Required Assignment 7.1: Creating a Product Requirements Document

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**Suggested time:** 90 minutes

**Product**

Lightweight, curved 3D shield designed for movie theaters, allowing spectacle wearers to view 3D movies without discomfort.

**Objectives**

* Improve the comfort of spectacle wearers during 3D movies.
* Ensure compatibility with current 3D cinema systems.
* Enhance customer satisfaction and 3D viewing experience in theatres.

**Scope**

Included:

* Design, prototyping, and testing of a lightweight curved 3D shield.
* Ensuring polarization accuracy and visual quality.
* Basic adjustable headband/forehead rest for universal fit.
* Usability testing with spectacle wearers and non-spectacle wearers.

Excluded:

* Smart AR/VR features or integrated electronics.
* Home theatre adaptations.
* Disposable single-use shield variant.

**Functional Requirements**

1. The shield should accurately display 3D movies using polarized lenses compatible with standard Screens and IMAX 3D systems.
2. The shield should have an adjustable support system (headband/forehead rest) to position comfortably without touching the user's existing glasses.
3. The shield should be easily cleanable and reusable, supporting theatre operational hygiene requirements.

**Non-functional Requirements**

1. The shield should withstand at least 200 usage and cleaning cycles without degradation of optical quality.
2. The shield shall be designed with a stackable curved shape to enable compact storage of multiple shields within racks or containers.

**User Stories**

1. As a spectacle-wearing movie lover, I want to use a comfortable 3D shield so that I can enjoy 3D movies without discomfort from layered glasses.
2. As a non-spectacle-wearing customer, I want the shield to be lightweight and clear so that it does not compromise my movie-watching experience.
3. As a cinema staff member, I want to clean and distribute the 3D shields easily so that they can be reused between shows while maintaining hygiene.

**Acceptance Criteria**

1. The shield must maintain high quality, allowing clean and clear 3D viewing while testing.
2. In a test group of 30 spectacle wearers, at least 95% should report improved comfort over standard 3D glasses and willingness to use the shield again.