Tableware in Glass and Steel for Corporate Executives

Product Design Project II

TABLEWARE IN GLASS AND STEEL FOR CORPORATE EXECUTIVES

Product Design Project II

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APPROVAL SHEET

The project entitled "Tableware in Glass and Steel for Corporate Executives" by PrajaktaGokhale is approved for partial fulfilment of the requirement for the degree of 'Master of Design' in Industrial Design.

Guide :_ _

Chairperson :_ _

Internal Examiner :_ _

External Examiner : _

Date:_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

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1. INTRODUCTION

1. INTRODUCTION

Products can serve as symbols of an upwardly mobile rise in lifestyle. The contemporary user is more design literate and has more disposable income. The atmosphere for design is created by repeated interplay not only between the designer and the production techniques, but also between the object itself and the constants of popular culture and a market place.

People seek products that are exclusively designed and of impeccable quality. A profound sense of individualism and risk taking is pervading our society and is mirrored in the products.

Designer tableware from Magppie, Art'dinox etc. have started being appreciated by general consumer. This is a result of its availability in the lifestyle malls that have come up in every corner in an urban scenario. Tableware in combination of two materials is a new intervention. The aim of the project was to explore the uncanny appeal it holds. The project was not to be just about designing a lifestyle product but how a utilitarian product can be modulated to be presented as a lifestyle one.

2. UNDERSTANDING TABLEWARE

2.1 INTRODUCTION

"Tableware are the cutlery, eating utensils, drinkware, and dishware used when setting a table for dining. The particular set of objects varies from culture to culture and from meal to meal."

Tableware was a very wide category. Efforts were put into understanding how tableware is categorized. Categories were made based on various criteria like use, manufacturing, type of food, activity. This study helped in understanding what a set of tableware means.

Tableware sets available in market were studied. This gave an insight into various ways in which products were sold in sets, various criteria that determine a set etc. It was observed that some tableware sets were more commonly seen in the market than others.

Market study also helped in understanding how the products in dual materials were received by the consumers. Various details of these products were observed. The glass and steel products were available in smaller sets for the convenience of the buyer.

2.2 PRODUCT CATEGORIZATION







Categories of table ware are made based on their use, manufacturing or type of food served or eaten in them. Some existing categories of tableware are as follows

Categorized on USE
- Jugs, pots etc
- Drinking vessels
- Plates, saucers & bowls
- Dishes (flats) & covers
- Other utensils and accessories
- Cutlery





Categorized on MANUFACTURING
- Holloware
- Pottery
- Glassware
- Flatware
- Cutlery






Categorized on TYPE OF FOOD
- Dinnerware
- Coffee & tea
- Drinkware
- Seasoning
- Serve ware
- Accessories

Various image cards were made and sorted to understand the existing product categorization.

2.2 PRODUCT CATEGORIZATION

It was seen that the set of tableware did not include all required pieces required for carrying out a particular activity. For example a tea set includes tea pot, creamer, sugar pot,, cups and saucers; but a tea coaster is generally not a member of the set. Image cards were made and sorting based on various activities was done.

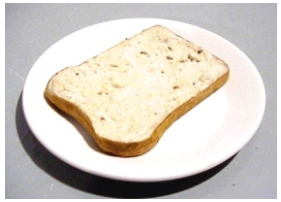
Categorized on ACTIVITY

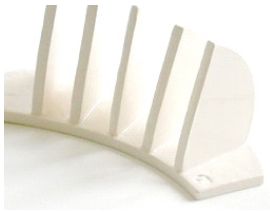
- Coffee
- Tea
- Breakfast
- Meals
- Salads
- Snacks

A through understanding of which tableware is required for what activity was achieved through this study. For example a salad set should have a mixing bowl, cutting board, knife, salad server fork and spoon, salad bowl/ plate, knife, fork, dressing and seasoning. Similarly breakfast set, coffee set etc was grouped.

A need for a self sufficient set of tableware was identified.

A breakfast set for bread





2.3 MARKET STUDY

Various tableware available in the market were listed like a dinner set, a tea set, coffee set, snacks serveware, etc. The number of pieces included in any particular set varied. For example a ceramic dinner set may contain 15 pcs to 35 pcs or more. The cost would change accordingly.

Tableware are also available in variety of materials like ceramic, steel, glass, melamine, wood etc. The designs and costs vary according to the materials. The number of pieces included in a set may also vary depending on the materials used. A tea set made in ceramic would normally consist of 6 cups and 6 saucers(costing around 800 Rs.) but set made in glass and steel consists of 2 cups and 2 saucers(costing around 900 Rs.).

2.3 MARKET STUDY

Some tableware sets available in the market:

7 pc dessert set : 6 small dessert bowls, 1 large bowl

18 pc soup set : 6 soup bowls, 6 soup spoons, 6 saucers

13 pc coffee/tea set : 6 cups, 6 saucers,1 coffee/tea pot

15 pc tea set : 6 cups, 6 saucers, 1 tea pot, 1 milk pot, 1 sugar pot

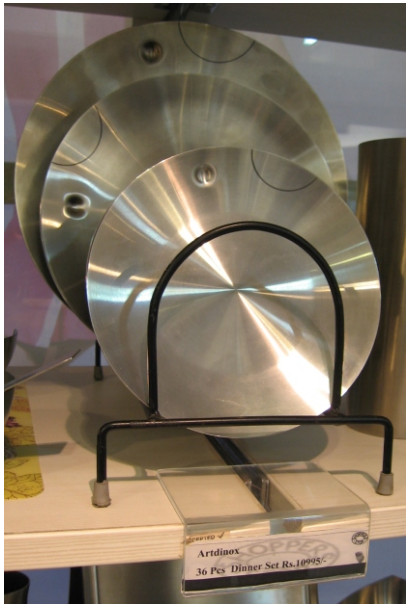
27 pc dinner set : 6 full plates, 6 quarter plates, 6 vegetable bowls, 1 round rice plate, 2 service bowls

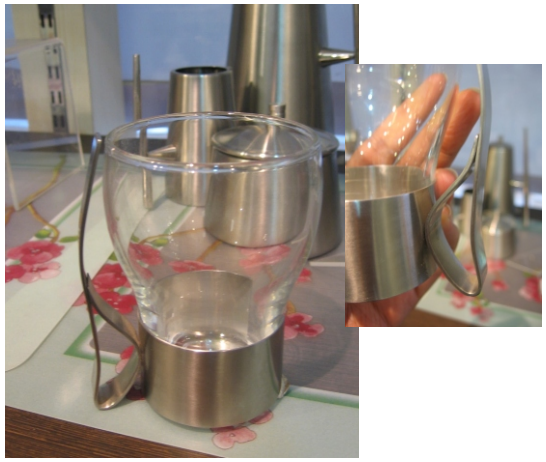
35 pc dinner set : 6 full plates, 6 quarter plates, 6 vegetable bowls, 6 soup bowls, 6 soup spoons,1 round rice plate, casserole with lid 2+2

2.3 MARKET STUDY

The way a particular tableware set is made depends on many variables like application, ease of use, materials, cost etc. It also depends on which consumer segment is the product range targeting.

Product range in glass and steel are seen in all the lifestyle stores nowadays. These products, launched by Alessi , Magppie, Artd'inox , are readily being bought by consumers. These products are priced high, owing to their design, quality, material and manufacturing. The target consumer of these products belongs to a upper middle class and executive class. The price of a set of two 'cup and saucer' ranges from Rs.850 and above.





3. ABOUT THE MATERIALS

3.1 INTRODUCTION

Designing in dual materials was chosen as both glass and steel have a very bold image in the users mind as these materials have been used over ages in tableware. The emphasis of the project was to chage that image of steel being a very common un interesting material in tableware; ad glass being used only as a drinking vessel or as a serving bowl.

The challenge was to create a tableware that caters to a niche market and makes a new statement in terms of the material and design. Breaking the age old image of some tableware in glass or steel was one of the objectives.

Glass and steel offer a lot of opportunities in design due to their inherent properties which match each other at times and at times are contradictory. The joinery used in the glass and steel tableware scenario is very rudimentary in nature. This was an area that needed to be worked on.

The combination of both the materials in tableware products can be seen as a new regime of design.

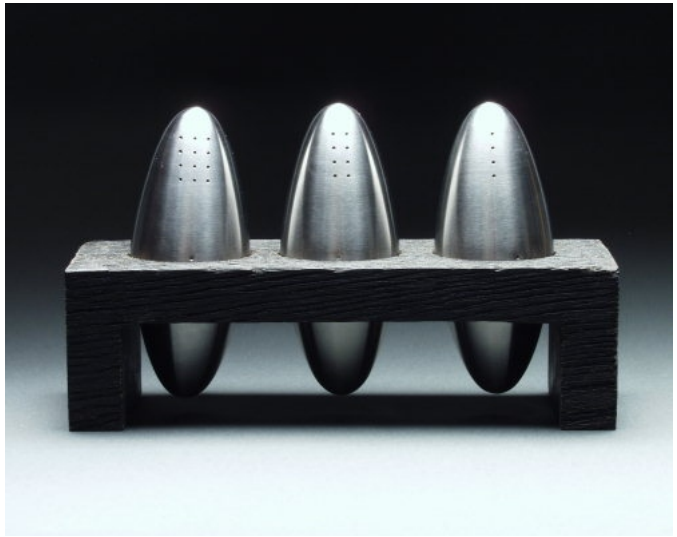
3.2 ABOUT GLASS

Some visual perceptions and qualities of glass...
Glass is a mystery an object of intrigue. It sometimes looks like a frozen fluid with its soft organic edged when formed. It demands to be cared for due to its brittle and tender look. The surfaces are smooth and are an exhibition of perfection.

The form of glass from the simplest to the most complex crystal form shows an amazing play with light. In warm light glass takes a warm character. It plays with light like no other material. Light assumes the character of the glass and interesting shadows and patterns are created, both within and outside the object.

Glass as seen in tablewares...
The objects kept inside glass are seen crisply owing to its sharp transparency. It lends a mystic quality to the object. Glass lends heavily to the visual appreciation of various food stuffs & beverages kept in it. We see glass used extensively in wine glasses where the sparkle in the wine is to be appreciated or in a dessert bowl where the beautiful layering of the dessert is to be flaunted.

3.3 ABOUT STEEL



Some visual perceptions and qualities of steel...

The mention of steel evokes the image of strength. Early images associated with steel are that of refinaries, of post independence india and the spirit of freedom and self dependence. It is a material that has become an integral part of our day-to-day life. From the mundane every day objects(mainly in the kitchen) that are present in the households to the steel we see in the engineering applications all around.

Steel has evolved into a sophisticated material. Of late, finishes that can be achieved with the material have been explored by designers to create objects of immense beauty. The reflective mirror finish of a steel object adds a sparkle while on the other had a brush finish gives it a cold feel. The material can be made to look fluid or rigid by the way the form is treated. Finish, form simple ideas can create a very elegant and pleasant product.

Steel as seen in tableware...

Steel has been extensively used to make cutlery owing to its strength and property to retain the sharpness. Steel is also used in heatable tableware. Steel hides various mechanical details in tableware like in a pepper mill. Double walled cups of steel are priced high.

3.4 COMBINATION OF GLASS AND STEEL

Various other combination of materials like wood-steel, ceramic-steel etc was studied.

Combinations of the two materials is also a challenge. One has to contextually define proportions of the materials, how they come together. Instead of a forced combination, the materials have to come together beautifully, complementing each other.

Here glass was looked as a pure transparent material combining with stainless steel as another pure material, that is the form of the materials selected are elementary and without any embellishments.

The glass is used where foodstuffs need a visual display and steel is used to hide the mechanical details of mills, magnets etc.

The salt pepper shakers/ mills have a small window in glass showing the ingredients but body in steel hiding the mechanisms.

The cutlery in dual materials has glass handles but main body in steel for strength.

The design and joinery details become critical in this case as glass doesn't hide any details under it.

Glass is used to help see through the spices and steel hides the magnet that keeps each jar in its place

4. MANUFACTURING

4.1 INTRODUCTION

Tableware are also classified according to the manufacturing processes like
Holloware
Pottery
Glassware
Flatware
Cutlery
Each one of the above uses a different manufacturing method and refers to a different material.

Understanding the manufacturing processes of both glass and steel becomes essential for the project. The process used for manufacturing a tumbler is very different from that used for manufacturing a knife, thus an overall understanding of all processes that go into making any tableware was the focus of this study.

4.2 MANUFACTURING GLASS

Glass is a mixture of a number of metallic silicates, one of which is usually that of an alkali metal. It is amorphous, transparent or translucent. It may also be considered as a solidified, super-cooled solution of various metallic silicates having infinite viscosity. Nearly all-commercial glasses fall into one of six basic categories or types. These categories are based on chemical composition. Within each type, except for fused silica, there are numerous distinct compositions.

TYPES OF GLASS

Soda lime glass

Soda Lime glass is the most common 990% of glass made), and least expensive form of glass. It usually contains 60-75% silica, 12-18% soda, 5-12% lime. Resistance to high temperatures and sudden changes of temperature are not good and resistance o corrosive is only fair.

4.2 MANUFACTURING GLASS

Lead Glass

Lead glass has a high percentage of lead oxide (at least 20% of the batch). It is relatively soft, and its refractive index gives a brilliance that may be exploited by cutting. It is somewhat more expensive than soda-lime glass and is favored for electrical applications because of its excellent electrical insulating properties. Thermometer tubing and art glass are also made from lead-alkali glass, commonly called lead glass. This glass will not withstand high temperatures or sudden changes in temperature.

Borosilicate glass

Borosilicate glass is any silicate glass having at least 5% of boric oxide in its composition. It has highest resistance to temperature change and chemical corrosion. Not quite as convenient to fabricate as either lime or lead glass, and not as low in cost as lime, borosilicate's cost is moderate when measured against its usefulness. Pipelines, light bulbs, photo chromic glasses, sealed-beam headlights, laboratory ware, and bake ware are the examples of borosilicate products.

4.2 MANUFACTURING GLASS

Aluminosilicate glass

Aluminosilicate glass has aluminum oxide in its composition. It is similar to borosilicate glass but it has greater chemical durability and can withstand highest operating temperatures. Compared to borosilicate, Aluminosilicate are more difficult to fabricate. When coated with an electrically conductive film, Aluminosilicate glass is used as resistors for electronic circuitry.

Ninety six percent-silica glass

Ninety-six percent silica glass is borosilicate glass, melted and formed by conventional means, then processed to remove almost all the non-silicate elements from the piece. By reheating to 1200° C, the resulting pores are consolidated. This glass is resistant to heat shock up to 900° C.

Fused Silica Glass

Fused silica glass is pure silicon dioxide in the non-crystalline state. It is very difficult to fabricate, so it is the most expensive of all glasses.

4.2 MANUFACTURING GLASS

GLASS WORKING

Glass working is art on the one hand and pure science on the other. This material has been around for a long time. Different sources place the discovery and use of glass in different times and places. The use of this material is found in ancient Egypt, Rome, Venice and West Asia. Over a period of time techniques were developed. Initial techniques were more of a nature of craft like casting. Modern manufacturing allows mass production of glass in an industrial scenario.

Glass working tends to be of the following nature.

- Mass production.
- Batch production.
- Craft.

Various Glass working processes are:

Blowing

In this process, molten glass is gathered on the end of a hollow tube and blown like a bubble in to a hollow mould or freely shaped with simple tools. Bottles are a typical example of glass blowing.

4.2 MANUFACTURING GLASS

Casting

The generic name for a wide variety of techniques used to form glass in a mould. The molten glass is poured into mould and allowed to cool slowly. Typical examples are Mirrors and Lenses.

Core forming

The technique of forming a vessel by trailing or gathering molten glass around a core supported by a rod. After forming, the object is removed from the rod and annealed. After annealing, the core is removed by scrapping.

Cutting

The technique whereby glass is removed from the surface of an object by grinding it with a rotating wheel made of stone, wood, or metal, and an abrasive suspended in **liquid. Also used are copper-wheel engraving, carving, and wheel engraving.**

Pressing

In this process, molten glass is pressed into moulds. The pressure may be applied either manually or by mechanical means. The process is adopted for ornamental article and hollow glass articles.

4.2 MANUFACTURING GLASS

Drawing

This process consists in simply pulling the molten glass either by hand or by mechanical equipment. An iron bar is dipped sideways into the molten mass of glass. It is lifted up horizontally and in doing so, it catches a sheet molten glass. This sheet is then allowed to pass over a large rotating roller. The roller helps the molten glass to spread in the form of thin sheet.

Rolling

There are two methods. In one method, the molten glass is passed between heavy iron rollers and flat glass plate of uniform thickness is obtained. In another method, the molten mass of glass is poured on a flat iron-casting table and it is then turned flat with the aid of a heavy iron roller.

Spinning

In this process, the molten glass is spun at a very high speed by a machine to form very fine glass fibers. This glass has tensile strength equal tot hat of mild steel. It does not fade, decay or shrink. Acids and fire do not attack it. It is used for providing insulation against heat, electricity and sound.

4.2 MANUFACTURING GLASS

Annealing

Glass, after being manufactured has to be cooled down slowly and gradually. This process of slow and homogeneous cooling of glass articles is known as annealing of glass. This is an important process because if the articles are allowed to cool down rapidly, the superficial layer of glass cools down first, as glass is a bad conductor of heat. The interior portion remains relatively hot and it is therefore in a state of strain. Hence, such glass articles break to pieces under very slight shocks or disturbances.

Two methods used for annealing are:

Flue treatment
A long flue is provided and there is a gradual decrease in temperature from one end of the flue to another. The red-hot articles pass through this. This method is used for large-scale production.

Oven treatment
The red-hot articles are placed in ovens in which the arrangement is made to control the temperature. After the articles are place. The temperature is slowly brought down. This method is useful for small-scale production.

4.2 MANUFACTURING GLASS

Some steps followed in Mass Production:

Pre-production
The batch is a mix of three main components : sand, soda ash and limestone to which a quantity of cullet (crushed glass) is added. The raw materials are transported by barge or lorry to the mixing plant and thereafter by lorry to the various furnaces.

New designs are created by the designers. A collaborative effort of the design team and product managers goes into developmentsof a new product. A plaster model then gives the visual appearance of the new product and when ready, the project is forwarded to the technical department for the design of the Moulds.

4.2 MANUFACTURING GLASS

To finalize the plans for a mould, a complex technical study combines the aesthetic model of the design studio with optimal quality requirements. Advanced computer systems are used by the technical departments to define different mould parts and to carry out temperature simulations. The precise determination of the mould geometry will facilitate production under optimal conditions.

The production of a new mould involves a number of different processes : turning, milling, electro-erosion, adjusting and polishing. The perfect quality of the mould, indirect contact with the glass, determines the optimum quality of the finished product. The mirror-like polish of the steel, makes perfect glass clarity possible, and the mould maintenance workshops insure permanent availability of clean moulds for the manufacturing machines.

4.3 MANUFACTURING STEEL

In the context of manufacturing of lifestyle products quality of manufacture plays a very important role. With new entrants like 'Magppie' who manufacture 'designed' stainless steel household products, the quality of products available to the customer has improved. The steel lends itself to a wide variety of finishes.

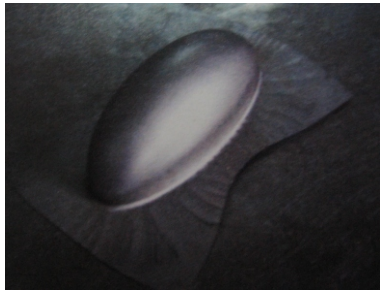
A manufacturing setup was studied. This company specializes in the manufacture of stainless steel products, a batch manufacturing process is followed strict quality standards are adhered to and the products are designed locally. Grade 304 stainless steel is used for manufacturing.

4.3 MANUFACTURING STEEL

Background

Grade 304 is the standard "18/8" stainless; it is the most versatile and most widely used stainless steel, available in a wider range of products, forms and finishes than any other. It has excellent forming and welding characteristics. The balance austenitic structure of Grade 304 enables it to be severely deep drain without intermediate annealing, which has made this grade dominant in the manufacture of drawn stainless parts such as sinks, hollow ware and saucepans. For these applications it is common to use special "304DDQ" (Deep Drawing Quality) variants. Grade 304 is readily brake or roll formed into a variety of components for applications in the industrial, architectural, and transportation fields. Grade 304 also has outstanding welding characteristics. Post-welding annealing is not required when welding thin sections.

4.3 MANUFACTURING STEEL



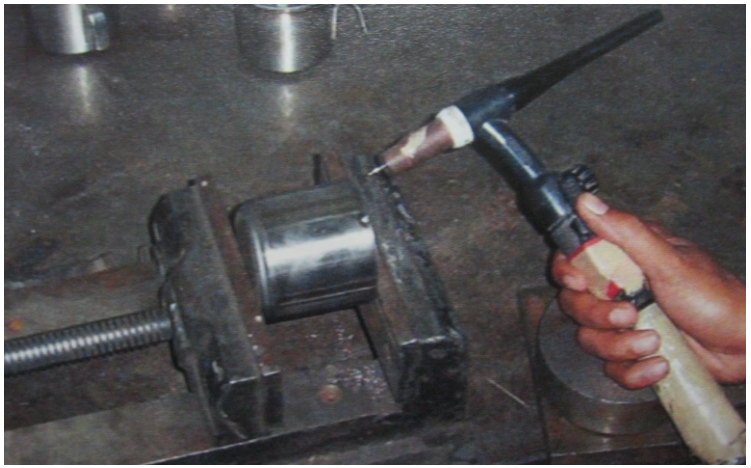
Grade 304L, the low carbon version of 304, does not require post-weld annealing and so is extensively used in heavy gauge components (over about 6mm). Grade 304H with its higher carbon content finds application at elevated temperature. The austenitic structure also gives these grades excellent toughness, even down to cryogenic temperature.
The company manufactures a range of products. Some interesting processes are used to the steel to the desired shape. Some of them are-

- Cold forming
- Tungsten Inert gas welding (TIG)
- Annealing
- Passivation
- Spinning
- Deep drawing

Cold Forming

Cold forming is a process wherein the steel blank is formed into the desired shape. As it is not possible to form the steel in one-step, the blank is subjected to forming in stages. The cutoff or blank is punched gradually and what results is a form close to the final form. A stepped profile is created and after annealing this is punched to the final form.

4.3 MANUFACTURING STEEL



Annealing

Because of Work Hardening, the steel after being formed is subjected to annealing. This is to remove the stresses in the material that result because of the forming process. The steel is heated to temperature of 900 to 950° C (Melting point 1421° C)

Tungsten Inert gas welding (TIG Welding)

A large number of steel products are made up of double walls. For example in coffee mugs, this double wall proves to be an advantage in terms of providing insulation. It is also resorted to, to add weight and body to the product. The welding used is tungsten inert gas welding. This kind of welding is resorted when the non-appearance of the weld bead is a must. It also provides a strong bond and can be finished to be practically invisible. No seams are seen in the final product.

4.3 MANUFACTURING STEEL






Passivation

After the welding process, he steels needs to be subjected to Passivation. The active nature of the surface makes it prone to corrosion. This is because of the presence of free iron. A phosphate and Nitric hydro fluoride are used for this process.

Finishing

The most important part of the stainless steel manufacturing industry is buffing. Various finishes like Mirror, Semi Mirror, Sati and Brushed steel are possible.
Printing is also possible on the surface and products like nameplates can be produced.

Packing

Having finished the surface of the steel the products are sent for packing. Various sub-components like rubber legs can be attached to the surface. Plastic parts are attached and the product is finally packed.
Other processes like spinning and deep drawing are used to manufacture simple objects like steel containers.

4.3 MANUFACTURING STEEL

Modern flatware is produced in all the cutlery centres of the world. The metal, carefully refined, is formed into sheets of proper thickness and is cut into strips of the required width. These processes involve the strictest control of metal behaviour and correct annealing to remove excessive strains. The strips are fed into machine presses that cut out each spoon or fork in its rough shape, one end being at first almost square for a spoon and rectangular for a fork. The ends of these "blanks" are rolled again in a direction at right angles to the centre line, reducing the thickness at this point without altering the thickness of the handle. The bowls of the more expensive spoons are no more than half as thick as their handles.

After being trimmed, the blanks are stamped in alloy-steel dies that hollow the bowls and stamp a pattern on the handles. In the case of forks, slots are cut out to form the prongs, which are then stamped in dies to the required curvature, tapered, and pointed on abrasive belts. These processes are approximately the same whatever metal is used, although in manufacturing cheaper products, made from thinner sheets, cross-rolling can be omitted and the stamping can be performed in one operation, till the products are sent for packing. Various sub-components like rubber legs can be attached to the surface. Plastic parts are attached and the product is finally packed. Other processes like spinning and deep drawing are used to manufacture simple objects like steel containers.

4.3 MANUFACTURING DUAL MATERIALS

Manufacturing products in dual materials is a new intervention. In case of products which combine ceramic and steel, where steel is embedded inside the ceramic body demands various stress calculations as ceramic and steel together don't make a inert couple. Tableware in wood and steel also has an advantage as wood can be carved and it also hides any joinery details thay may be required.

The challenge in designing tableware in glass and steel is far more challenging due to various factors. The two materials are not fused physically due to the restrictions in manufacturing processes available as of now. The steel and glass parts are visually merged together in the current scenario. But physically they are joint or fixed such that they look integrated. The challenge lies in hiding the fixing or joining details of steel to steel and steel to glass, as all the details can be easily seen through glass. Though in the craft scenario we see glass inlays which is a kind of fusion of glass onto metal or stone. But it is more of a surface treatment than a complete visual fusion that the project is looking for.

The manufacturing process for the product in glass and steel would be decided as the design evolves.

5. INITIAL PROJECT BRIEF AND IDEATION

5.1 INITIAL PROJECT BRIEF

An initial project brief was made to describe the qualitative aspects that the products should have. The function or area of the product was not strictly decided, but a catagory and scale of products was selected to work on.

Product Definition And Area Of Work

Utilitarian tableware products that would give a memorable and taseteful experience to the user.

The product was targeted towards the executives or elite group of consumers who have the eye for quality and can spend to buy a quality product.

The products were targeted for the use in an elite household, a modern classy restaurant or a stylish office environment.

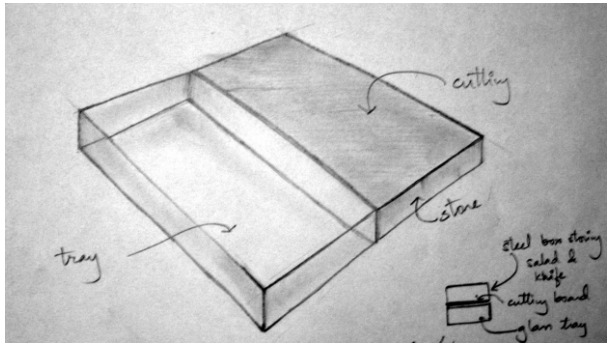
The product would be for a personal use but still high on display value.

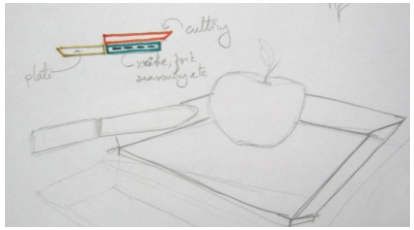
Focus was on the combination of the two materials. Their expressions in various forms.

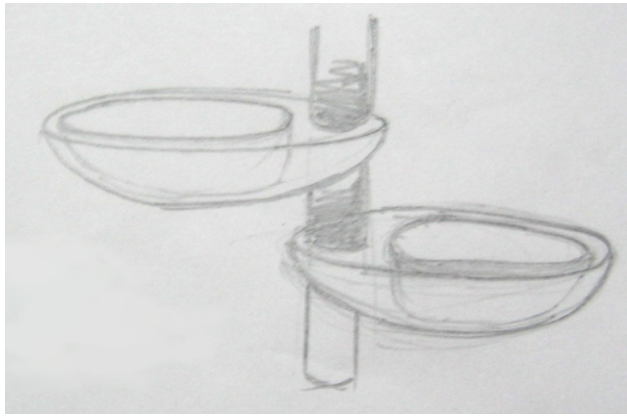
5.2 INITIAL IDEATION

Initial ideation was done with focus on the interaction between the two materials, i.e. Glass and steel. At this stage tableware as a whole was taken into consideration and the focus area was not yet decided.

A saladware- compact kit that has an integrated cutting board,salad tray and cutlery required

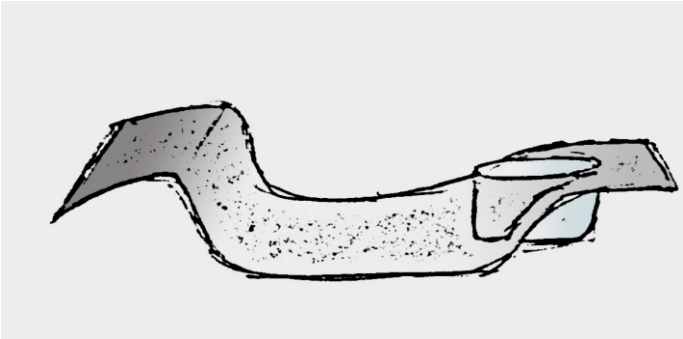






A snack server that can be stacked back after use

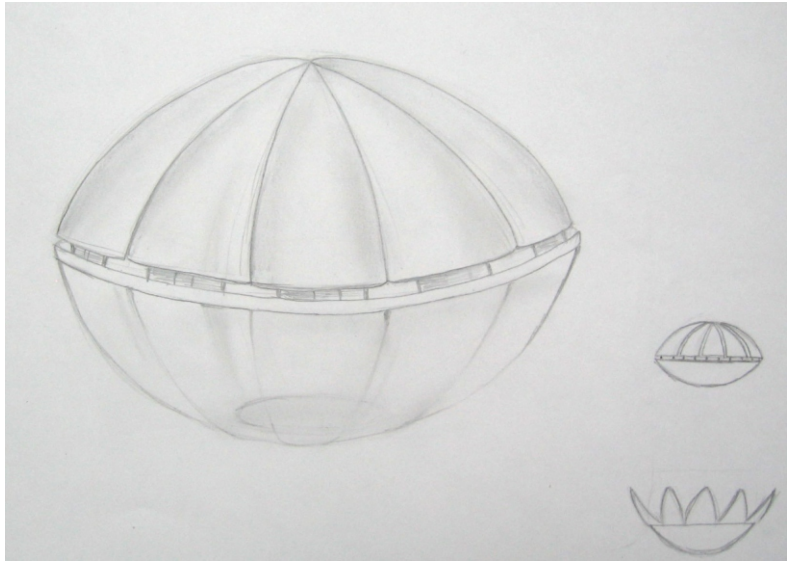
5.2 INITIAL IDEATION



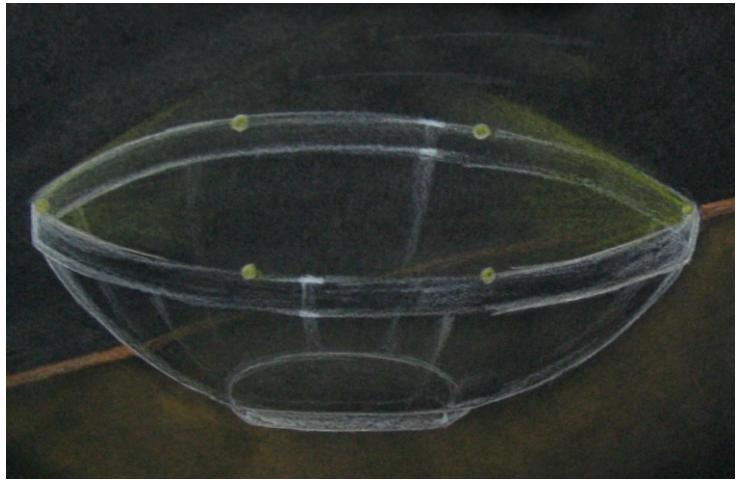
A chip and dip set- a ketchup bowl integrated with a snack plate

A spice installation- a spice rack that is also a display object showing off the magnificent colours of spices and seasonings

5.2 INITIAL IDEATION



A fruit bowl that has collapsible cover which opens out beautifully



A snack bowl with touch lamps that shed a dim glow over the food stuff inside-ideal for seminars/presentations.

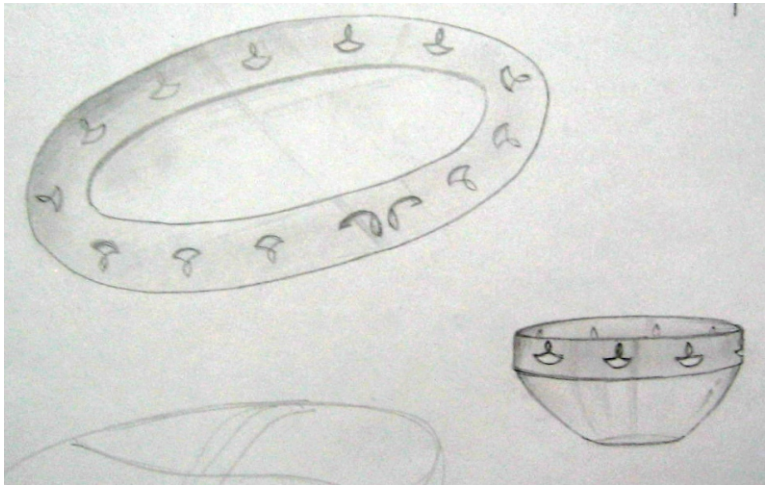
5.2 INITIAL IDEATION

Initial ideation was done with focus on the interaction between the two materials, i.e. Glass and steel. At this stage tableware as a whole was taken into consideration and the focus area was not yet decided.

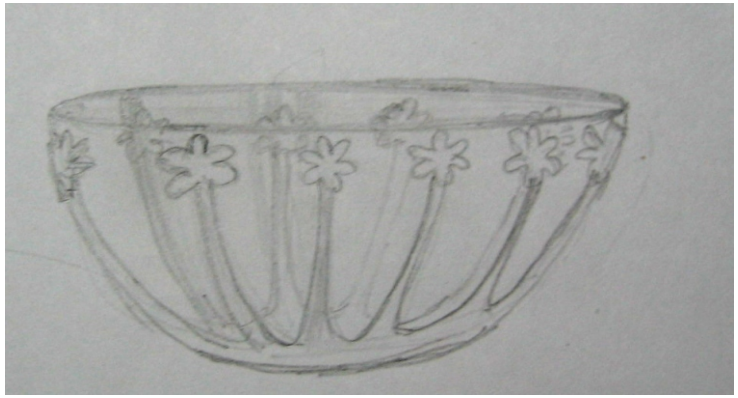
Details of joinery of steel and glass were studied...

Play between different finishes was though of...

Various textures were attempted...



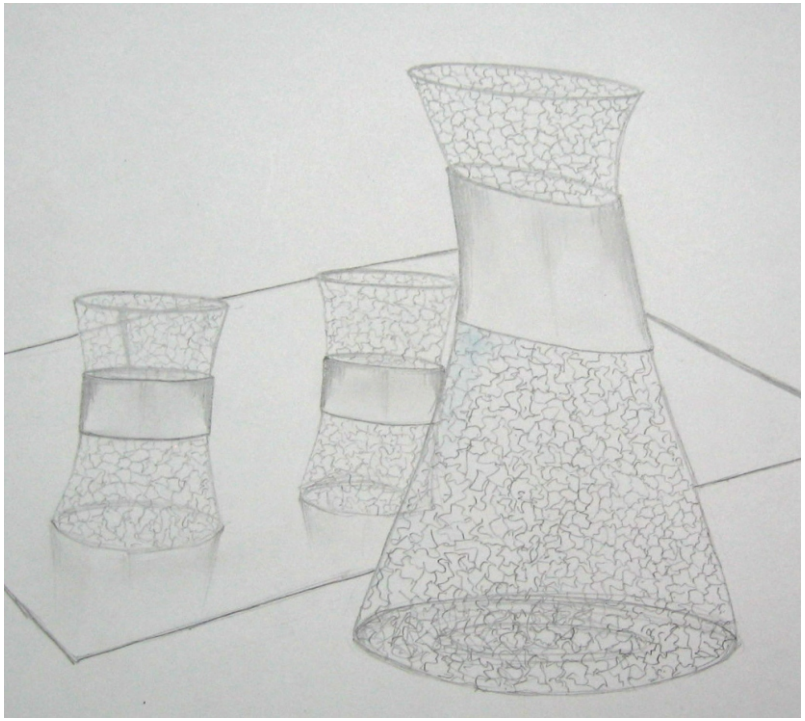
Tableware for festivals- using various motifs and subtle forms that signify a festiva; glass body with blanked steel rims

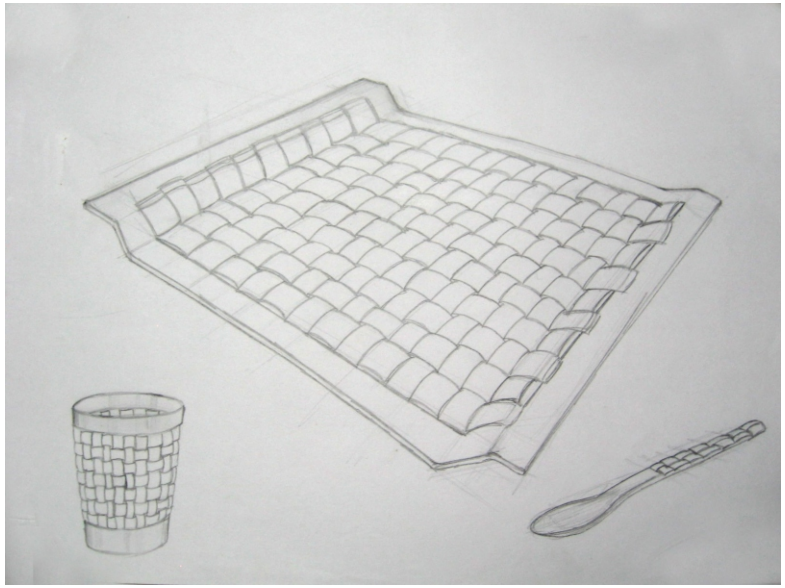


A fruit bowl- the glass bowl is encompassed by a steel structure

5.2 INITIAL IDEATION

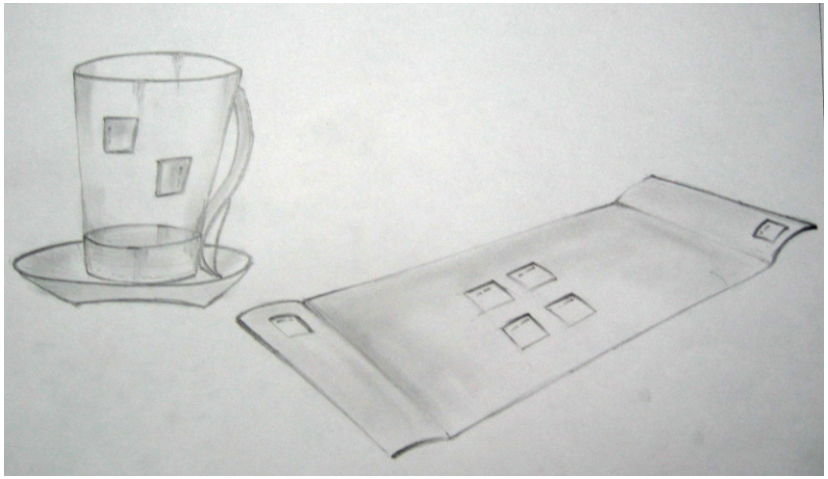
Juice set- combination of cracked glass finish with smooth steel finish



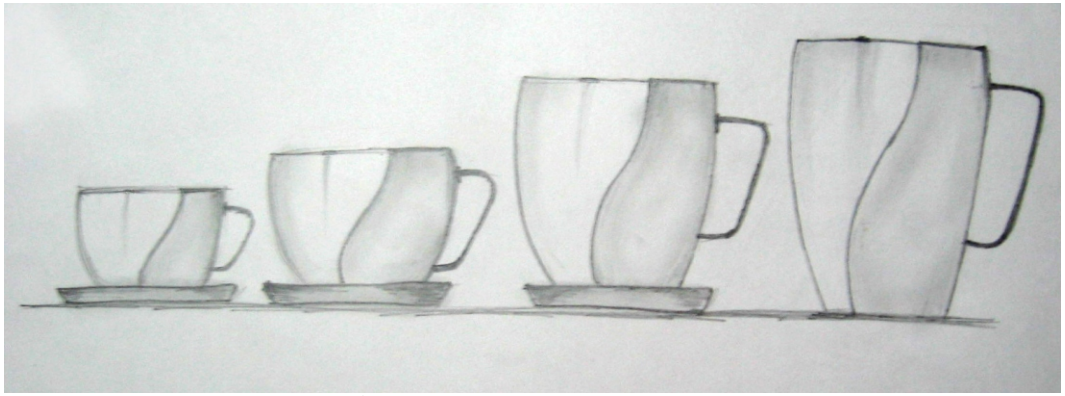


A juice set- using a weaved glass pattern

5.2 INITIAL IDEATION

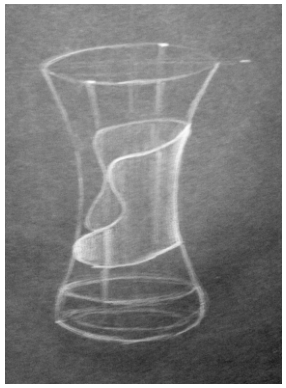


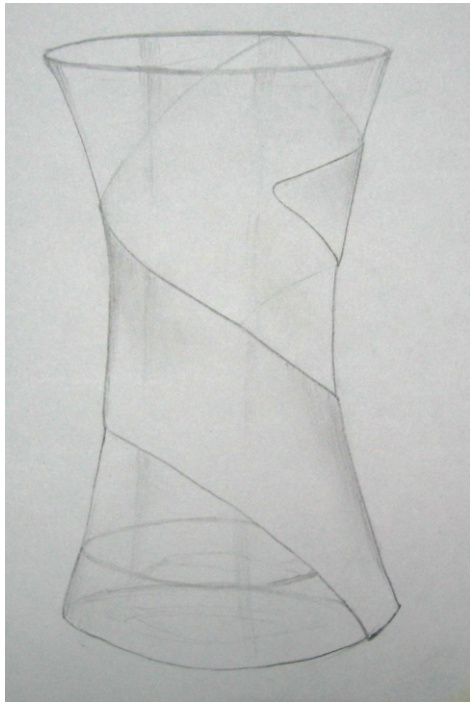
A coffee set- the glass cup has steel imbibed in it and the steel tray has glass inserted in it



A family of coffee cups- a demitasse cup, espresso cup, coffee cup, café latte mug in combination of glass and steel

5.2 INITIAL IDEATION



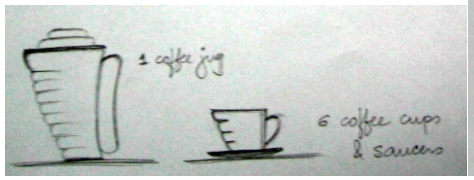


A juice glass- a steel winds around the glass form

A juice glass- a smooth finish stainless steel hand holds the clear glass

5.2 INITIAL IDEATION

A coffee cup- clear glass cup with a steel handle and base



A coffee set- clear glass cup with undulations and a steel saucer;
the saucer holds the cup a little offcenter and has a dent to hold the spoon

6. UNDERSTANDING THE USER AND CONTEXT

6.1 INTRODUCTION

Qualitative responses were collected from a category of people.This category was predefined. A person working in a corporate company as an executive, belonging to the upper middle class, well established, and having a reasonably high-income were the set parameters. A resonably good place to live in, but a non-hedonistic nature was also a criteria. An over indulgent person was definitely not the target.

The process of user study began with a basic set of questions for the user group. After this data was collected a focus area of salad ware was decided to work upon. Further data was collected relevant to the salads and salad ware.

6.2 INTERVIEWS

Some of the questions asked to the corporate executives were as follows:

What is his lifestyle? Preferences, price range, style

Is the office space personalized? How?

What kind of look is preferred? traditional, modern, postmodern etc?

What are the lifestyle things they possess (clocks, pens, show pieces)?

What materials do you attach to executive ness?

If you were given a chance to design tableware for yourself what would it be? And why?

What are his eating habits and schedule?

Do you eat salads regularly? How often and where?

Which salads do you prefer?

In what formdo you eat salads? As raitas/ sliced vegetables during lunch/ in sandwiches/ at times other than lunch/ dinner?

6.2 INTERVIEWS

Minal Iyer
Thane

Profile
28 yrs
Assistant Manager
Married

Summery
Likes to buy quality products
Visits lifestyle stores often
Doesnt need to travel much
Very perticular about her diet
Personlises her space
Eats salads regularly
Brings salad from home
Needs her own tableware
Prefers to eat freshly prepared food/salad
Would like to prepare her own salad

6.2 INTERVIEWS

Varun Chandrashekhar
Powai

Profile
28 yrs
Enterpruener
Single

Summery
Travels across india often
Likes to buy quality products
Has his signature pen
Very perticular about his dressing
Meals are more of junk food
Doesnt eats salads regularly
Picks up nonveg-salads when touring
Health complaints
Prefers to eat freshly prepared salad than from salad bars
Likes food prepared at home

6.2 INTERVIEWS

Ranjana Sardesai
Pune

Profile
37 yrs
resource executive
Married

Summery
Mostly desk job
Likes to buy quality products
Meals are consciously made healthy
Health complaints have started coming up
Prefers to eat freshly prepared salad than from salad bars
Eats salads regularly
Brings cut/uncut salads from home

6.2 INTERVIEWS

Conclusions

Office space was personalized as per individual taste

A high level of design and quality consciousness was seen through the choicest products placed around them

Cost was not a criteria while buying as long as quality of the product is exemplary

Most of the executives were health conscious and stressed on regular intake of fresh vegetables and fruits

Meals would be skipped often

A need for personal tableware for salad was identified

Preferences of various dressing or seasoning changed with users taste

Many users would cut their own salads whereas some would get it prepared by the pantry staff

This was found to be dependant on the rank of the executive and industry they are involved in

6.2 INTERVIEWS- DECIDING THE FOCUS AREA

Todays corporate firms as well as the executives are becoming aware of the importance of healthy living. Thus eating salads has slowly become a part of the lifestyle. Though a contemporary tableware is not easily found for catering to this need. The knowledge gathered about product categorization helped in deciding the salad ware. Salad ware for corporate executives was identified as a unique opportunity for design.

Some words were tossed by the users when talking about saladware for excutives

6.3 ABOUT SALADS

"Salad is a term applied broadly to many food preparations that are a mixture of chopped or sliced, generally raw, ingredients."

The corporate executives are becoming much more health conscious than before. With lifestyle related diseases like cardiac diseases, obesity etc on rise, this change is not a big surprise. The tendency of picking up junk food is slowly reducing, instead a preference for fresh healthy food is increasing.

World Health Organization has started a 'Fruit Vegetable Initiative' as a full fledged project. According to their recommendation a person should consume minimum of five portions of fruit and vegetable per day. Portion is defined in the section 6.5 with the details about salad.

6.3 ABOUT SALADS

In restaurants salads are served in a very creative way. The salad in itself is a very pleasant looking dish with fresh colours pleasing ones eye. The preparations are further decorated with black pepper discs, or lettuce leaves on sides, or decorations with the help of dressings.

Sometimes the salads are served in interesting 'natural' containers (as seen in the adjacent photo) like some vegetable or tortilla shell etc.

6.3 ABOUT SALADS






The constituents of salad :

Lettuce , onions, carrots, tomato, golden corn,baby corn, bell peppers, spinach, mushrooms, radish, red cauliflower, spring onion, cherry tomatoes etc make the main ingredients of any salad

Olives, garlic, ginger, cooked potatoes, beans, croutons, pasta, cheese, beet root, pineapple, apple, banana, egg, sprouts, chicken, bacon bits, tuna, shrimp, ham etc are sometimes added in smaller amounts.

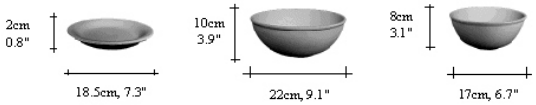
Mayonnaise, Italian dressing, thousand island dressing, Russian dressing, olive oil, vinegar, salt pepper, herbs etc are used as seasonings or dressings to add taste. The preferences change from place to place.

6.3 ABOUT SALADS

The constituents of a salad set :

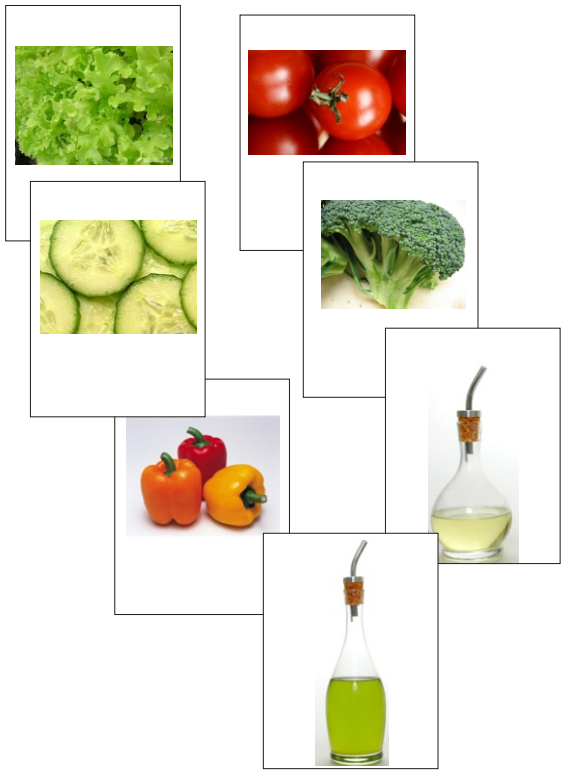
Salad mixing bowl
Salad servers- fork and spoon
Salad bowls/plates
Knifes and forks
Cutting board
Knife to cut
Seasonings like salt, pepper, herbs etc
Dressings like Vinegar, Olive oil, Cesar dressing etc

Salad plate



Salad bowl large and small

6.4 CARD SORTING



Card Sorting About Salads

Users were given cards having pictures or names of different ingredients in a salad. They were asked to sort the cards into 'should be in salad', 'may be in the salad' and 'may not be in the salad' catagories. Thus determining the user perception of which vegetable or seasoning do they identify with and would be neccessary to be added in the design of salad set.

Conclusion:

The following were perceived as the most important ingredients in a salad

Cucumber, tomato, lettuce, bell peppers, onions, carrots, spinach, radish, red cauliflower, spring onion, cherry tomatoes, Olives, garlic, beans, beet root, pineapple, egg, sprouts, chicken, Mayonnaise, thousand island/cesar dressing, yogurt, olive oil, vinegar, salt-pepper, herbs.

Though a set of preferences changes from person to person.

6.4 CARD SORTING

Card Sorting About Salad Set

Users were given cards having pictures or names of different tableware products required for salad making. To understand what people percieve as a personal salad set, they were asked to sort cards into 'should be included in the set', 'may be included' and 'may not be included'.

Conclusion:

The following were perceived as the most important tableware in a personal salad set:
Cutting board, utility knife, salad fork, salad spoon, large salad bowl, salt-pepper, a herb bottle, spoonable dressing- mayonnaise based, pourable dressings- oil and vinegar.

6.5 PROCESS STUDY

Salads are available in market in different forms. They are available in regular markets stacked in open, or in supermarkets where handpicked ones are stored in bags or containers, sliced vegetables are also available.

The salads need to be washed well before using. They should be eaten within 3-4 hrs of cutting them as they tend to lose their nutrients after that and may degenerate.

According to the World Health Organization indicative each individual should consume at least five portions of fruits and vegetables per day. The definition of portion varies with each vegetable.

6.5 PROCESS STUDY

Definiton of single portion as given by W.H.O:

Beansprouts : fresh 2 handfuls

Beetroot : bottled 3 'baby' whole, or 7 slices

Broccoli : 2 spears

Brussel sprouts : 8 Brussel sprouts

Cabbage : 1/6th small cabbage or 2 handfuls sliced
Cabbage : shredded 3 heaped tablespoons

Carrots : canned 3 heaped tablespoons
Carrots : fresh slices 3 heaped tablespoons
Carrots : shredded 1/3 cereal bowl

Cauliflower : 8 florets

Celery : 3 sticks

Cucumber : 2-inch piece

Karela : Half a karela

Lentils : 3 tablespoons

Lettuce (mixed leaves) : 1 cereal bowl

Radish : 10 radishes

6.5 PROCESS STUDY

Mushrooms : button 14 button or 3 handfuls of slices, 3-4 heaped tablespoons
Mushrooms : dried 2 tablespoons or handful porcini

Okra : 16 medium

Onion : dried 1 heaped tablespoon
Onion : fresh 1 medium onion

Peas : canned 3 heaped tablespoons
Peas : fresh 3 heaped tablespoons
Peas : frozen 3 heaped tablespoons

Pepper : canned Half a pepper
Pepper : fresh Half a pepper

Spinach : cooked 2 heaped tablespoons
Spinach : fresh 1 cereal bowl

Spring greens : cooked 4 heaped tablespoons
Spring onion : 8 onions

Sweetcorn : baby 6 baby corn
Sweetcorn : canned 3 heaped tablespoons
Sweetcorn : on the cob 1 cob

Tomato : puree 1 heaped tablespoon
Tomato : canned plum 2 whole
Tomato : fresh 1 medium, or 7 cherry
Tomato : sundried 4 pieces

6.5 PROCESS STUDY

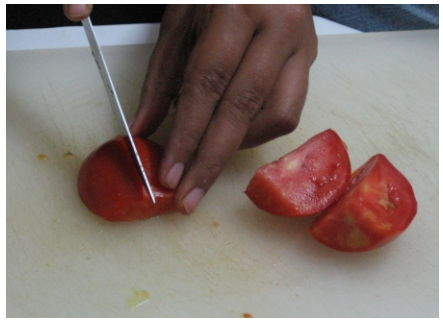
Various vegetables were cut to understand the process of making a salad

* Cucumber : needs peeler, becomes juicy after adding salt, is used in the sliced/diced/chopped forms

* Lettuce : needs through cleaning and sorting of leaves, cut in a bunch, generally chopped when used in salad, whole leaf is used for decoration of salad

* Carrot : needs sturdy knife, hard to cut, generally made into long thin pieces.

6.5 PROCESS STUDY

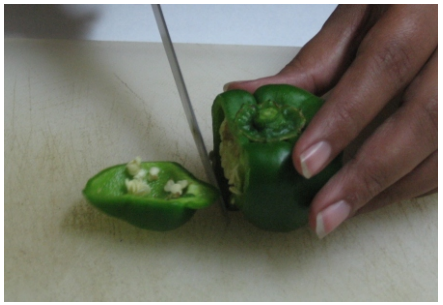


* tomatoes: needs sharp knife, messy while cutting as it is juicy, used in chopped form generally

* pineapple: messy while cutting as it is juicy, used in chopped form, the inner portion is generally not used in salad, slices are used for decorating the salad

* spring onion: the spring green is used in the salad in a chopped form,onions may be diced or chopped, slices may be used for decoration of salads, a bit difficult to cut due to their slippery fibrous nature, need a sharp smooth knife for cutting

6.5 PROCESS STUDY

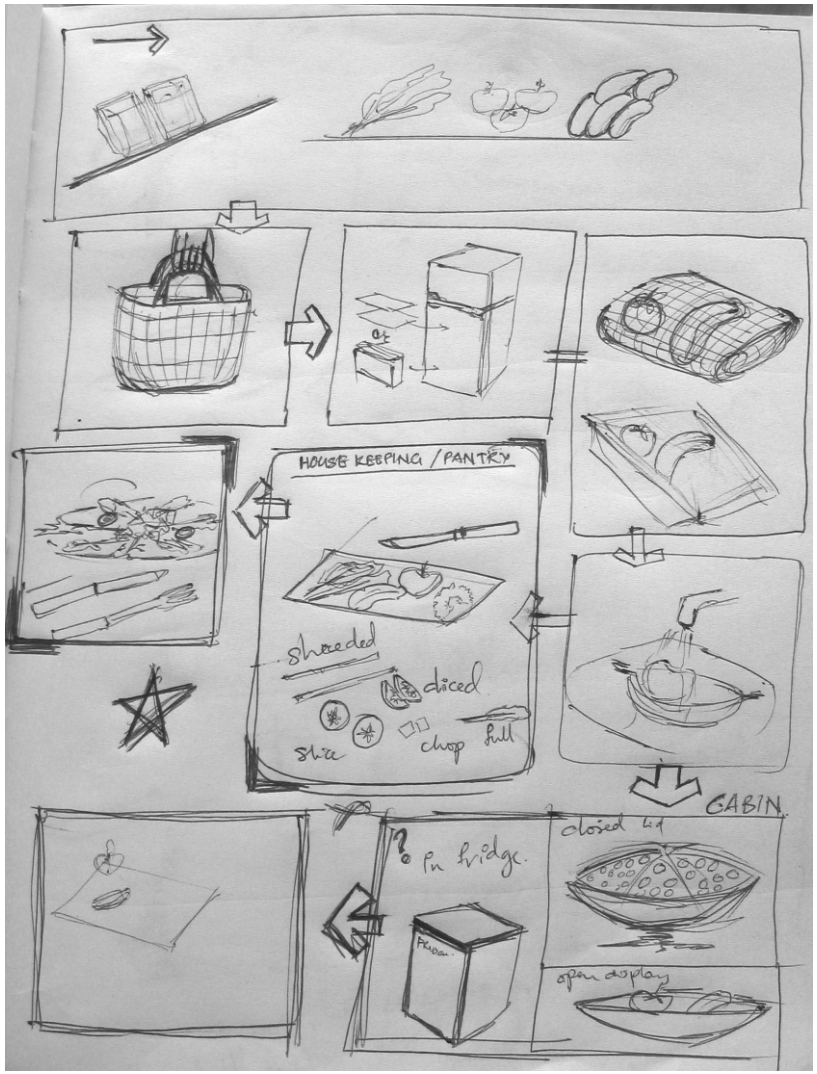


* capsicum: messy while cutting due to seeds, used in chopped form in the salads or as rings for decoration.

All the vegetables are put into a mixing bowl as they are cut one after another. Seasonings like salt pepper and some herbs like oregano etc are added to it and the the salad is tossed lightly with the salad servers. Decoration could be done with small cherry tomatoes or lettuce leaves. Dressing as

The salad is ready to eat!

6.5 PROCESS STUDY



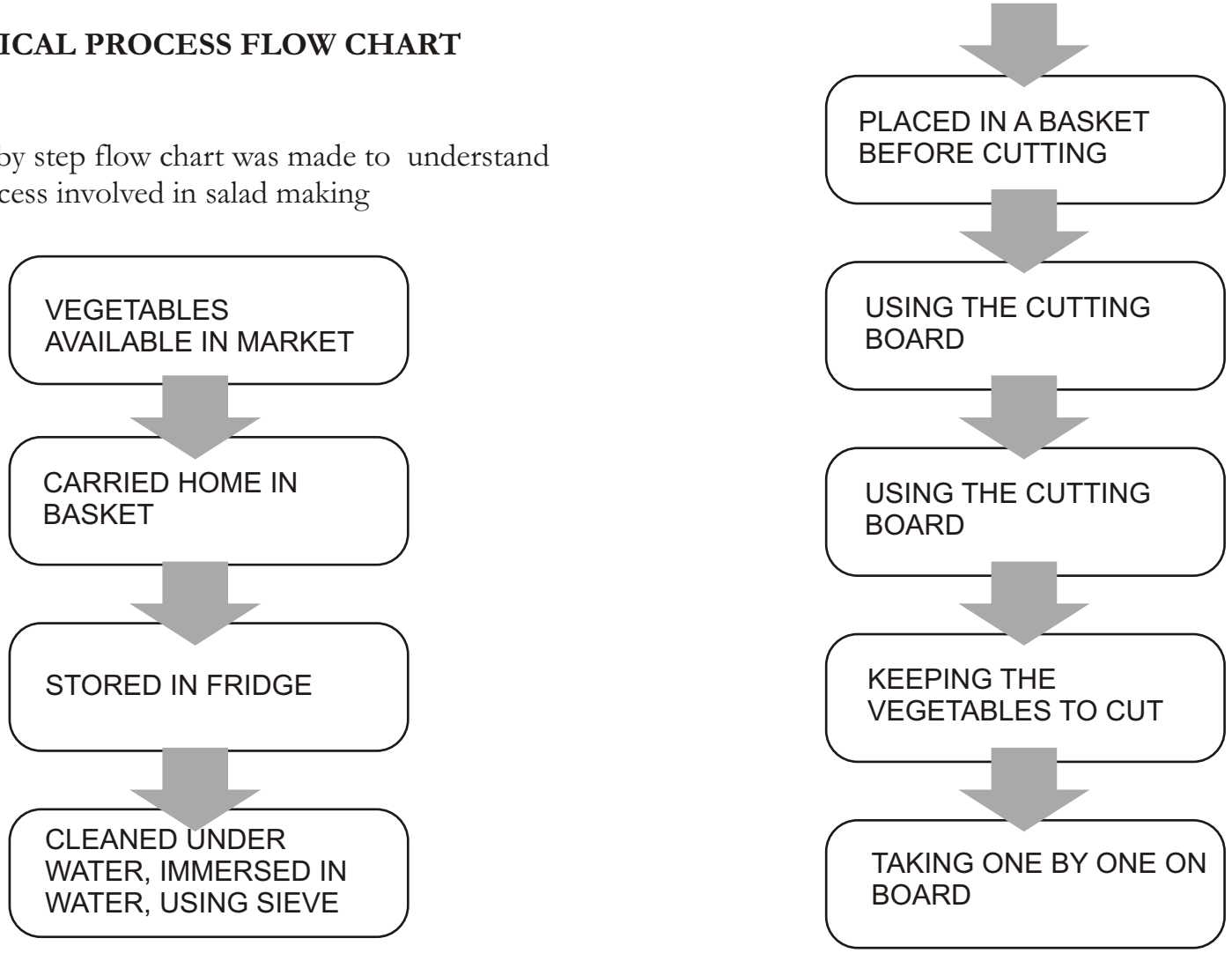
A typical activity scenario

Understanding the process flow gives a great insight into designing utilitarian aspects of the product.

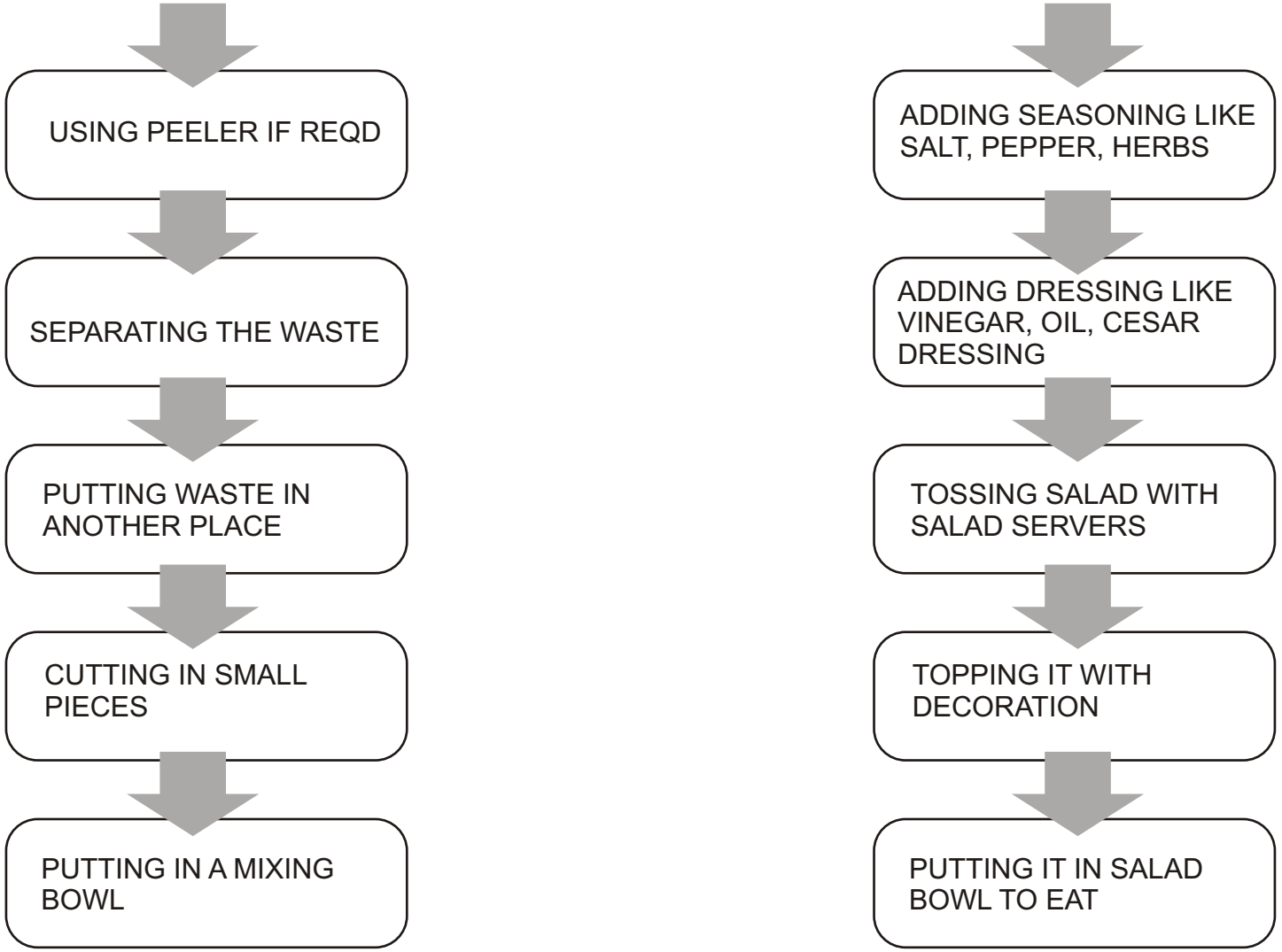
6.5 PROCESS STUDY

A TYPICAL PROCESS FLOW CHART

A step by step flow chart was made to understand the process involved in salad making



6.5 PROCESS STUDY



7. PRODUCT BRIEF

7.1 PRODUCT BRIEF

According to results found from the study done the initial product brief was modulated. The final product brief is as follows:

A need was seen for exclusive tableware for the executives for their personal use.

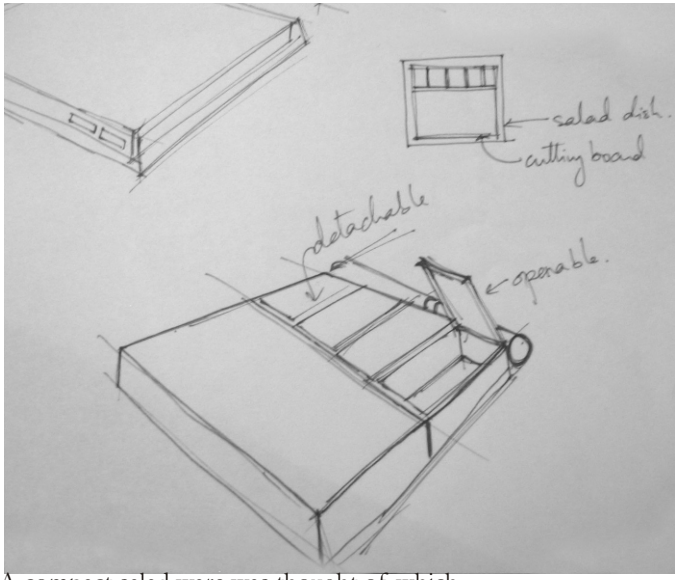
The product should cater to their health needs.

The product should be high on the element of display and satifying the utilitarian aspect of design.

Tableware for fruit, snacks, coffee, juice or salad were thought of initially. A need for a saladware set was identified which would look contemporary and would fit into the ambiance of a executive cabin.

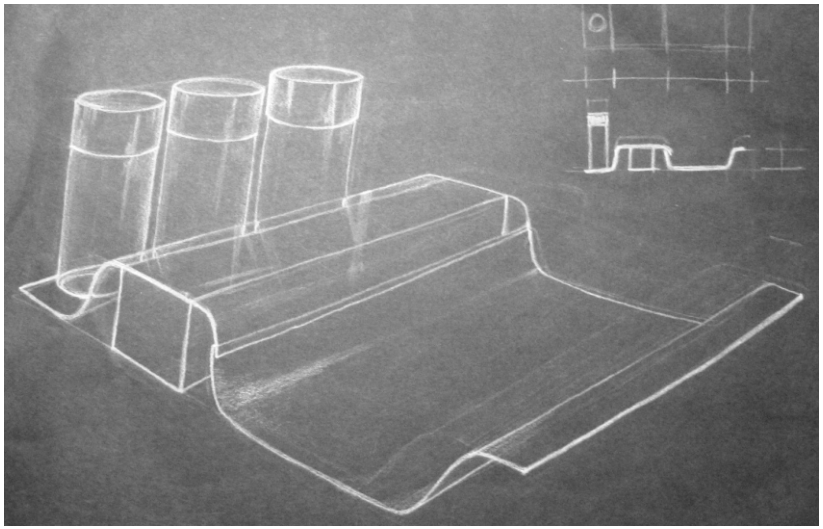
7.2 IDEATION

Ideation for salad ware targeting the corporate executives.



A compact salad ware was thought of which would have clean minimalistic look

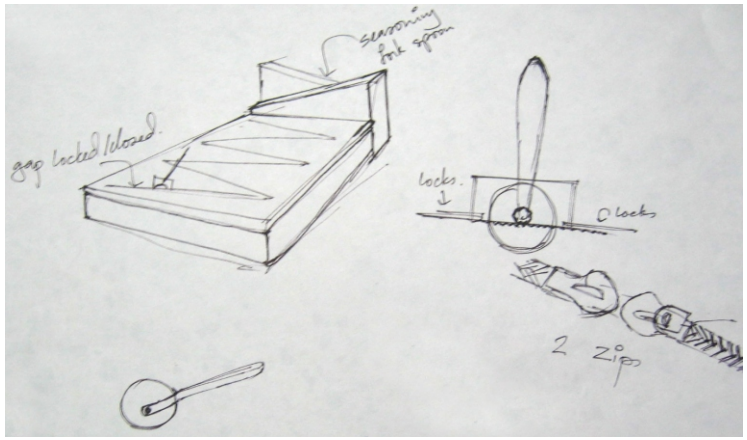
A simple form of salad plate with condiments on one side

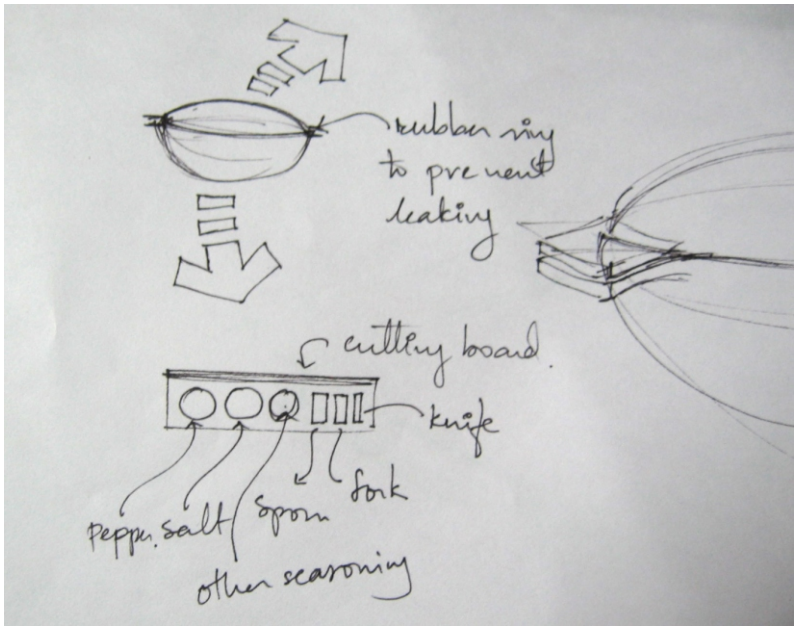


7.2 IDEATION

Ideation for salad ware targeting the corporate executives...

Mechanical cutting techno-savy concept





Salad to be tossed in the bowl by shaking, the bowl and preparation set are different componets

8. CONCEPT GENERATION

8.1 INTRODUCTION

After the ideation stage a few physical parameters were finalised. This included the pieces that would come in the set. The optimum sizes of the pieces and the tableware as a whole. Concepts were built upon the various ideas generated during ideation.

After finalizing on the salad set, the components that would be included in the set were decided.

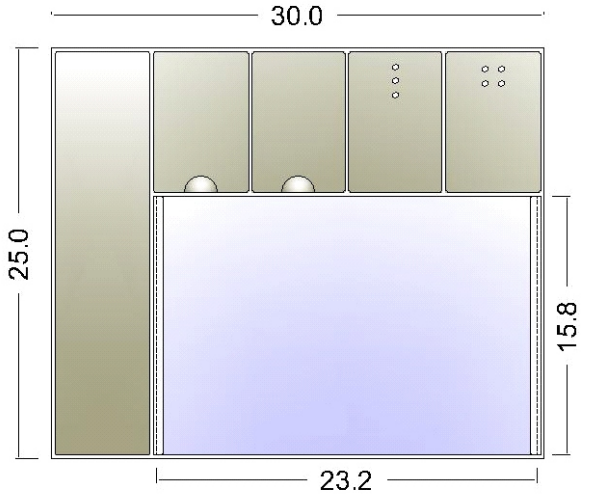
The salad set should contain

Fork ~ 18 cm – 1 no.
Spoon ~ 18cm – 1 no.
Cutting Knife ~ 18 cm – 1no.
Cutting Platform~ (depending on design not less that 17-18cm) – 1 no.
Salad Plate ~ (dimensions depend on design; sufficient to hold 1 serving) – 1 no.
Salt Shaker ~ (standard quantity) – 1 no.
Pepper Shaker ~ (standard quantity) – 1 no.
Herb Shaker – 1 no.
Salad dressing- 1 no.

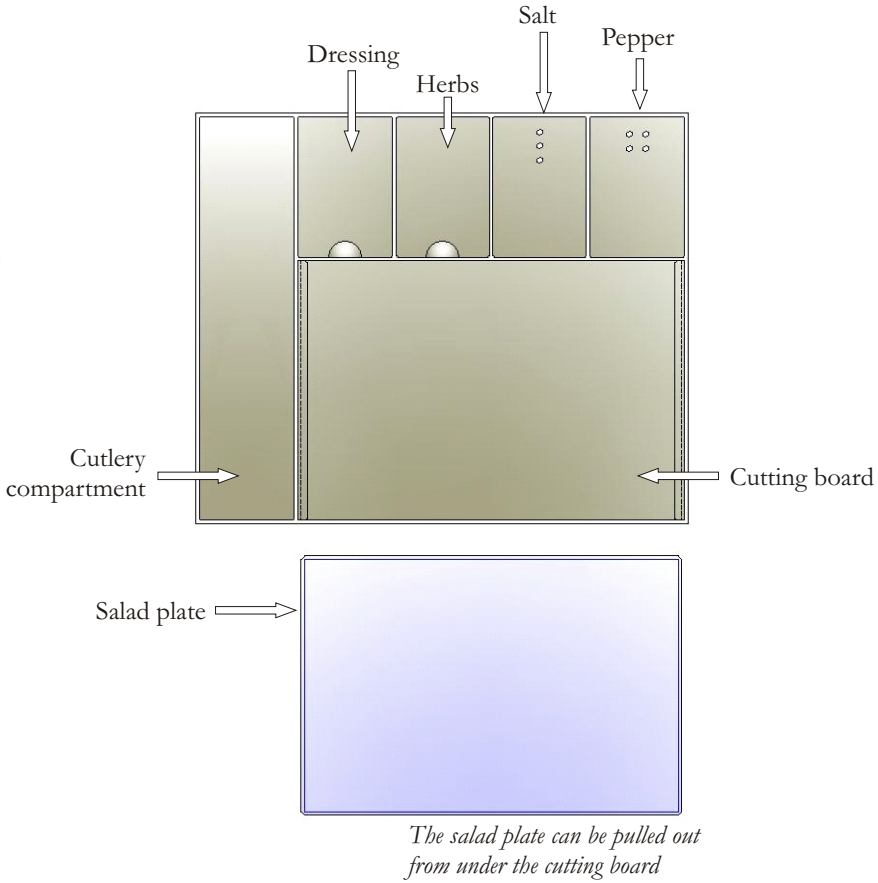
8.1 CONCEPT ONE

This concept tried to make a compact salad set. The clean lines and geometry, together with the combination of brushed steel and glass, gives it an elegant look.

Side Elevation



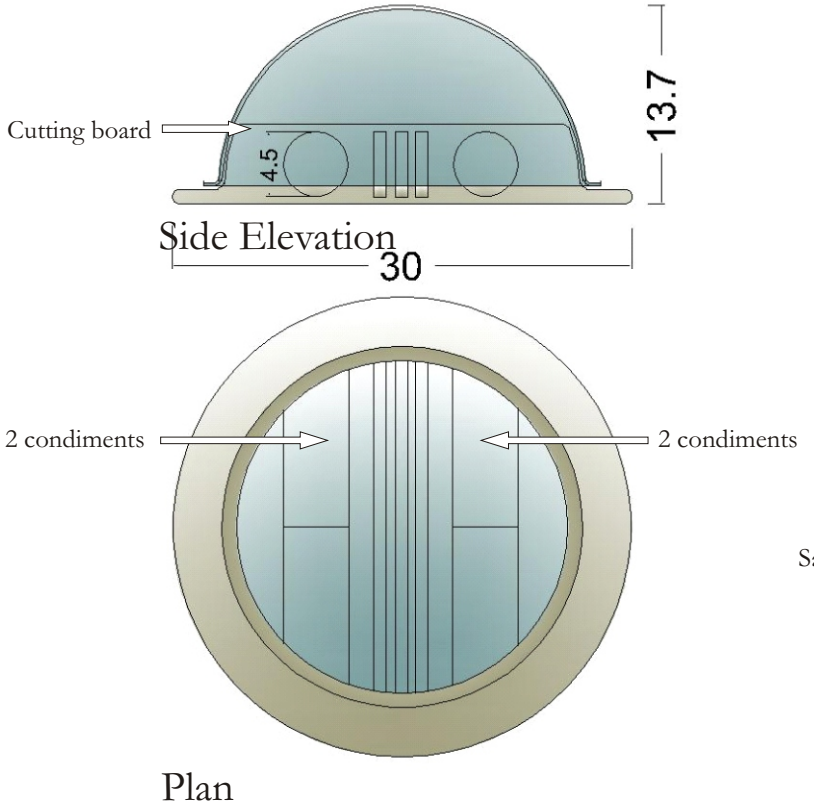
Plan

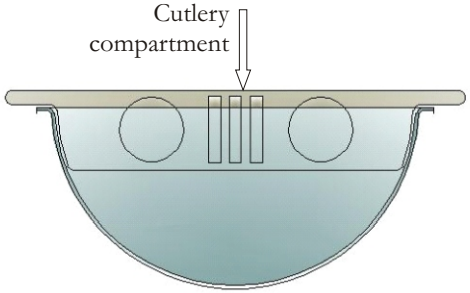


The salad plate can be pulled out from under the cutting board

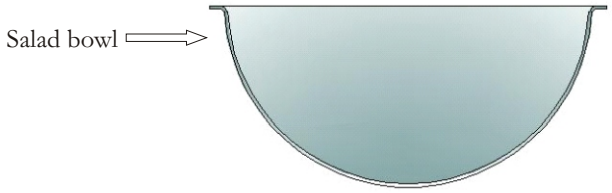
8.3 CONCEPT TWO

This concept comes up front with its form; the salad bowl captures ones attention. The preparation set could be detached from the bowl, and may be used separately if required. The preparation set contains dressings and cultlery required.



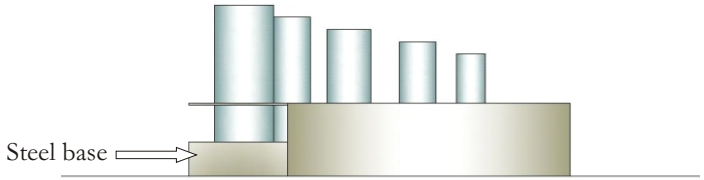


The set is inverted to transfer the salad into the salad bowl

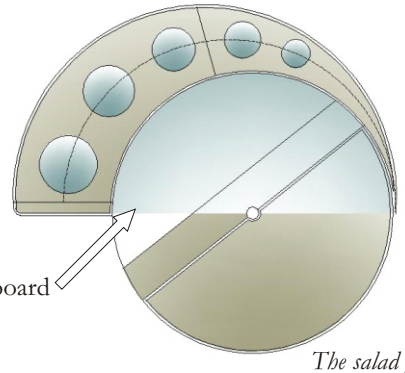


8.4 CONCEPT THREE

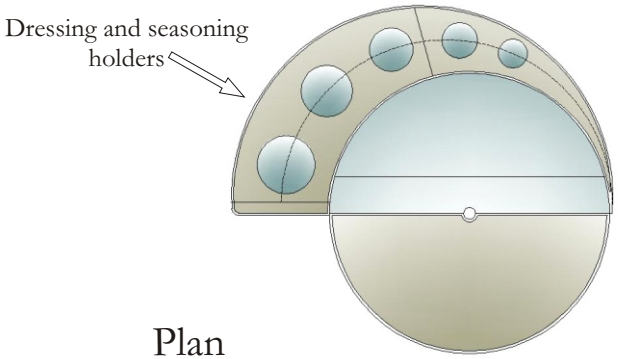
This concept shows off the various salad set ingredients using the glass. The preparation set and eating set even after detached, retain their own personas.



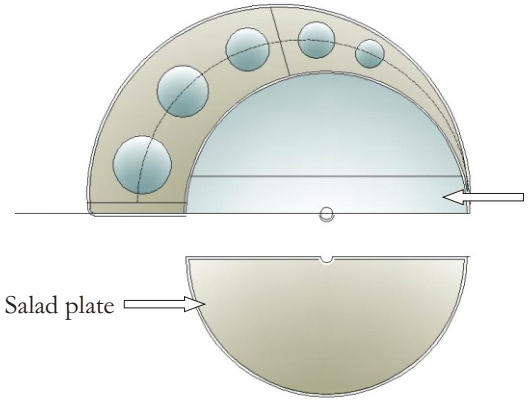
Side Elevation



The salad plate is normally under the cutting board and is rotated to bring it out

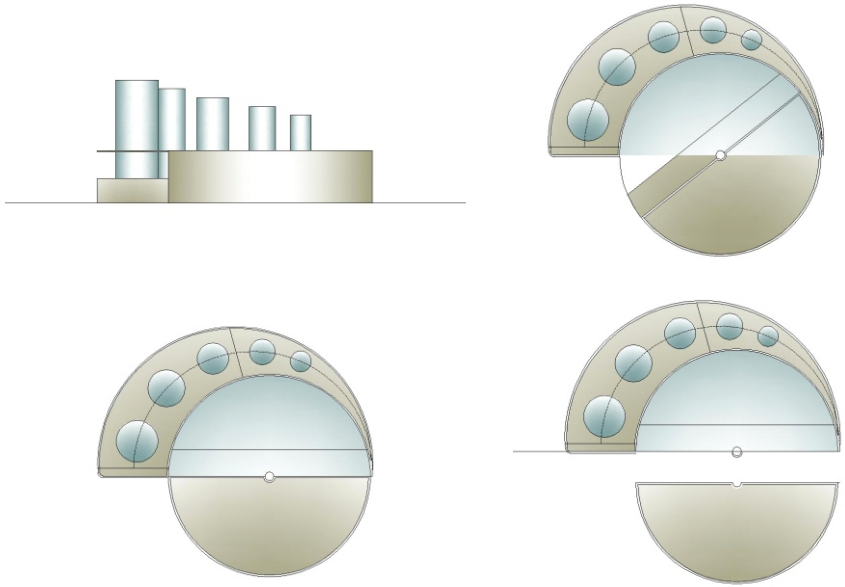


Plan



9. FINAL CONCEPT

FINAL CONCEPT



Concept three was chosen to be developed further as the final product.

The set would be so detailed that the preparation set and the eating set are detachable.

Ideas from other concepts may be borrowed in order to achieve the perfect balance of utility and aesthetic appeal.

Combination of glass and steel would be the point of focus, together with good workability of the salad set.

9.3 Further Work

Form alterations will be made to reach a proportion which suits both glass and steel.

Details will be finalised keeping in mind the aesthetic and utilitarian factors.

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'Design In Steel' -Mel Byars

'Alessi- The Design Factory' - 2nd Edition

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WEBSITES :

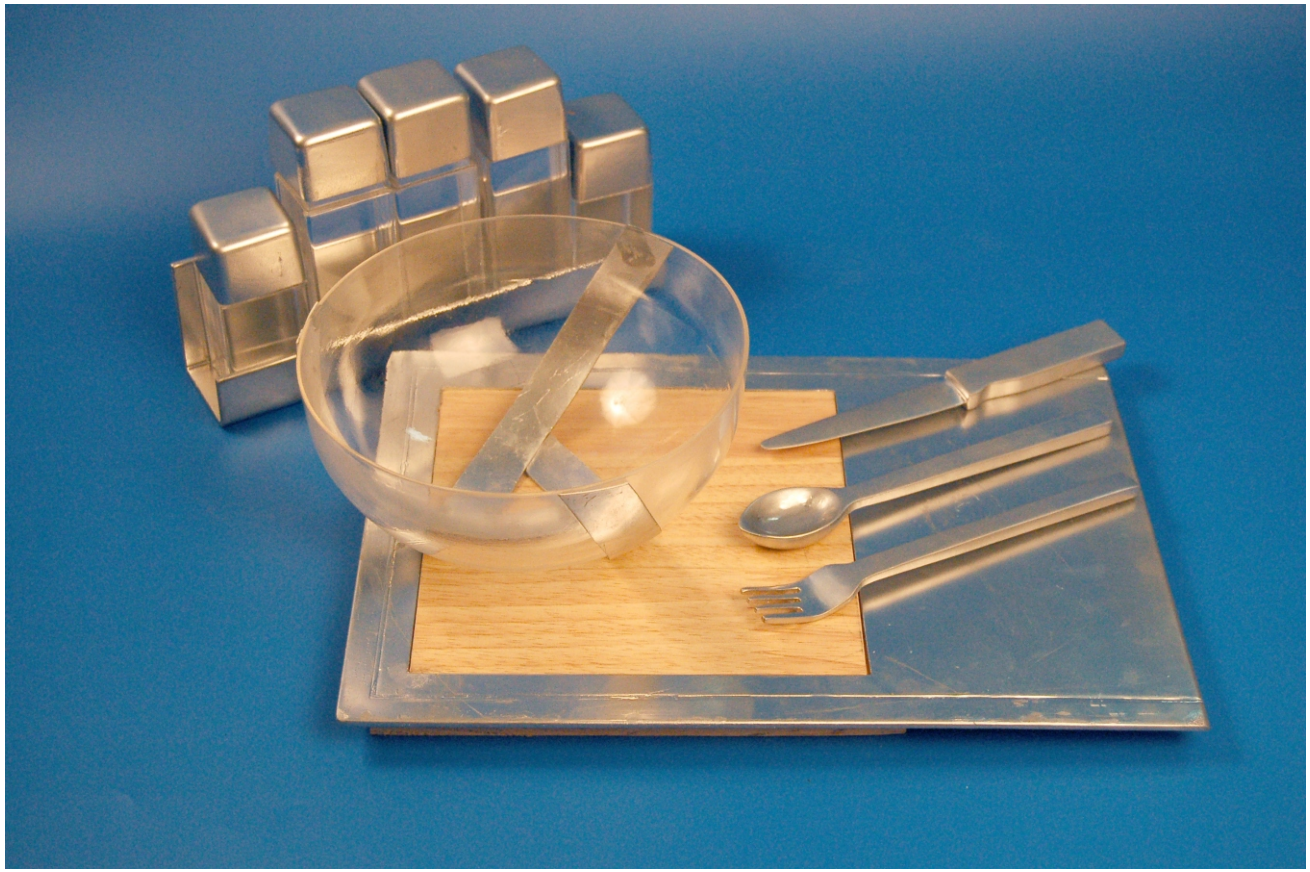
www.glassontheweb.com

www.warmglass.com

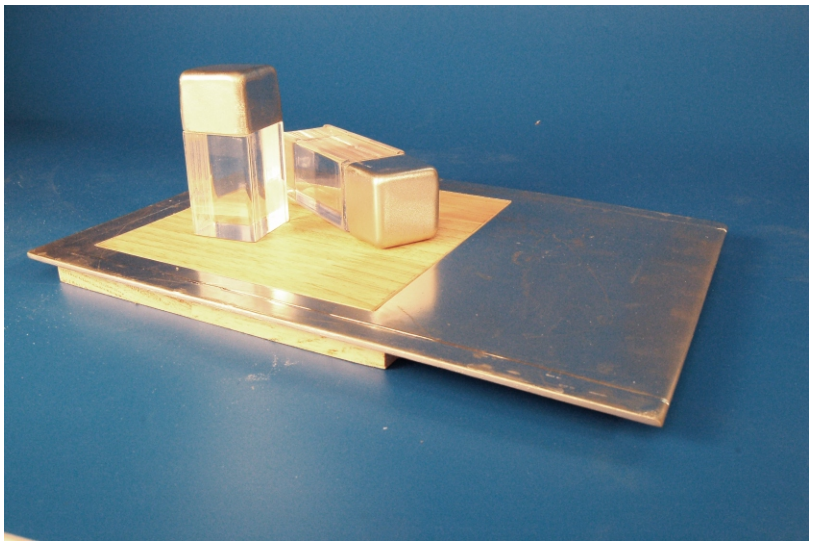
En.wikipedia.org

9.3 Final Product

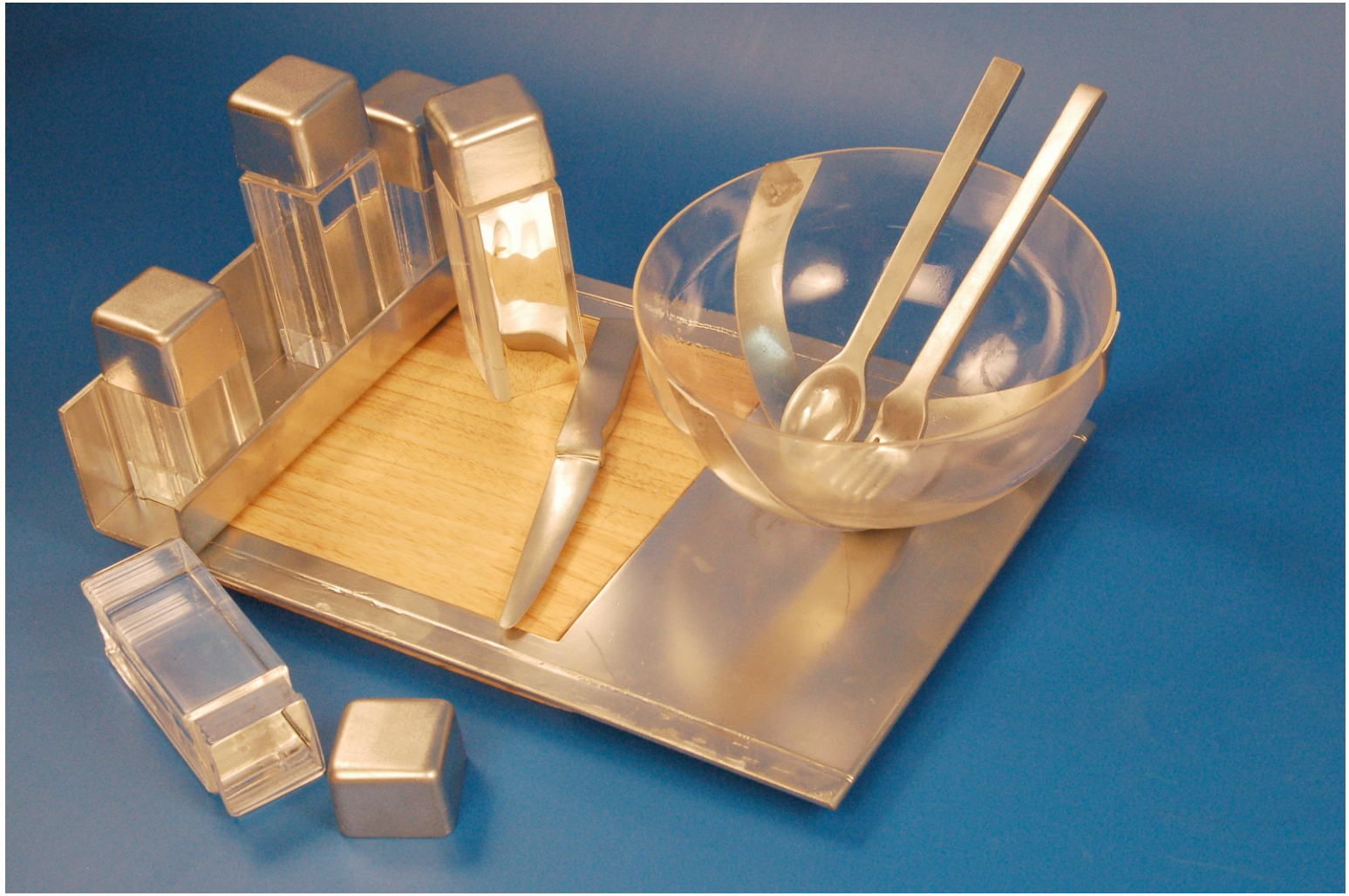
The final product has the following components
1. Salad bowl
2. Cutting board
3. Condiment bottles and rack
4. Cutlery with box



9.3 Final Product



9.3 Final Product



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End of project 2 report