Peer is a Mixed Reality platform that uses a combination of physical and digital elements to engage students by making abstract concepts and complex forces visible and tangible. Traditional education relies on textbooks, videos, memorization, testing, and instruction in order to teach students about “hard to see” and “invisible” science topics. Although this method of teaching was successful in the past, new teaching methods like S.T.E.A.M. and maker education are making an impact in the classroom by changing the way students learn—by doing.

Through our research we found that there were three key aspects that we should keep in mind when teaching complex problems: providing context, facilitating prototyping, and opening collaboration. Providing context allows students to understand not only why they are learning a particular topic, but also understand where this topic fits into the real world in the future. Prototyping encourages students to iterate over their designs at a rapid pace so that they can innovate at a quicker rate. By opening collaboration, the classroom is a space to work together and build off of one another through leadership and communication.

By using a combination of Internet enabled sensors and digital headsets, Peer has the unique advantage of collecting real world data and displaying it to the student in a delightful way through Mixed Reality. Using Mixed Reality allows Peer to have the flexibility of combining the physical and digital in one seamless experience. For example, if a student were to change their blade angle slightly, the sensor would collect that and the digital feedback that is presented to the student would change accordingly.

More info: http://peer.momentnyc.com/
Frame the learning in a real-world problem-to-solve context.

AR + MR are great for visually explaining complex concepts.

Building by hand is important and a skill students rarely get a chance to master.

Shorten the feedback loop: students can evaluate the success of their design and are pushed to make an even better prototype.

Use delight to encourage exploration. Here students can compare different materials.

It is easy to let technology separate individuals. Instead, push for collaboration and united goals.
We researched STEAM education by doing site visits and interviewing teachers.

We researched augmented, mixed and virtual reality. What does this new technology do best?

Multiple ideation sessions.

We used props to act out and test our ideas.

With the help of some young friends we made a concept video to demonstrate how Peer works in a classroom.

We built a working prototype of the concept.

We presented our concept video and prototype to the Moment office along with a guide for best practices when designing for mixed reality.
Update Feb 8 2017:
Peer was awarded a 2017 Interaction Design Award for the category Engaging.

Thanks for all the support from Moment staff, it was an unforgettable summer!