ProTutor acts as a knowledgeable lab assistant — not just giving answers, but helping students explore and understand. It sees the schematic, simulation instruments, and code, and responds with theory, hints, or next steps. It can explain an op-amp configuration, help tune an RC filter, or guide students through peripheral setup — all in the context of their own work.

Example:

"That's a good question. This looks like a low-pass filter — do you remember the formula for cutoff frequency? Try calculating it, and I'll check your answer."

CODING HELP THAT CONNECTS TO THE CIRCUIT

When students are ready to write embedded code, ProTutor supports them by explaining what's needed, based on how the microcontroller is wired in the schematic.

Instead of dropping in code, it walks them through concepts like PWM control, ADC setup, or I2C communication, helping them structure working code while learning how it fits the hardware.

Example:

"The motor is connected to PB1 — you'll want to use Timer1 for PWM. Shall we go over how to configure the timer registers for that?"

LESSON PLAN INTEGRATION

In Lesson Plan Mode, the teacher defines the learning objective — and ProTutor aligns its guidance accordingly. Whether students are expected to design, test, or debug, ProTutor reinforces the intended learning pathway. Educators append a short instructional prompt (e.g. "students must write a temperature control loop") and ProTutor responds in that context — nudging students to think and explore in the direction of the lesson.

Example:

"Nice start — now think about how you'd compare the sensor input to a target value. What kind of control structure might help here?"

DESIGNED FOR FAULT-FINDING EXERCISES

Lesson Plan Mode is ideal for discovery-based learning. Teachers can include deliberate faults in a design — like a missing pull-up or reversed diode — and ProTutor will help students uncover the issue through hints, probing questions, and measured guidance. Instead of giving it away, ProTutor builds confidence by helping students develop a methodical approach to testing and diagnosis.

Example:

"Have you checked the waveform on the sensor line? Do you notice anything missing after the MCU sends a request?"

"Helps build real understanding"
Explains concepts step-by-step — not just the what, but the why.

"Like having a lab assistant on call"
Supportive, patient, and always available in class or at home.

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