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ENT 3952

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## Assignment #1

### **Introduction**

My brother Christopher, a dedicated ice hockey player, is currently recovering from a debilitating back injury. His rehabilitation process demands regular periods of rest and leg elevation, crucial for pain relief and recovery. However, our current living space exacerbates his discomfort; the couches are fixed with an immovable, mirrored coffee table that restricts proper positioning.

Christopher's need for proper seating goes far beyond mere inconvenience. Professional medical advice that specifies leg elevation in the upright position should not be taken lightly. The lack of adjustable seating interferes with school, his job, and threatens his recovery as a whole.

### **Design Thinking Approach**

#### **Empathize Phase**

Developing a deep and personal understanding of the problem results in qualitative and innovative solutions. As an athlete who has faced injuries, I feel a strong interpersonal connection to Chris' frustrations: managing scholastic responsibilities and a job amidst hardship. I utilized the Empathy Mapping strategy: thoroughly observing his tense body language, the shrieks of pain, and aggravated tone in his voice. Further analysis reveals that the injury has induced both physical and emotional strain.

In keeping interaction minimal, empathy can further be validated by speaking to people with similar circumstances to grasp the relationship between mental and physical health during recovery. Witnessing a sibling in pain provokes a deep level of empathy, primarily why I chose my brother as the subject individual.

### **Define Phase**

Prior observations and analysis allow the synthesis of a clear objective. A design solution must address both physical and emotional components: back and leg support that also provides functionality to restore a sense of normalcy. It's essential to recognize that bedrest is unsuitable, and sitting on the couch provides comfortable seating for his academic and professional obligations. I conducted additional research to validate the importance of proper support and rest during the recovery phase. MayoClinic reports that bedrest isn't recommended. Doctors recommend at-home therapeutic practices to improve posture, strengthening abdominal muscles to avoid flares in pain symptoms (Mayo Clinic. Back pain: Diagnosis & treatment.).

### **The Problem Statement**

Christopher, an ice hockey player recovering from a back injury, struggles to sit upright due to the non-adjustable seating in his living space- a leather sofa placed with an immovable glass table. The solution necessitates a strategy for makeshift leg elevation that alleviates pain, increases functionality, and facilitates his recovery.

### **Ideation Phase**

The ideation phase fosters creativity, which was done through tedious research to ensure this design has not been established. Pinterst played a pivotal role for inspiration; I noticed a glaring gap in the market- the absence of a glass coffee table with pull-out footrests or any

convertible features. This realization fueled my creativity for a solution that was not only aesthetically pleasing but also highly-functional.

### **The Prototype**

My innovative solution tackles the problem of inadequate leg elevation in a non-trivial manner. Unlike traditional coffee tables, my design features a pull-out drawer, specifically engineered to address his needs. Within the drawer is a customizable cushion crafted for adjustable leg height. This design element is pivotal as it provides the flexibility that Chris requires, but also stability that ensures his safety.

The cushion is made from high-quality memory foam giving optimal support for his back and legs. The lightweight pull-out drawer is an integral part of the coffee table since it blends functionality with aesthetic appeal. Integrating this innovative element will aid those in similar situations as Chris, or simply those wanting an alternative form of couch recliners. In essence, this product aims to exceed Christopher's expectations, providing him the comfort and support needed for proper recovery.

Mirrored-Coffee Table with Convertible Recliner



