



### Colour

AFTER MY RESEARCH, I DECIDED TO GO WITH THE COLOURS 'PINK' AND 'WHITE'. I THINK THAT TWO COLOURS WORK WELL TOGETHER. THIS MEANS IT LOOKS AESTHETICALLY APPEALING. IT WILL ENGAGE USERS AND IT LOOKS PLAYFUL. PINK AND WHITE WORK WELL TOGETHER AS IT STILL INCORPORATES 'BLOBISM'.



### Material

MY FINAL DESIGN WILL BE MADE OUT OF 'HEAT RESISTANT NYLON'. AFTER RESEARCHING VARIOUS MATERIALS THIS WAS BETTER THAN THE REST. IT IS BETTER THAN STAINLESS STEEL BECAUSE NYLON IS LIGHT IN WEIGHT WHEREAS METAL IS HEAVY. IT IS FAIRLY DURABLE COMPARED TO 'SILICON'. NYLON IS ALSO EASY MAINTENANCE THEREFORE IT IS EASY TO CLEAN THE MATERIAL. ALTHOUGH THE MATERIALS ARE MADE FROM CHEMICALS, THE BENEFIT OUTWEIGH THE NEGATIVES.

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### Human Factors

AFTER TESTING DIFFERENT MEASUREMENTS TO ENSURE MY WHISK IS FUNCTIONABLE I FOUND THE RIGHT MEASUREMENTS. THESE MEASUREMENTS ARE: LENGTH: 160MM MAX DIAMETER: 36MM. THESE MEASUREMENTS ENSURE IT FITS THE POPULATION. DUE TO VARIATIONS OF BODY SIZES, SHAPE & DIFFERENT RACE BACKGROUNDS, THE 'AVERAGE' MEASUREMENTS IS NEEDED. I ALSO USED DATA FROM THE 5th PERCENTILE AS I NEEDED TO CONSIDER THE SMALLEST POPULATION TO ENSURE THEY CAN USE MY WHISK. I THINK THAT HUMAN FACTORS ARE MORE IMPORTANT TO CONSIDER BECAUSE MY MAIN PURPOSE OF THE WHISK IS TO BE FUNCTIONABLE AND USER FRIENDLY.

IT WON'T MATTER TOO MUCH ABOUT THE WAY IT LOOKS BECAUSE SOME EVERYDAY UTENSILS AREN'T VISUALLY APPEALING BUT THEY ARE FIT FOR PURPOSE. COMFORTABILITY & SIZING IS ALSO IMPORTANT BECAUSE IN ORDER FOR SOMEONE TO BE ABLE TO USE A UTENSIL IT MUST BE THE RIGHT SIZE AND IT MUST NOT BE DANGEROUS SO INAPPROPRIATE MATERIALS & SHAPES NEED TO BE TAKEN INTO ACCOUNT.

# Comfortability and incorporating design movement "Blobism"

## Features of Blobism:

- ROUND & CURVED EDGES.
- TWO CONTRASTING COLOURS THAT WORK WELL. GIVE THE DESIGN MORE VISUAL INTEREST. ENGAGE THE AUDIENCE MORE.
- SHAPE OF UTENSIL IS QUITE FLOWING.
- NICE BLUE, GREEN COLOURS.
- INTERESTING SHAPE FORM. MAKES THE DESIGN MORE VISUALLY APPEALING.
- BRIGHT COLOUR TO ENGAGE PEOPLE.
- CURVE EDGES.
- TWO CONTRASTING COLOURS.
- TWO CONTRASTING COLOURS THAT WORK WELL TOGETHER.
- BRIGHT COLOURS MEANS THE OBJECT CAN BE MORE PLAYFUL & ENGAGING.
- LOTS OF CURVE & BENDING SHAPES THAT ALLOWS THE DESIGN TO BE QUITE PLAYFUL & ENGAGING.

## Materials:

**SILICON/PLASTIC:**  
 THIS WHISK IS MADE FROM SILICON. THE PROS ABOUT THIS MATERIAL ARE: LIGHT WEIGHT, INEXPENSIVE, DOES NOT CONDUCT ELECTRICITY. THE CONS ARE: NOT DURABLE FOR LONG PERIODS OF USE, COULD MELT IF PLACED ON HOT SURFACES NOT STRONG ENOUGH TO WHISK THINGS E.G. CAKE MIX. THIS MATERIAL IS USER FRIENDLY AS IT IS LIGHT WEIGHT SO IT WON'T REQUIRE A LOT OF FORCE TO USE, THEREFORE IT WON'T PUT MUCH STRAIN ON THE USER'S HAND.

**LIGHT WEIGHT CERAMIC:**  
 THIS UTENSIL IS MADE FROM LIGHT WEIGHT CERAMIC. THE PROS ABOUT THIS MATERIAL ARE: LIGHT WEIGHT, THIS MAKES IT EASY TO CARRY & USE. LOW MAINTENANCE = EASY TO CLEAN. THE CONS: CAN BE EXPENSIVE. THIS CAN MAKE THE OVERALL PRICE OF THE UTENSIL QUITE PRICEY.

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**STAINLESS STEEL:**  
 PROS: EASIER MAINTENANCE, THIS MEANS IT'S EASIER TO CLEAN. MATERIAL IS DURABLE. THIS MEANS IT WILL LAST FOR LONG PERIODS OF TIME. CONS: CAN CONDUCT HEAT THIS MEANS THE HANDLE WILL GET WARM DUE TO BODY HEAT. METAL CAN BE QUITE EXPENSIVE SO PRICE OF THE WHISK WOULD BE PRICEY. THE WHISK IS NOT LIGHT WEIGHT SO THIS COULD PUT PRESSURE ON THE USER'S HAND & WAIST.

## Incorporating 'Blobism' Into design

### Materials:

HEAT RESISTANT NYLON: THE PROS ABOUT THIS MATERIAL IS THAT NYLON IS A FAIRLY INEXPENSIVE MATERIAL BECAUSE IT CAN BE MADE CHEAPLY WITHOUT SPENDING TOO MUCH MONEY. IT IS HEAT RESISTANT, THIS MEANS IT CAN STAND TO TEMPERATURES OF 250. NYLON WILL NOT SCRATCH THE SURFACE OF THINGS UNLIKE METAL OR SHARP WOODEN UTENSILS. THE MATERIAL IS ALSO DURABLE SO IT IS ABLE TO BE USED FOR LONG PERIODS OF TIME. THE CONS ABOUT THIS MATERIAL ARE: STICK RESISTANT THAN ANY OTHER MATERIAL. DUE TO CHEMICALS THAT IS FOUND IN NYLON, SOME MAY BE FOUND IN PLASTICS THAT IS USED AS UTENSILS. NYLON UTENSILS DRAIN FASTER COMPARED TO STAINLESS STEEL.

### Colours:

FROM MY RESEARCH OF BLOBISM, I FOUND OUT THAT THE COLOURS MAINLY USED IN THE EXISTING DESIGNS WERE BRIGHT COLOURS E.G. YELLOW, PINK, GREEN AND BLUE. THESE COLOURS HELP TO ENHANCE THE AESTHETICS OF THE DESIGN TO MAKE IT MORE PLAYFUL AND ENGAGING. I PLAYED AROUND WITH SEVERAL COLOUR COMBINATIONS & COLOURS BUT BY THE END I FOUND OUT THAT TWO COLOURS WORK QUITE WELL E.G. RED & GREEN. THIS IS BECAUSE IT MAKES THE DESIGN MORE PLAYFUL, ENGAGING, WHEREAS IF THE DESIGN HAD ONLY 1 COLOUR E.G. ALL GREEN, IT LOOKS QUITE SIMPLE BUT IT IS NOT ENGAGING. FROM SURVEYING A RANGE OF PEOPLE, THEY THOUGHT THAT TWO COMBINATIONS OF COLOURS WAS ALSO BEST. I THINK THAT FOR MY FINAL DESIGN I WILL INCORPORATE TWO COLOURS BECAUSE THAT WAY IT WILL BECOME MORE AESTHETICALLY APPEALING AND ALSO ENGAGING. THIS WILL MAKE THE USER ENJOY USING THE WHISK & ATTRACT MORE PEOPLE.

POSSIBLE COLOURS: PINK & GREEN. PINK WOULD WORK QUITE WELL BECAUSE IT IS BRIGHT & ENGAGING. IT WOULD APPEAL TO MORE USERS & LOOKS QUITE NEAT FOR A UTENSIL. THE COLOUR PINK WORKS WELL WITH BLOBISM TOO.

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### Kitchen Utensil Feedback

The utensil is comfortable and easy to hold

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree

The utensil is comfortable to use.

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree

The utensil is a good size for my hand to hold.

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree

I am able to get a good grip on my utensil.

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree

The utensil's shape and form is visually appealing

Strongly Agree  Agree  Neutral  Disagree  Strongly Disagree

Any other comments:



“SIMPLE HANDLE DESIGN  
SHAPE OF HANDLE ALLOWS GRIP ONTO IT EASILY”

TOO LONG, SHOULD REDUCE LENGTH OF HANDLE BY 1-2 CM.

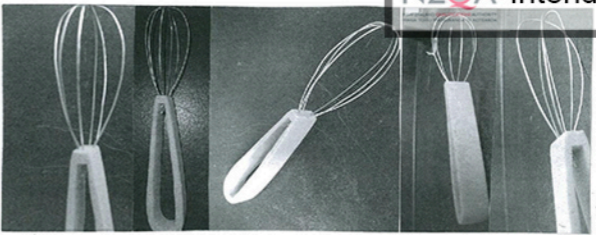
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“NICELY ROUNDED HANDLE FOR A FIRM GRIP  
EACH SECTION OF WIRE BY ITSELF C THIS MAKES CLEANING EASY  
U SHAPE ALSO WORKS WELL WITH THE ROUND HANDLE FOR GOOD GRIP  
THERE ARE GAPS BETWEEN EACH LIT E SECTION, THIS MEANS THAT THE FOAM MIXTURE COULD GET TRAPPED IN BETWEEN.



WIDTH:  
FROM LOOKING AT ANTHROPOMETRIC DATA, THE WIDTH OF THE HANDLE SHOULD BE AT LEAST 38MM, CONSIDERING THE 5<sup>TH</sup> PERCENTILE SO IT IS ABLE TO FIT THE SMALLEST POPULATION.  
FIFTH PERCENTILE! WOULD BE USING DATA FROM THE 5<sup>TH</sup> PERCENTILE BECAUSE THIS MEANS I CAN TAKE INTO ACCOUNT THE SMALLEST POPULATION SO THAT THE MEASUREMENTS ARE SUITABLE FOR THE SMALLEST POPULATION. DON'T NEED TO WORRY MUCH ABOUT THE 95<sup>TH</sup> PERCENTILE AS THEIR MEASUREMENTS WOULD ALREADY BE SUITABLE. E.G. A WATER BOTTLE NEED TO CONSIDER 5<sup>TH</sup> PERCENTILE.  
A DOOR NEED TO CONSIDER 95<sup>TH</sup> PERCENTILE



POWER GRIP:  
THE HANDLE OF MY WHISK REQUIRES A POWER GRIP BECAUSE THE WHOLE HAND WRAPS AROUND THE HANDLE. REQUIRES RELATIVELY STRONG MUSCLES IN THE FOREARM.  
RECOMMENDED GRIP DIAMETER 48-55 MM.

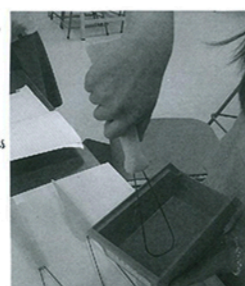
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MATERIALS & TEXTURE:  
THE HANDLE OF THE WHISK NEEDS TO BE A SUITABLE MATERIAL E.G. PLASTIC, METAL WOULD NOT BE SUITABLE BECAUSE, THE MATERIAL IS QUITE HEAVY & METAL IS A GOOD SUBSTANCE FOR CONDUCTING HEAT & ENERGY. A PLASTIC, SILICON GRIP WOULD BE SUITABLE AS IT WOULD PROVIDE MAXIMUM GRIP.

EFFICIENCY:  
MY WHISK NEEDS TO FIT THE SMALLEST POPULATION SO I NEED TO CONSIDER MEASUREMENTS FROM THE 5<sup>TH</sup> PERCENTILE.



“GOOD USE OF ABSTRACT/WEIRD SHAPES TO GENERATE IDEAS  
THERE IS A DENT ON THE SIDE OF THE HANDLE WHICH ALLOWS MY THUMB TO SIT THERE  
U SHAPED ON SIDE OF HANDLE WHICH ALLOWS MY THUMB TO HOLD IT FIRMLY  
WEIRDLY SHAPED, LOOKS BOXED. WOULD LOOK AESTHETICALLY APPEALING IF IT WERE ROUNDED



“GRIP HANDLE STARTS BIG TO SMALL GOOD FOR HAND TO HOLD FIRMLY  
WEIRDLY SHAPED AT THE BOTTOM

# Evaluation



TO FIGURE OUT THE SIZE OF MY WHISK I USED ANTHROPOMETRIC DATA, MODELS AND DRAWINGS. ANTHROPOMETRIC DATA WAS USED BECAUSE IT WAS LESS TIME CONSUMING, EFFICIENT AND FAST. WE COLLECTED ANTHROPOMETRIC DATA ON THE INTERNET. I USED DATA FROM THE 5<sup>TH</sup> PERCENTILE BECAUSE WHEN DESIGNING UTENSILS IT IS IMPORTANT TO CONSIDER DATA OF PEOPLE FROM THE SMALLEST POPULATION TO ENSURE THEY ARE ABLE TO USE IT. I THINK ANTHROPOMETRIC DATA WAS MOST HELPFUL BECAUSE PEOPLE VARY IN ALL SHAPES & SIZES THERE 'AVERAGE' MEASUREMENTS NEED TO BE USED. ALSO CARDBOARD MODELS WERE A GOOD WAY TO COLLECT DATA. THEY WERE QUICK AND EASY TO MAKE. IT WAS GOOD AS IT SHOWED THE APPROX SHAPE IN 3D SO THEREFORE I WAS ABLE TO VISUALLY SEE IT. LEAST HELPFUL WAS SKETCHES & DRAWINGS BECAUSE I COULD NOT ENGADE WITH THE MEASUREMENTS UNLIKE MY FOAM MODEL. FOAM MODELS WORKED WELL BECAUSE IT WAS QUICK AND EASY TO MAKE MY MODEL. IT SHOWED MY SHAPE & SIZE IN 3D SO I WAS ABLE TO FEEL IF IT WAS COMFORTABLE OR NOT. IF I HAD NOT USED A FOAM MODEL, MY MEASUREMENTS WOULD NOT HAVE BEEN SO ACCURATE AND I WOULD NOT KNOW HOW BIG OR SMALL IT IS ON PEOPLE.

I THINK THAT HUMAN FACTORS WAS MOST IMPORTANT TO ME & MAKING SURE MY UTENSIL WAS COMFORTABLE RATHER THAN THE AESTHETICS. THE MAIN PURPOSE OF A UTENSIL IS THAT IT IS ABLE TO DO ITS JOB EFFICIENTLY WITHOUT ANY HAZARDS. THE AESTHETICS MAY MAKE THE UTENSIL ENJOYABLE BUT IT IS NOT IMPORTANT COMPARED TO MAKING SURE IT IS COMFORTABLE SO EVERYONE CAN USE IT EFFICIENTLY. IT WAS INTERESTING TO SEE THAT AS THE AGE GROUP INCREASED, THE SIZE OF THE UTENSIL BIGGER TO ENSURE IT WAS SUITABLE FOR ALL USERS.  
AT FIRST MY WHISK HAD SHARP EDGES, BUT IN ORDER TO ACHIEVE MAXIMUM COMFORTABILITY I HAD TO CHANGE THE FORM OF MY HANDLE. THEREFORE I MADE THE HANDLE ROUND INSTEAD OF A SQUARE SHAPE FORM.

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THE CHARACTERISTICS OF BLOBISM INCLUDE THINGS LIKE 'ENGAGING', 'PLAYFUL', 'BRIGHTLY COLOURED', 'SYMMETRICAL', 'CURVY', 'ROUND'. IN MY UTENSIL CHARACTERISTICS OF BLOBISM HAVE BEEN INCORPORATED. SOME OF THE BLOBISM START OFF WITH A SMALL WIDTH, THEN INCREASES. MY HANDLE OF THE WHISK HAS THIS FEATURE WHICH MAKES THE DESIGN AS A WHOLE ENJOYABLE. MY DESIGN IS SYMMETRICAL LENGTH WISE, THIS MAKES IT EVENLY PROPORTIONED SO IT LOOKS GOOD. I HAVE INCORPORATED TWO COLOURS INTO MY DESIGN. I DECIDED TO CHOOSE WHITE & PINK BECAUSE THEY WORK WELL TOGETHER TO ENGADE USERS. BLOBISM CONSISTS OF ROUND & CURVY SHADES. I HAVE INCORPORATED THIS IN THE BOTTOM OF MY HANDLE.

I HAVE INCORPORATED THE AESTHETICS OF 'BLOBISM' WHILST STILL ENSURING THE UTENSIL IS COMFORTABLE. THE DIAMETER OF MY WHISK INCREASES FROM SMALL TO BIG. THIS MAKES THE UTENSIL LOOK AESTHETICALLY APPEALING. WHICH LOOKS GOOD. IT MAKES THE HANDLE MORE COMFORTABLE TO HOLD. BLOBISM ALLOW IT TO ROUND AND CURVY SHAPE. I HAVE INCORPORATED THIS FEATURE BY MAKING THE HANDLE ROUND SO IT IS COMFORTABLE AS POSSIBLE.

## Human Factors

1. How is anthropometric data collected and translated into a meaningful format that is useful for people such as designers and architects?

As anthropometric data can be time consuming, costly and relatively cumbersome undertaking it is easier to take a sample to represent the population. A sample is a faster way to collect data as it is less time consuming. Other ways of collecting data are surveying, anthropometric books and 3D scanning. With anthropometric books, thousands of measurements are already collected so this makes data gathering easier.

2. Why are certain measurements collected to establish particular guiding ratios and where does his information come from?

Not all body measurements are necessary for a design for a particular product only certain measurements are needed. E.g. Staircase. Feet and knee measurements. Hand measurements not necessary.

3. How are guiding ratios established for one product that is to be used by diverse groups?

Sample size that best fits the population. A variety of age and genders to best represents the whole population so people are able to get an indication of the "average" measurements.

4. What is important to know the decision making behind the sampling, measuring and the basis on which the guiding ratio has been established?

Due to the variations in individuals body sizes "averages" data is needed by a designer and it is necessary. It is impractical to design for the entire population, so it is necessary to select a segment from the middle portion. Take measurements from the 5<sup>th</sup> to 95<sup>th</sup> percentile when designing an object used by the majority of population. Because sizes & weights vary from country to country. E.g. people in Asia tend to be smaller than those in developed countries. Therefore it is important when taking measurements that we need to consider the differences. Also when designing something we need to consider the instructions or measurement ratios so the product/object is suitable for the smaller/larger population. E.g. need to take into account the taller population when designing a chair.

What are two main types of grips when using hand tools and what is the difference? What grip is required for your kitchen utensils?

The power grip, where it requires relatively strong muscles in the forearm. The whole hand wraps around the handle.

The precision grip uses relatively weaker and smaller finger muscles. The item or object is held between the thumb and the index finger. The grip should not be used for tools or actions that require a lot of force.

2. What are 3 main things that cause discomfort when using hand tools?

The three main things that cause discomfort when using hand tools are repeated muscle use, excessive bending. Bending of the wrist can be backwards (extension), forwards (flexion) or sideways (deviation).

3. What are some important things that you will need to consider the design of your kitchen utensil and how will this effect your particular utensil?

My whisk will have to be comfortable in the person's hand. Because if used for long periods I don't want it to be harming the person therefore I may consider no sharp edges around the grip.  
My whisk has to be durable in order for its fit for purpose. It must be able to be used for long periods of time without breaking and also it must be stainless steel otherwise it would rust. Also materials must be considered when designing a product because plastic isn't a material that is strong compared to metals such as steel.  
My whisk has to be efficient. Must be easy to use in order for it to function. My whisk also needs to be safe. I don't want it to harm anyone otherwise it would not be fit for purpose. Therefore I need to consider things such as no sharp edges, no poking out poles.

4. Remember, anthropometry is about body measurements, such as body weight, shape and strength. What measurements will you need to consider in the design of your kitchen utensil?

Anthropometric estimations for British adults aged 19-29 years (in mm, from Wikipedia)

Dimension	5th %ile	50th %ile	95th %ile
A. Wrist length	173	189	209
B. Palm length	108	124	140
C. Palm width	98	107	116
D. Thumb length	49	57	65
E. Index finger length	60	67	74
F. Hand breadth	70	87	95
G. Hand length	69	76	83
H. Maximum grip circumference	45	52	59
	41	48	55