Stanford

seeME

Stanford SeeME:

Student- driven outreach

within an R1 Institution

(Zach del Rosario @ NABI Summit 2019)

What is SeeME?

- **Student-driven** outreach program
  - Flagship event
  - Bay Area Science Festival
- **Student-driven** training program
  - Pedagogical training to our teachers
- **“Plug-in & Add-on”** option for BI implementation

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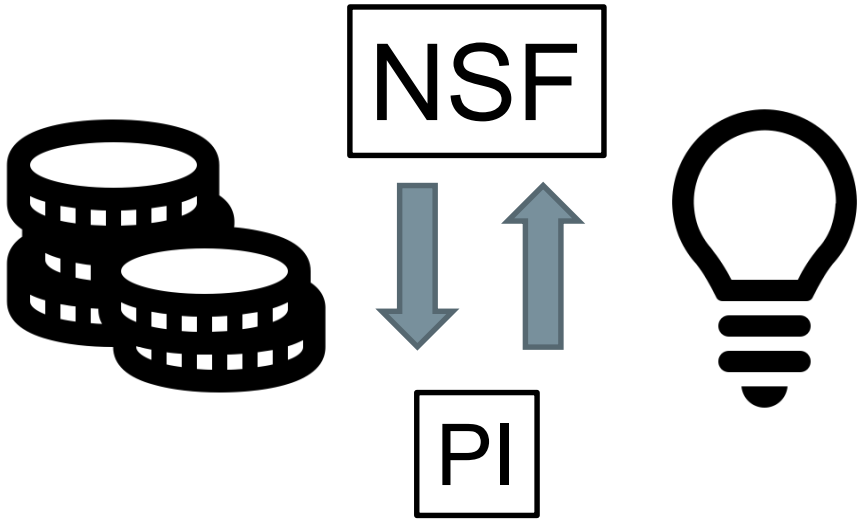
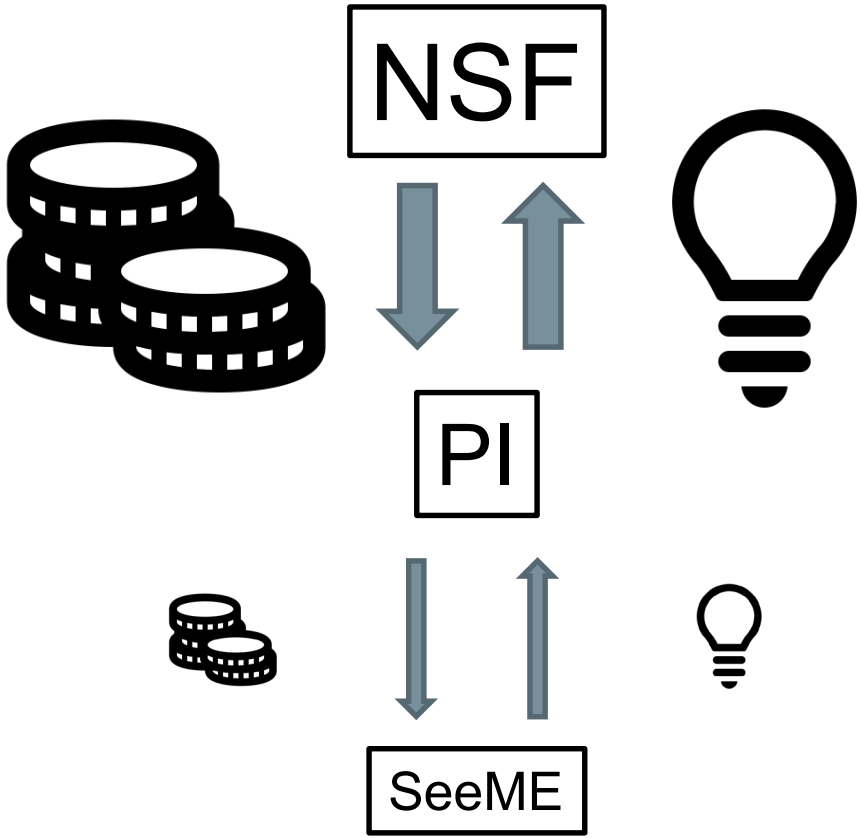
Unique at Stanford

Unique elsewhere?

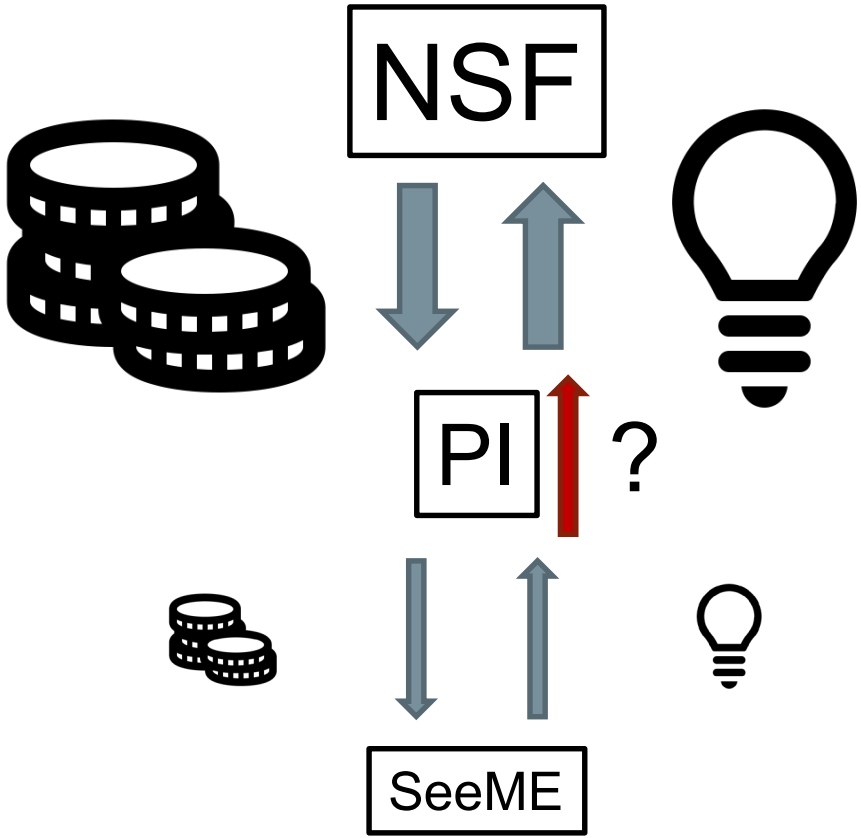
Usual Schematic



Our Schematic



Our Schematic



EXIT
EXIT
Stanford
HVCA

Why SeeME?

- **“Zach, you are *widening the gap*”**

- **Graduate training**

Why SeeME?

- **"Zach, you are *widening the gap*"**

  Do intentional outreach

- **Graduate training**

  Equip our students

Our *Guiding Principles*

Why Am I Here?

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- I *think* we know some stuff
  - Claim: Students are an under-tapped resource

- I know we need to learn more
  - What are others doing?
  - Peer review!

Two Main Themes

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Student-driven outreach within an R1 Institution

- **Student-owned**
- **Student-run**
- **Student-serving**

- **Tailored to Stanford's value-structure**
- **Low-effort BI solution**
  - **"Plug-in & Add-on"**
  - **Broaden portfolio**

Student-Driven Program

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HAPPY
BIRTHDAY!

Starting SeeME

- **PI “handed” us an outreach program**
- **PI believed in our ability to succeed**
- **PI *actively signaled it’s ok to work on this***

What Students Get

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How do we get *grad students* to drive?

- **Free food**
- **Resume building; fancy titles**
- **Community building**

Teacher Training

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- Our “secret sauce”
- Professional teaching consultant
- Workshops
    - Learning goals
    - 5E Model
- Teacher socials
    - Hackathon model
- Dress rehearsal

Learning Goals	Content	Activities

- Participants will be able to define "learning goals"
- Participants will be able to articulate why learning goals are useful for effective pedagogy
- Participants will be able to distinguish between "technical" and "motivational" learning goals
- Participants will define at least one technical learning goal for their SeeME class
- Participants will define at least one motivational learning goal for their SeeME class
	- Example learning goals
	  - Technical
	  - Motivational
	- SeeME program info
	  - Logistics
	  - Motivation
		- Participant-generated learning goals (LBT)
		- Participant-generated learning goals (Small-groups)
		- Worksheet teardown (LBT)

Student-Driven Program

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- **Students have ownership**
  - **Program goals, design, implementation**
- **A *missing component* of PhD training**

Adding Value to an R1

Departmental Buy-In

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“This sounds great, you have my support.”
Kenneth Goodson,
ME Department Chair

- **What we never expected to hear!**

Why Our Department Likes Us

- (We think)
- "Plug-in & Add-on"
  - Easy way to diversity one's BI portfolio
- Partner, not a parasite
  - We write grants; bring in part of our budget
  - Written into proposals

Press and Communication

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APRIL 30, 2018

Stanford graduate students teach local teenagers about engineering

Graduate students in mechanical engineering shared their engineering know-how and enthusiasm through a new program for local middle and high school students. The program's interactive classes exposed teenagers to the breadth of engineering.

Stanford SeeME: Student-driven Outreach within an R1 Institution

Presenter: Zachary del Rosario, Stanford University, Department of Mechanical Engineering

Conclusion

Takeaways and Inquiries

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- **Institutional values**
  - Know them
  - Tailor
- **Students will pitch in**
  - Give affirmation
  - Give resources
- Similar models?
- Measurement?
  - Student outcomes
  - Teacher outcomes
- Resources?
  - Mine or yours!

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