

# Free, Accessible, and Scalable Student Response System

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# Background

# Student Response System

*“A Student Response System (SRS) is used in a classroom to rapidly collect answers to questions from every student, and if desired, to graphically display a summary of data.”<sup>1</sup>*

## Advantages<sup>2</sup>

- Maintain students' attention during a lecture
- Promote active student engagement during a lecture
- Encourage participation from every student in a class
- Check for student understanding during class
- Take attendance

<sup>1</sup> <https://citl.indiana.edu/teaching-resources/instructional-technologies/student-response-systems/index.html>

<sup>2</sup> <https://cft.vanderbilt.edu/guides-sub-pages/clickers/>

# Requirements

- Free for students/me
  - E.g., no extra hardware/software to buy/rent
- Accessible for students
  - No complicated software to install
  - No extra account to create
- Scalable
  - Hundreds of students
- Can track who participates
  - Participation extra-credit, attendance (?)
- Easy to use for me too!

# Existing tools

- Plenty of (well-known) commercial options: iClicker, Poll Everywhere, and many more
  - May offer a free tier but quickly come at a cost
- Some (less-known) free options: PINGO
  - Need to create new accounts, unsure of possibility to identify students



# SRS using Google Forms!

# Google Forms


- Free and accessible
  - UC Davis students/instructors all have a Google Workspace account
- Scalable
  - Google Forms has no limitation on the number of participants
- Can track who participates
  - Configurable, and corresponds directly with students' UCD email addresses
- Easy to use
  - Most students/instructors are familiar with Google Workspace

# For the students

- Scan QR code to access form
  - Using phone/tablet/laptop
  - *(Have to login with their UCD credentials if first time of the day)*

## GPGPUs


jporquet@ucdavis.edu [Switch account](#)




*\* Indicates required question*

Email \*

Record jporquet@ucdavis.edu as the email to be included with my response



How many cores on modern GPGPUs? \* 0 points 

A modern CPU typically has 8 to 16 cores, which can execute 8 to 16 threads simultaneously.

How many cores executing independent threads do you think a modern GPGPU has?

16

~500

~1,000

~100,000

8

~10,000

[Clear form](#)

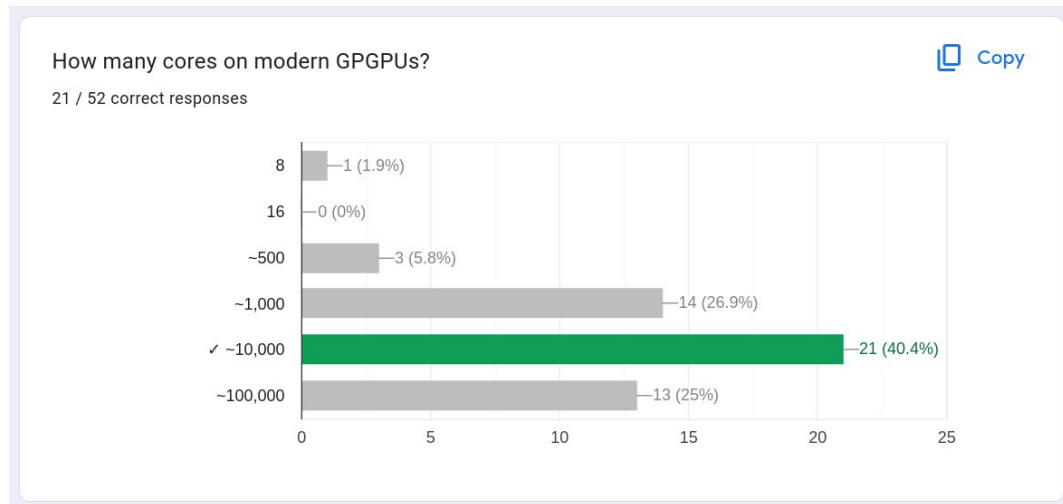
This form was created inside of UC Davis. [Report Abuse](#)

Google Forms



## For the instructor

- Switch to form and scroll to QR code
- Leave students some time to answer
- Scroll down to answer plot
- Discuss with students





**Quick live demo!**

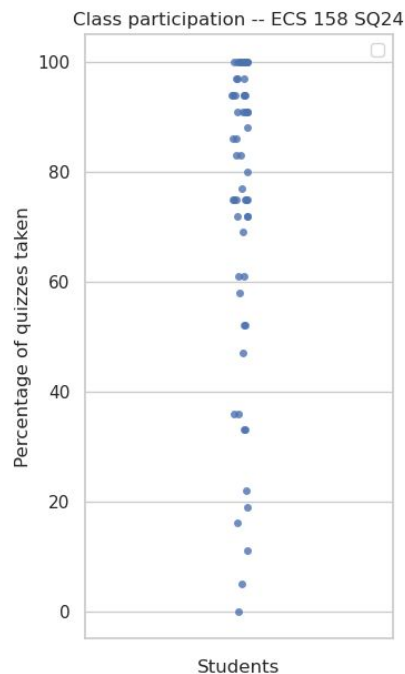


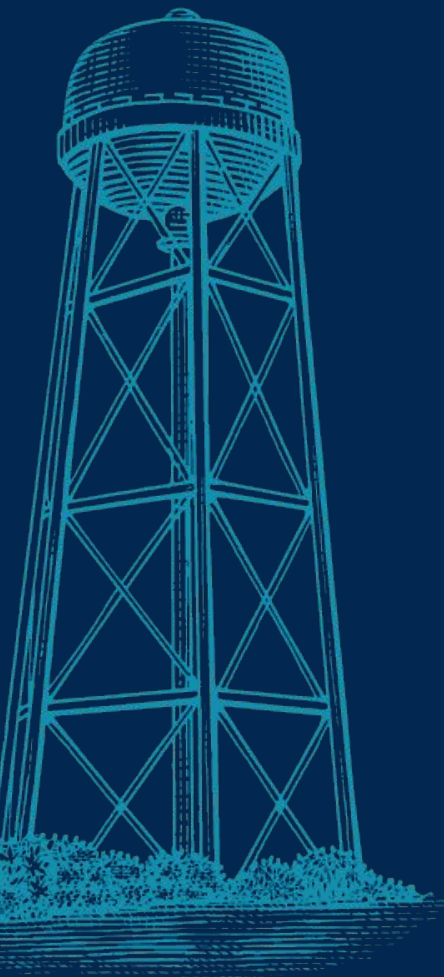
# Conclusion

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- Tested for the first time in SQ24 in a small class (~60 students)
- Students really enjoyed it
  - *“mid lecture quizzes were a very good touch this quarter”*
  - *“I appreciate the quizzes to be more engaging”*
  - *“I like the participation quizzes! They're helpful for staying engaged during the long(er than usual) lecture duration, while also being low-stakes enough to not be stressful.”*
  - *“Quizzes are great for engagement and interaction, and I think more classes should honestly do them”*

- High class participation from most students





# Thank you!

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