

3D Printed Ergonomic Face Shield



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The Problem:

There is a need for a 3D printed protective face shield for doctors, nurses, and healthcare professionals in the front lines. Currently, this is urgently needed for those responding to the COVID-19 pandemic.

The Solution:

The U-Shield design features an ergonomic, comfortable head temple that doesn't require an elastic band, which decreases the chance of contamination while reducing pressure on the user's head. The top visor is integrated and is not an add-on part. A clear visor in the standard US letter size can be fitted to attach with a 3-hole punch and only takes 5 seconds to assemble. The visor has a curved profile wrapping around the face for maximum protection.

U-Shield Design Patent Pending No. 29/733,737



Benefits:

- Headband is optimized for material usage weighing only 1 ounce significantly reducing printing time.
- Headrest follows forehead profile curvature for long comfortable periods of use.
- Visor spaced to provide maximum clearance for glasses or other wearable medical equipment.
- Ergonomic temple tips for comfortable sliding while preventing snagging on hair or loose objects.

INVENTOR



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Maged Guerguis is a McCarty Holsaple McCarty Assistant Professor of Design and Structural Technology at the University of Tennessee, College of Architecture and Design. He earned his Masters degree in Architecture from the University of Illinois at Chicago. Guerguis is a designer, researcher and educator who has received recognition with awards such as the United States Green Building Council Emerald Award, the American Institute of Architects Innovation Award, the Autodesk residency award, H. Patrick Lawson Teaching Award, and the Fast Company World Changing Ideas Award.

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