

**DESIGN CHALLENGE:** How might we reimagine Personal Protective Equipment (PPE) used to prevent the spread of COVID-19 that improves comfort and functionality during sports activities?

*Note: This is a guiding statement to assist you in choosing a problem. The problem you choose should be focused and specific.*

### THE PROBLEM

Each new day seems to add to the uncertainty about the immediate and long-term impact of the Coronavirus pandemic. Whether you think that people are overreacting or it is truly a global health emergency, one fact is objectively true: Covid-19 has affected billions of lives: if not physically than economically and mentally.

Entire cities have locked down in various degrees, including schools and limited or adapted sports activities. People are missing work, school, and life in general. People in quarantine face the psychological and physical effects of isolation. These damages are real damages; independent of the virus and its potency. There are concerns that the lack of regular sporting or exercise routines may result in challenges to the immune system and physical health, as well as compounding stress or anxiety in the face of isolation from normal social life.

Masks are effective in slowing and preventing the spread of COVID-19, but not all people have adopted this preventive measure. Some masks are ill-fitting, uncomfortable, not breathable and the most effective masks are often unavailable or expensive. What are possible alternatives? The ideal face mask or PPE would be readily accessible, flexible, fit a wide variety of wearers and be effective in protecting the wearer and the community.

### Resources

XPrize Next Gen Mask Competition (Resource from Competition Partner/Lydall Company):  
[pop.xprize.org](http://pop.xprize.org) (You can register for access to the information without competing)

Sponsored by: Black & Veatch

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