# Product Requirements Document (PRD)



| **Project Name** | **DeskOpt** |
| --- | --- |
| **Version** | 1.1 (Desktop Pivot) |
| **Status** | Ready for Dev |
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## 1. Problem Statement

* **The Pain:** Disorganized workspaces cause physical strain and cognitive load.
* **The Failure:** Generic advice fails because it lacks context of the user's hardware and workflow.
* **The Solution:** An AI Ergonomics Engine that audits the user's inventory and generates a role-specific spatial layout.

## 2. Target Audience

* **Primary:** High-Intensity Desk Users (Devs, Editors, Traders).
* **Secondary:** Students/Researchers with mixed media.

## 3. Functional Requirements (MVP)

### 3.1 Input & Context

| **ID** | **Feature Name** | **User Story** | **Acceptance Criteria** |
| --- | --- | --- | --- |
| **F-01** | **Manual Calibration** | As a user, I click the corners of my reference object (Card) to calibrate scale. | - User clicks 4 points on the image.  - System computes pixel-to-cm ratio. |
| **F-02** | **Role & Handedness** | As a user, I define my ergonomic profile. | - Dropdown: Left/Right hand.  - Dropdown Role: Coder, Artist, Admin. |

### 3.2 The "Triage" Loop (Critical Path)

| **ID** | **Feature Name** | **User Story** | **Acceptance Criteria** |
| --- | --- | --- | --- |
| **F-03** | **Inventory Audit** | As a user, I correct the AI's labels before getting advice. | - **Table View:** Display detected items.  - **Edit:** Rename/Delete/Exclude items. |

### 3.3 Output

| **ID** | **Feature Name** | **User Story** | **Acceptance Criteria** |
| --- | --- | --- | --- |
| **F-04** | **Ghost Overlay** | As a user, I see exactly where to move items on my monitor. | - Render colored boxes on the image.  - Green Arrow: Optimal move.  - Red Zone: Warning. |
| **F-05** | **Schematic Blueprint** | As a user, I want a clean map. | - Top-down 2D grid view rendered in a separate window or tab. |

## 4. User Experience (UX) Flow

1. **Import:** User drags a photo (taken via phone) into the Desktop App.
2. **Calibrate:** User clicks 4 corners of the credit card visible in the photo.
3. **Context:** User selects "Right-Handed Coder."
4. **Processing:** AI analyzes inventory.
5. **Triage:** User reviews the item list.
6. **Result:** App displays the ergonomic overlay.

## 5. Technical Constraints

* **File Transfer:** The app assumes the user has already transferred the photo to their computer.
* **Platform:** Windows/macOS (Python-based).

## 6. Success Metrics

* **Completion Rate:** Users who reach the final result screen despite the file transfer friction.