Project Specifications
Adjustable Art Table

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Introduction and Overview

A table must be designed and tailored to a specific clientele. The client company, Passion Works Studio has requested that an art table be designed for its customers who need a reliable and effective place to work and may also have mental or physical disabilities. The people who will be using the table have specific needs and requirements so the table must accommodate such needs. Foremost, the height of the table must be adjustable within a certain range that can accommodate wheelchair bound users. The user shall be able to easily wheel underneath the table, with enough leg room, and an assistant can lower the table to a specified height. It would be advantageous for the assistant to know the height of the table as he or she is manipulating it so that it can be set to the desired height immediately. The client would also like that the height adjustment mechanism is not electronic. Just as a matter of preference, the electronic design of the past is less desirable, and a mechanical device will be more reliable and safe. Secondly, the table must be stable for those who like to get physical when doing their artwork. A previous art table had been made of PVC and this material turned out to be unstable. The new art table should be able to withstand vertical forces as well as horizontal jolts without disturbing the artist at work. Not only will the frame be important in making the table more stable, but the table top material should be chosen carefully also. A solid, sturdy table top will make the table look better for a longer time, and could also be more resistant to scratches. A surface treatment could be added that would provide for easy cleanup in case of a spill. Another way that the table could prevent spills is by having a flare or lip at the end of the table that would also prevent objects from falling off the edge. The edge might get in the way of the artist however and various features and accessories will first be approved of by the client coordinator. Aside from these aforementioned basic requirements the rest of the design is open to creativity.

The art table is unlike any other table on the market because it must be height adjustable at all times, not just during the assembly. A quick and easy adjustment allows for multiple users of various sizes to share the same table. Most commercialized tables are not tailored for persons of physical disabilities and who have wheelchairs, so it is difficult for them to use them comfortably. It must also give enough leg room; the legs of the table could prevent the user from pulling all the way up to the table. It is claimed that the table legs will be far enough out of the way, but will also provide good enough stability for the table. The adjustable art table will be unique because it will allow the user to easily move both underneath and above the table so that he or she can do work comfortably.
Technical Specifications

- Improvements from the Last Design
  - Stability
  - Non-electric
- Safety Issues
  - Soft, beveled edges for the users
  - Minimal physical effort by the operator to adjust the table
  - The user cannot accidentally knock the table “out of position”
  - Will not collapse under certain limitations
    - Limitations shall be clearly marked
- Height Adjustments
  - High enough for the user to move under the table using a standard size wheel chair or even larger to accommodate a large physique
  - Low enough so that the user can work on the table in a comfortable manner
  - 25-42 inches
  - Height markings for future reference
  - Shall not tilt during this operation
- Performance Unaffected by Environment
  - Liquid spills
  - Stray markings
  - Dust, UV rays
  - Cleaning solutions
  - Regular wear and tear (good longevity) not easily susceptible to scratches
- Accessories
  - Can hold various items without them rolling or moving out of reach
    - Pencils, pens, paint brushes, paint bottles, chalk, crayons, water bottles
  - The items should be able to remain in the table before during and after the adjustment
  - Lip to prevent materials from rolling off the side, or liquid from dripping off the table
- Portability
  - Shall accommodate those who need to move the table
    - Weight of the table should be reasonable
  - Should not roll out of the desired position
    - Wheels may not be adequate depending on the floor surface
    - Rubber leg ends may provide enough friction for many surfaces
  - Size requirements
    - Shall be able to move easily through standard size doors
    - Too large may result in unused table space
- Stability
  - Downward weight
  - Side-to-side forces