

SUMMARY

Connecting everyday products to the internet has changed the way we communicate, learn, travel, buy products, receive packages, and listen to music. This smart technology has been integrated into watches and fitness trackers, and companies are starting to look for ways to incorporate it into the clothes we wear or bags we carry. In this challenge, you will design a product that harnesses the power of advancements in LED lighting for a customizable piece of clothing or wearable accessory or bag.

SCENARIO

Imagine you're at the World Cup Final, wearing your #13 Alex Morgan jersey. With seconds to go, #15 Megan Rapinoe heads in the winning goal. You pull out your phone, type a few commands into an app, and, in a flash, you're now wearing the #15 jersey. Or, imagine you are going to a party after school and you don't have time to change your clothes. With a few taps on your phone, your casual shirt turns into a beautiful shimmery top. Or, imagine that you are taking a walk or a bike ride and it's getting dark, and you want to let other traffic know that you are turning left, so you push a button to make a left arrow appear in LEDs on the back of your shirt.

People are always looking for the newest fashion trends and wearable technology provides one way for them to stay up to date. With advancements in conductive thread, LED lighting, and flexible screens, wearable technology may be the next big thing in the fashion industry. It will allow customers to change the design of their clothing or accessories (like backpacks) using a simple app. Wearable technology allows a customer to program in the design on their product and change it when they want.

There are many applications of wearable technology, from fashion to safety. Your task is to design a fashion product that uses wearable technology and that includes LED lights so that customers can program multiple designs.

CHALLENGE

Your challenge to design a wearable technology product that uses an LED lighting system. Your product must:

1. Be something customers would wear or use as an accessory.
2. Allow the customer to easily program the product to customize their fashion.
3. Use a coordinate plane to describe the LED lighting on your product and the designs it can make.
4. Describe the lighting formations and how they need to change in programming different designs.