

CURIOSITY MACHINE

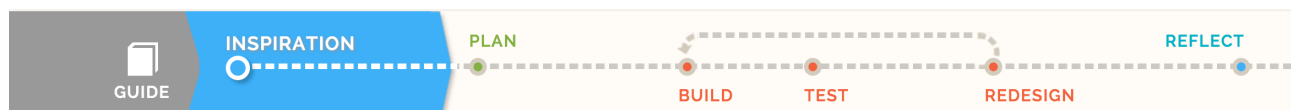
Review by Nicole Hardson-Hurley



OVERVIEW

In searching for a technology to write my review/redesign on I wanted to focus on STEM tools for tweens and teens. In doing so I came across Curiosity Machine. Curiosity Machine is a website devoted to evoking an interest in engineering in young students through working to “build their curiosity, creativity and persistence, one design challenge at

a time.” This is approached by providing students with different design challenges across all engineering disciplines. Each challenge has an opening video that features a real life engineer and a description of how the challenge relates to the real work the engineer is doing. The site then allows the student to access a guide to learn more information about how to approach the challenge and then they can step through the design process and document their successes and failures along the way through text and video that is then shared on the site for other students to see.



Additionally, engineers serve as mentors on the site are able to comment on the student's progress and give advice via video and text responses. The mentor evaluates the student's design project once it is completed and motivates the student to reflect on the process in order to finish the design cycle. The students are, therefore, able to become inspired by both the engineers on the site and the projects done by other students.

REVIEW



Diversity: Curiosity Machine seems to very intentionally focus on students of color and girls in their advertising. Therefore, the website seems to be welcoming to all communities and is definitely relevant to students from all communities.

Additionally, the site features many female engineers and mentors, a wonderful source of strong female role models. However, I would like to note that the mentor community seems to **lack racial diversity**. During my exploration of the site I did not come across any videos featuring engineers of color, nor did I come across many mentors of color. I would

motivate Curiosity Machine to assure that their mentors are representative of the students using their site.

Accessibility: I do believe that as a platform that allows students to move at their own pace and that does not punish failure, Curiosity Machine serves as an accessible platform. I do not think that this site is particularly tailored to students with special needs; however, I do think there may be ways to utilize the design challenges in a special needs classroom.

Interactivity: This is a **highly interactive platform**. Not only does it create a community of students that can view each other's designs, it also allows students to connect with engineers. The students have the opportunity to create something tangible and then share that creation on the site. I think the interactivity is the selling point of Curiosity Machine. The design challenges are engaging and purposeful. The mentor element allows the students to gain support throughout the process. And lastly, the other students on the platform allow the students to feel a part of a community of young designers.

Education: This site is clearly educational and it is particularly impressive how it depends on the **design process** so heavily. The students must step through the process, starting at inspiration, moving into planning, building and iterating, and lastly, reflecting. Thus, the students are not only learning how to approach their current design challenge but how to approach problems in the future. Additionally, students are gaining exposure to real engineering problems and learning about problem solving through doing. They are applying the physics and engineering principles they learn from their mentors by actually creating something tangible. Additionally, this is providing students with the inspiration to pursue STEM, something I believe is a crucial part of development for many students.



Value: The site seems to be very fun. Students can create and build things. Such a process is inherently engaging. Additionally, the projects featured

through the design challenge videos, like Google's Project Loon, are incredibly interesting.

Artistry: The site is beautifully designed and the videos have excellent graphics. There are categories for different projects based off of engineering discipline. Therefore, the site is very easy to navigate. The interface seems to very clear and understandable.

Safety: Fortunately, this site demands parent approval before students can join. Additionally, all mentors are approved and trained before being able to interact with students.

REDESIGN

Diversity: As mentioned earlier, the site lacks racial diversity in its featured engineers. I think in order to provide role models for students of color a major push for featuring engineers of color on the site is incredibly necessary. I think diversity in STEM is an incredibly important issue and that this site should do what it can to provide inspiration for students of color to pursue STEM.

Word dictionary: The videos of engineers often have vocabulary that may be beyond the level of some of the student viewers. I think including a word dictionary for these words, as well as recourses and clearer descriptions for the science involved in these design projects may make the site more accessible.

Languages: I think that this site has a lot of potential to provide exposure to engineering to students that may not otherwise get that exposure, particularly in low-income communities. Although the site encourages all parents to be involved in their student's design process, it is only available in English. Perhaps having some projects in other languages and mentors that speak other languages could widen the population that could be positively effected by this site.