

Enhancing Calmness and Reducing Stress in the ICU with Lighting

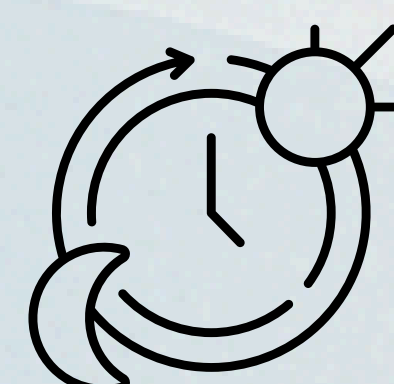
01 CONTEXT The ICU is a high-stress environment where patients experience emotional distress, poor sleep, and disrupted circadian rhythms due to the absence of natural lighting and lack of environmental control. These conditions often lead to confusion, anxiety, and delayed recovery. Observations at LUMC showed that patients are especially vulnerable when waking up or trying to sleep in the evening, struggling to distinguish day from night, further worsening their experience.

02 DESIGN QUESTION? *"How can we design an interactive system that enhances calmness, reduces emotional stress, and creates restorative environments that align with the Circadian Rhythm of ICU patients?"*

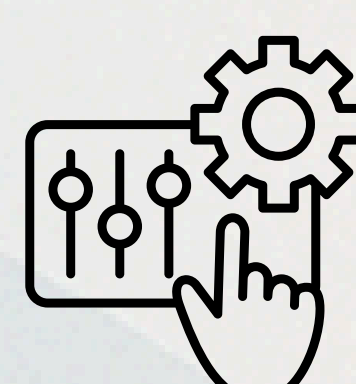
03 CRITERIA TO BE FULFILLED



Reduce emotional stress & enhance calmness



Provide day-night orientation



Control over the environment



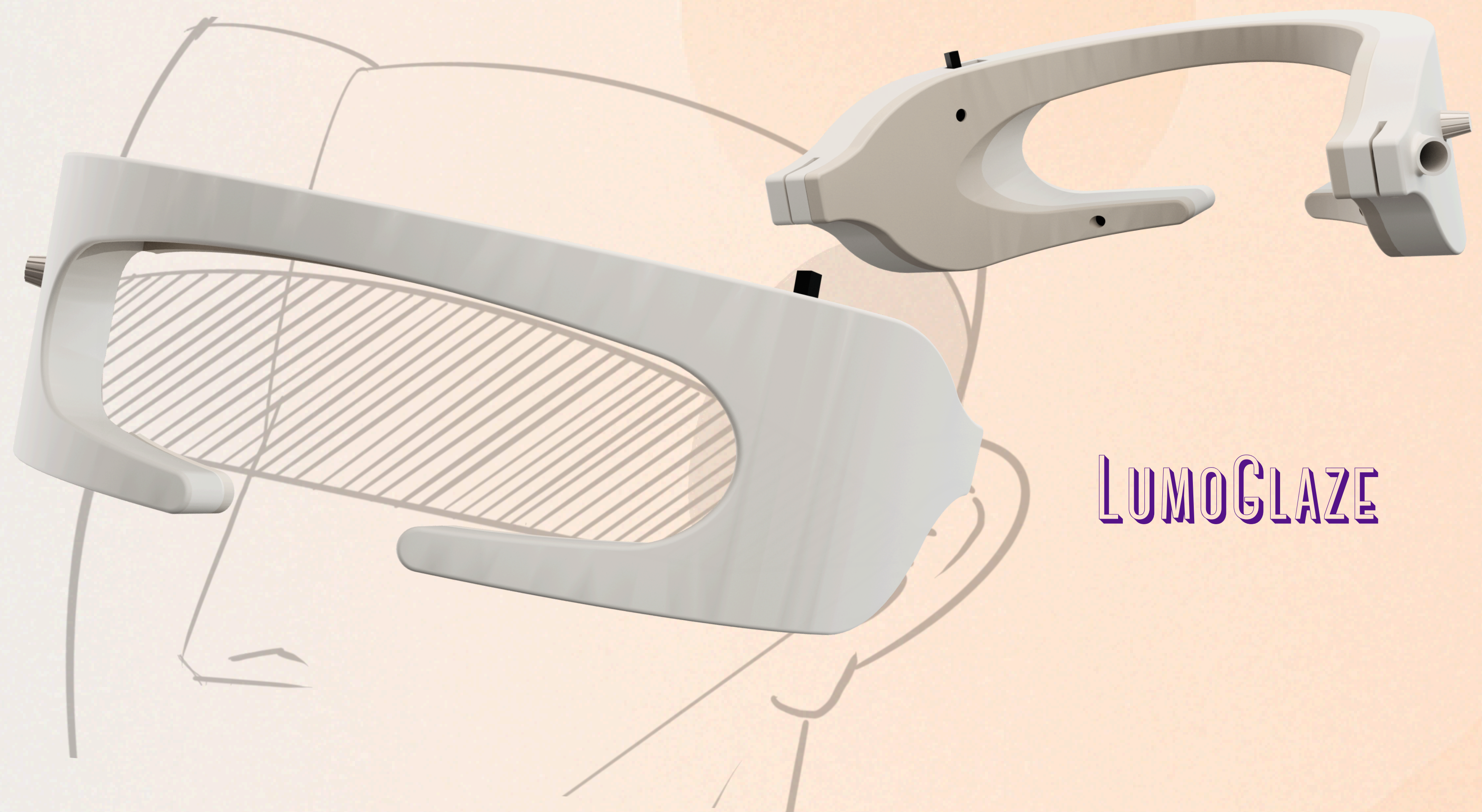
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Msc Integrated Product Design

04 INTERVENTION



LUMOGLAZE

05 LIGHTING MODES



Bright, cool-toned morning lighting is designed to promote wakefulness, boost alertness, and support circadian rhythm regulation.



Dim, warm-toned evening lighting is intended to minimise blue light exposure, stimulate melatonin production, and support the body's natural transition to sleep.

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