Brief

Conceptual Statement
At present my bench press weights are sitting in a pile on the floor of my dad’s shed. They are constantly being buried by me and my family dumping things on top. While on the floor they collect moisture and are starting to rust. It’s also a pain having to constantly move or lift them.

I need some way of storing my weights in a safe, secure, and stable way.

My Specifications!
- must be able to store at least 4 1kg weights, 4 2.5kg weights, 2 5kg weights, 4 10kg weights, 2 20kg weights, and the bench press bar
- mustn’t have any sharp edges that might hurt people or damage other things stored in the shed
- must be rust proof
- must not cost more than $75
- each weight that is placed on and off the product must be able to do so in at least 15 seconds
- must not take up more room than 1m x 1m
- must be the right height so I can reach all the weights

What I am Storing!
(Bench Press Weights.)

Size Range(s): The size of the weights that I am storing are a range of circular objects, with diameters of 500mm down to 100mm. Also the thickness of the objects range from 10mm to 60mm.

Shape(s): The weights that I am storing are large circular disks.

Weight(s): The weight of the product that I am storing are many different ones. The lowest is 1kilo and the highest is 20kilos.

Material(s): The weights are made from two different materials. The first type are metal coated in either enamel paint or zinc primer to prevent rust.

Special Considerations:
- I will need to consider making my storage product very strong and brace everything to ensure that it will be able to handle the weight that will be placed on it. (110kilos)
- I will need to make the bars that the weights will sit on are certain lengths apart to ensure the weights are not going to knock on each other.
A third type of modeling that I preformed was computerized drawings of the weights rack on Sketch Up. The purpose of this was to guide the rest of the steps that I would take in the construction of my weights rack and as a reference for me to go back to. It will help me to get the shapes, angles and sizes correct. From this I learn’t that because of the materials I was going to use it would be very heavy. To counter this I decided to install heavy duty caster wheels on the bottom of my weights rack to make it maneuverable. A risk that I found was that to brace my product to prepare it for welding was going to be a difficult task and would need to be done well so as not to warp the metal in the process. Also to check that my product meets my brief and specifications I will use these designs as a reference.

I wanted to make sure the rack would fit in the area it was intended for. I took it home and placed it in the corner of the shed. I found that it fits there well and doesn’t stick out so no one will get hurt, it sits stable on the floor, I can reach the top rack ok, I can easily get the weights off. And dad said its OK sitting there in his shed. So I reckon it’ll be just right for the job.