

# PROTOTYPING

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# Improving the Modern Classroom Experience

It would be game changer if we could make students more engaged in class and maintain that level throughout all four years.

# Additional Needfinding



Interviewed a stanford professor, and a student at a public school (University of Michigan)

All agreed: technology in the classroom has great potential, but could be implemented better.

The biggest insights we understood after analyzing a new empathy map, was the need for social interaction and its power to inspire both professors and students to learn.

After unpacking we came up with the POV's that I'm about to show you guys

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After the initial analysis of the new interviews and empathy maps, the biggest takeaways were:

-Utilizing social activities is an engaging learning experience. The physics professor recently started using clickers and how they were such a great tool to easily engage with the student directly. The UofM student explained how social interactivity and variety in exercises has been a big tool for him in certain classes, and helps him learn better. He went on to surprisingly say that even if he doesn't like the material, he likes learning things — classes that incorporated activities between his classmates were more enjoyable than ones he found interest in the material in. This was surprising to hear considering the stereotypical "I hate class" attitude many students hold. Humanity itself is a social experience, so we understood the professor and student's similar thoughts regarding person-to-person interaction as a major insight: that people thrive on in every aspect in life, also extending to learning. This holds the power to help people learn and even inspire enjoyment in class.

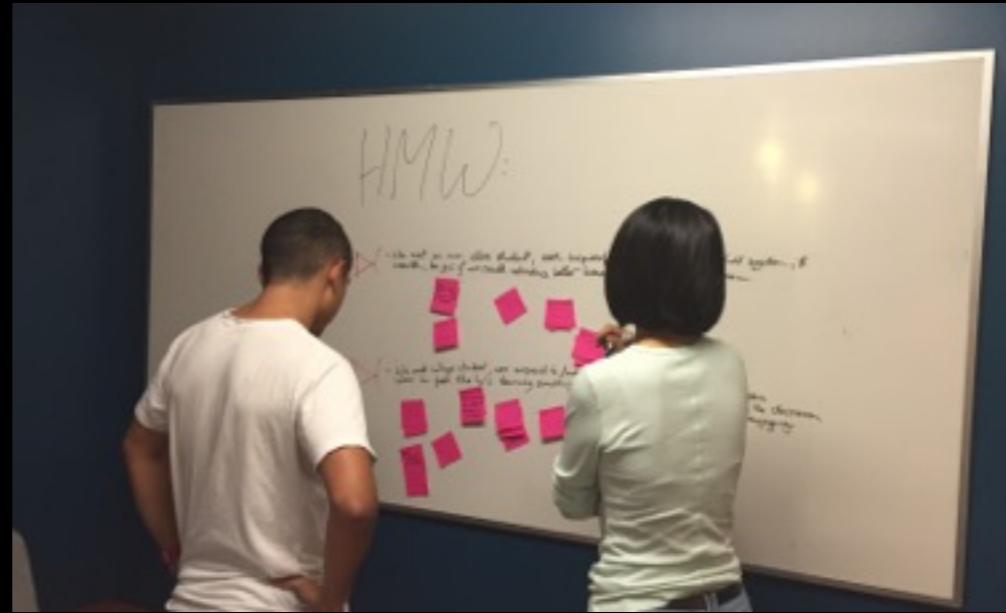
# POVs:

- We met SCPD students, were surprised to find that they didn't use the forum but still wanted interaction, it would be g.c. if we could facilitate that interaction
- We met a university admin, were surprised to find that he was disappointed with the way tech was used in the classroom for interactivity, it would be g.c. if we could build a platform for that
- We met an env. class student, were surprised to find that he enjoyed that system, it would be g.c. if we could introduce better human interaction in the classroom
- We met a prof who teaches SCPD, were surprised to find that he doesn't read forum b/c too cumbersome, it would be g.c. if we could make it meaningful for prof to interact w/ 200 students
- We met a prof who just started using clickers, were surprised to find that he thought they were very ineffective, it would be g.c. if we found out a way to use interactivity thru technology
- We met John, a manager who builds a lot of things online classes, were surprised to find that he does not like platform b/c not mobile-friendly, g.c. if we make our accessible to busy professionals
- We met college student, were surprised to find out that he enjoys quality <sup>the ideas</sup> ~~the ideas~~ when he feels like he's learning something, it would be g.c. if we could make the classroom more engaging

# “THE DISILLUSIONED COLLEGE STUDENT”

We met a college student who took an inverted classroom course, we were surprised to find out that the inverted classroom was working for him because it allowed more person to person engagement, it would be game changing if we could introduce better human interaction in the classroom.

We met a frustrated college student at a public university, we were surprised to find out that he learns best when there is a variety of activities instead of just being talked at because some of them were socially interactive, it would be game changing if we could easily add more similar engaging activities to the modern class experience.



How might we?



1. How might we make  
better interactions between  
teachers and students?

This came from the first POV

DONT LOOK AT SCREEN

2. How might we increase  
student-to-student  
interaction?

This came from the first POV

DONT LOOK AT SCREEN

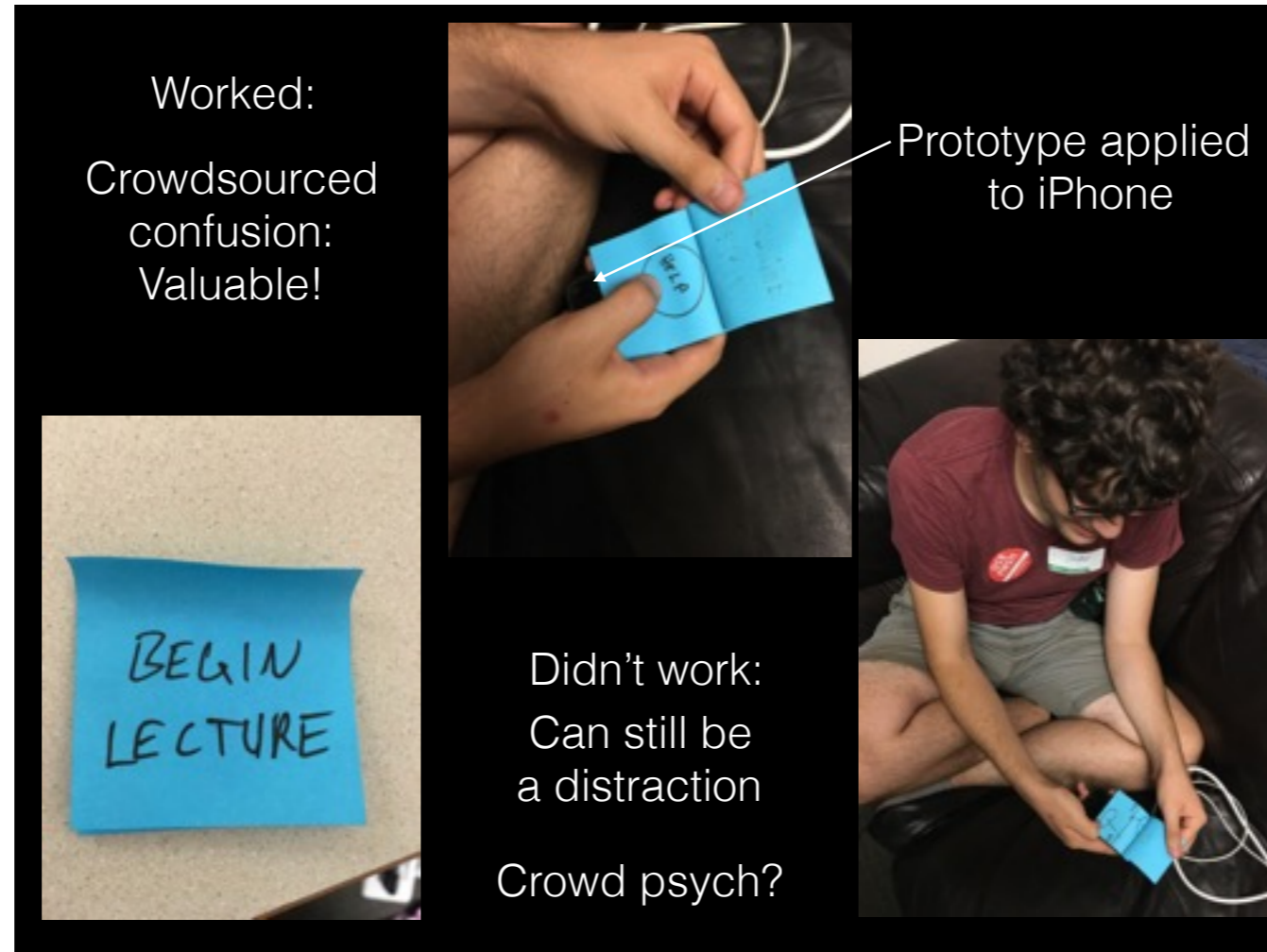
### 3. How might we make professors more engaged in teaching?

and accountable for whether or not the students are learning the material

This came from the second POV.

DONT LOOK AT SCREEN

# Experience Prototypes



Sticky-note on iPhone interface, panic button. Shows infographic/heatmap of where people got confused in lecture by the minute of lecture.

Worked: show confusion anonymously and collectively  
power to go back to confusion areas  
simple interface

Didn't work: easy to get distracted while using phone  
infographic made user feel bad when he saw his dot alone (he was the only one confused)

Assumption(s): Student wants a social interaction, between students and professor — TRUE, user really appreciated this, "this is super valuable"

New stuff: power of social psychology in a lecture, value of going back to review things later from lecture

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One prototype was a real-time "panic button" type system accessible from your phone in class. This was implemented by a faux lecture scenario and sticky-note interface on iPhone. If the user doesn't understand something, one can press a button which makes note of about what and when during the lecture the confusion occurred. If enough students press it in a window of time, the lecturer is notified and can clear up any other confusion. There is an available infographic showing a heat map of where students got confused during the lecture by the time in which the button was pressed, and you can go back to see what people were confused about. During the duration of the lecture, an audio recording is made, and by going to "panic" spots, one can revisit the audio of that part of the lecture for a refresher.

What worked was the easy and direct interaction with a professor and his lecture, and ability to recall where you got confused with something. "It's really valuable that a professor would know when we are ALL confused with what he is saying" said Max (tester). He however, found that it would be tricky to implement well because phones themselves can be a big distraction, and that the data infographic could cause some psychological effects preventing students from answering truthfully. A surprise was that he was very interested in the recording feature and ability to review things at his own pace, seemingly more than the feedback the professor gets.

The initial assumption, that students want more social interaction, was correct, as Max was very excited about the power of the anonymous interaction and collective confusion within the lecture. Some new assumptions worth exploring, are making the lecture more available to review as well as the psychological effect that certain social activities have on learning. More specifically, the assumption that some social interactions can be negative.



Collaborative notebook:

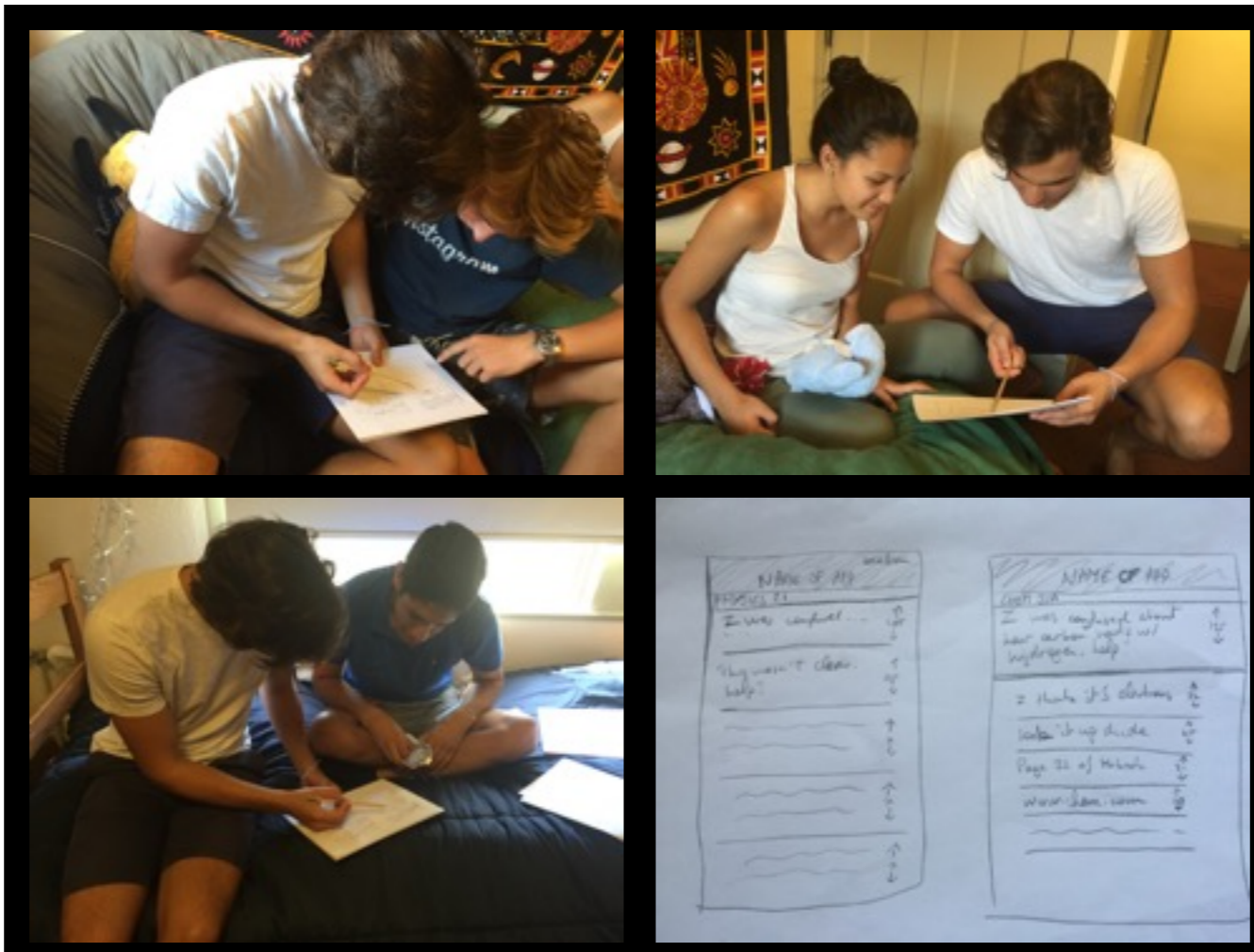
“Imagine you are in one of the boring classes that you have taken. Now imagine you have this collaborative notebook...”

worked: they like the interactivity and the ability to share notes, they like the collaborative aspect - if you don't understand, maybe somebody else understood

didn't work: they didn't like the fact that it would probably be distracting, also notes have to be individual - what's important to you is not necessarily what's important to somebody else, so you'd have different styles

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The initial assumption that we made was valid because Caitlin likes the idea of collaborative note-taking and she thinks that sharing notes can make the learning experience more interactive. However, Caitlin also expressed the worry of being distracted by the platform. Learning from this experience prototype is that students want more interaction in class but at the same time they don't want get distracted by the interaction.



yik yak for class question  
 you can either use location setting or sign into a specific class to see that class's feed  
 anybody can answer questions, and people can vote on them. also professor can answer  
 allows room for open discussion

enjoyed the interactivity. everything that works for yik yak works here too - anonymity (so you don't seem dumb), interaction...  
 however, vulnerable to trolling, just like normal yak. however, ranking/voting system should counter this

VALID!

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All the three students thought the idea was really interesting, and that mobile app makes it easily accessible. They would use it if they got confused in class.  
 "Pretty much if you're confused about something, odds are that other people are confused too, so the question should already be there."

The assumptions are valid because the three students liked the experience prototype. Learning from the experience prototyping: they suggested a bot that crawls the internet searching answers to questions