

# Giving Voice | Sidelines

a project to raise awareness of the gender challenges in STEM environments,  
written by students, postdoctoral scholars,  
faculty, and staff at Caltech.

More information at [givingvoice.caltech.edu](http://givingvoice.caltech.edu)

The Caltech logo is centered on the page. It consists of the word "Caltech" in a bold, orange, sans-serif font. The logo is set against a light beige rectangular background that has a subtle drop shadow, giving it a slight 3D effect as if it's floating above the white page.

## **Giving Voice | Sidelines**

An engineering laboratory. Three students, TOM, BOB, and SARA huddle over a breadboard in deep concentration. TA Dan turns toward the audience.

### **TA DAN (monologue)**

Hi. I'm the head TA for the drone lab. Actually it's my first time being a TA here. I've already got them randomly assigned into groups. Boy I really hope they are as excited as I am.

All three students still huddle together over the breadboard and computer. SARA points to something on the computer and describes what she is doing.

### **SARA (to Tom and Bob)**

Okay so you can see – look at the way the waveform is shaped there. I think the next step is that we are going to fix it by adding this one but it goes into 42. There. Now it's the same as the other one. That's pretty cool.

### **SARA (monologue)**

I'm so pumped about this project! I've been playing video games basically for my whole life, so programming this drone to fly around seems really fun. I'm really excited that I'm in a group with Bob and Tom as well. I've never worked with them, but we've had classes together, and they both seem to know their stuff.

SARA returns to the breadboard huddle with the other students. TOM stands up.

### **TOM (monologue)**

I'm super stoked to work on this project! I've been gaming since I was a little kid. Plus I'm really excited that I'm in a group with Bob; he

seems to know what he's doing, and also he's wearing a Game Boy shirt, so he must be a gamer, too.

TOM returns to the huddle. BOB stands up.

**BOB(monologue)**

I'm really excited to work with Tom - he was constantly raising his hand in math last term, he's a total *go-getter*. And Sara seems really nice. I think we'll make a great team.

**One Month Later**

**TA DAN (monologue)**

Honestly being a TA is easier than I thought! I mean it looks like everyone is doing such a great job on their project so far.

SARA stands between BOB and TOM.

**SARA**

Hey guys, I think we need to connect this part over here if we want the propeller to respond.

**TOM**

Sara, I think that part is fine. You know, Bob and I have been really bad about annotating code and you have so clear with the annotations you've done so far. Maybe you should go work on the annotations while Bob and I try and get this propeller working.

**SARA**

Umm. Alright.

SARA moves away from BOB and TOM, sits and opens her laptop and starts typing. TA DAN looks over to

the group of students, a little concerned.

**TA DAN (monologue)**

That's interesting. It kind of looks like that group is struggling a little...You know what: I'm probably overreacting. I think they are all adults. Right? So, I shouldn't have to babysit...right?

TOM and BOB work on the drone while SARA types on her laptop.

**BOB (monologue)**

Things are going really well for us. Sara was great at annotating the code earlier; now we have her making the slides for our final presentation. We're working on getting the drone flight sequence down pat.

SARA rises and stands between TOM and BOB, and points to their computer.

**SARA**

Hey guys, I found in the code that this line is only going to make the drone light up. If we want to make it take off too we need to add another line right here.

**TOM**

Sara, we've got this.

**BOB**

You know those slides are looking great! Why don't you keep adding to them?

BOB and TOM turn away from SARA,  
and she returns to her laptop, even  
more isolated.

**SARA (monologue)**

Taking notes, annotating code, and making slides... They left me with all the secretary work. Apparently I can't have any good ideas about drones, even though it was MY team that won the robotics challenge last year! Not that they'd know that; they don't seem to want to talk tech with me at all. I tried to tell them about some bugs in the code, but they just cut me off. Again.

TOM and BOB approach TA DAN during  
office hours in DAN's office.

**BOB**

Excuse me, is this the line of code that we need to make the drone take off?

**TA DAN**

Umm well, actually this line of code just makes the drone light up. Yeah, if you want to make the drone take off you're going to have to add another line right there.

**TOM**

Hmm. OK, thanks!

**TA DAN**

No problem.

BOB and TOM leave. Shortly after  
SARA approaches TA DAN, alone.

**SARA**

Hey, I have a couple questions about the drone project.

**TA DAN**

Yeah sure, have a seat.

**SARA**

So our group is having a little trouble... Bob and Tom don't seem to want to let me do anything and I don't know how to help it.

**TA DAN**

Oh.. uhh...I see. Well, have you talked to them? Actually, I did speak with them a moment ago and honestly the project looks like it is going pretty well. I mean is there really an issue?

**SARA**

You know, never mind. The project is... great. My real question is: how long should the write up be?

**TA DAN**

Oh, the writeup, it's five pages, double-spaced.

**SARA**

Thanks.

SARA gets up and leaves.

**TA DAN (monologue)**

It seems as though that group is still struggling... I wonder if it is something that I'm not doing. It can't be. I mean Sara is the one who's withdrawn from the group. But then again, I guess the guys aren't really doing anything about it. I was talking to Sara earlier and well she said that the project was going...

**TA DAN & SARA**

"Great!"

**TA DAN (monologue)**

So, that means everything's fine right?...

**SARA (monologue)**

Should I try to be even more insistent with Bob and Tom about doing some of the coding? Or should I talk to them more directly? Ahh. I don't know -- I just wish the TA could have helped somehow. Now I just want this project to be over with.

**End of term final presentation.**

BOB and TOM are on one side of the screen for the presentation. SARA is on the other side adjacent to the laptop.

**BOB**

I'm Bob.

**TOM**

I'm Tom.

**BOB**

We're really excited to tell you about our project today. Let's get to it. Next slide please. So the drone has some very unique hardware that I'll talk about briefly here. This is the circuit board and the propellers are located in the four corners relative to this diagram. Ah, next slide.

**TOM**

As Bob was saying,...

**End of term.**

**TA DAN (monologue)**

I think I did pretty well. Except for that one group though. I was looking at Sara's individual write-up and she had all these great ideas that didn't get even incorporated into the final design. I just wonder why she didn't say something...

Cut to SARA telling TA DAN that the group was having trouble.

TA DAN (monologue)

Maybe she did...