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# Healstep

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# Introduction

This project explores how natural materials can be used in footwear design. The goal was to create a handmade slipper using eco-friendly, locally available, and biodegradable materials. A key aim was to avoid using synthetic (artificial) materials and instead rely only on natural resources.

The primary materials used in this slipper are coconut coir, coconut shell, and jute thread for stitching. Coconut coir and shell are by-products of the coconut industry, although they are already used in many valuable items like mats, ropes, and crafts. This project explores their use in making footwear. It shows how these natural materials can be used in new and meaningful ways.

This slipper is more than just a product. It is a simple, thoughtful creation that connects nature, tradition, and comfort, while supporting a sustainable lifestyle.



Ideation

Lightweight

Comfort

Adjustable

Durability

Cushion

# **Relaxation home Footwear**

Spacious

Easy to wear

Acupressure

Breathable

Anti-bacterial



# Coconut coir and shell

Coconut coir and shell were chosen for their natural, biodegradable, and locally available qualities. Coir provides soft cushioning, lightweight, breathability, and a gentle massage effect while being anti-bacterial and durable. The shell adds structure, visual contrast, and strength, making the slipper functional and eco-friendly. Together, they showcase how different parts of the coconut can be upcycled into a zero-waste, sustainable design.





As more people consume coconut water and eat green coconut pulp, coconut shell waste also rises. In many places, especially in countries like Brazil, these shells are not being appropriately reused. Instead, they're often thrown away without any system, which can lead to environmental problems, health risks, and missed economic opportunities.

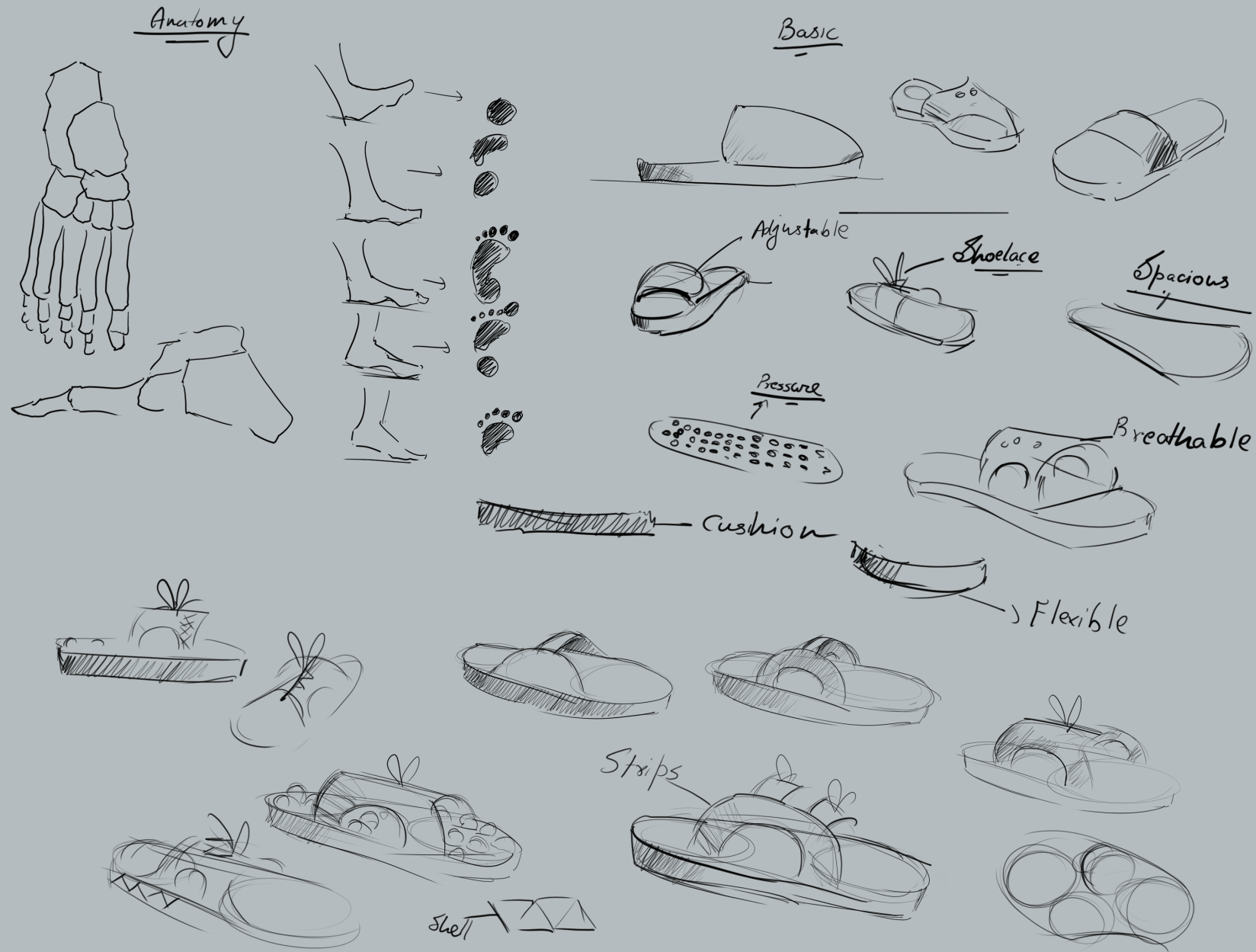
Coconut shells comprise a large part of the fruit — about 85% — and can take nearly ten years to break down when left in open spaces. Just one coconut can create around 1.5 kilograms of shell waste. This adds to millions of tons of waste each year in countries that grow and use a lot of coconuts. What makes this worse is that coconut shells are rich in natural materials like lignin and cellulose, which could be used to create sustainable products.

Using coconut shells to make everyday items like slippers, we can reduce waste, use a strong natural material, and support environmentally friendly practices with minimal waste.





# Rough sketch exploration



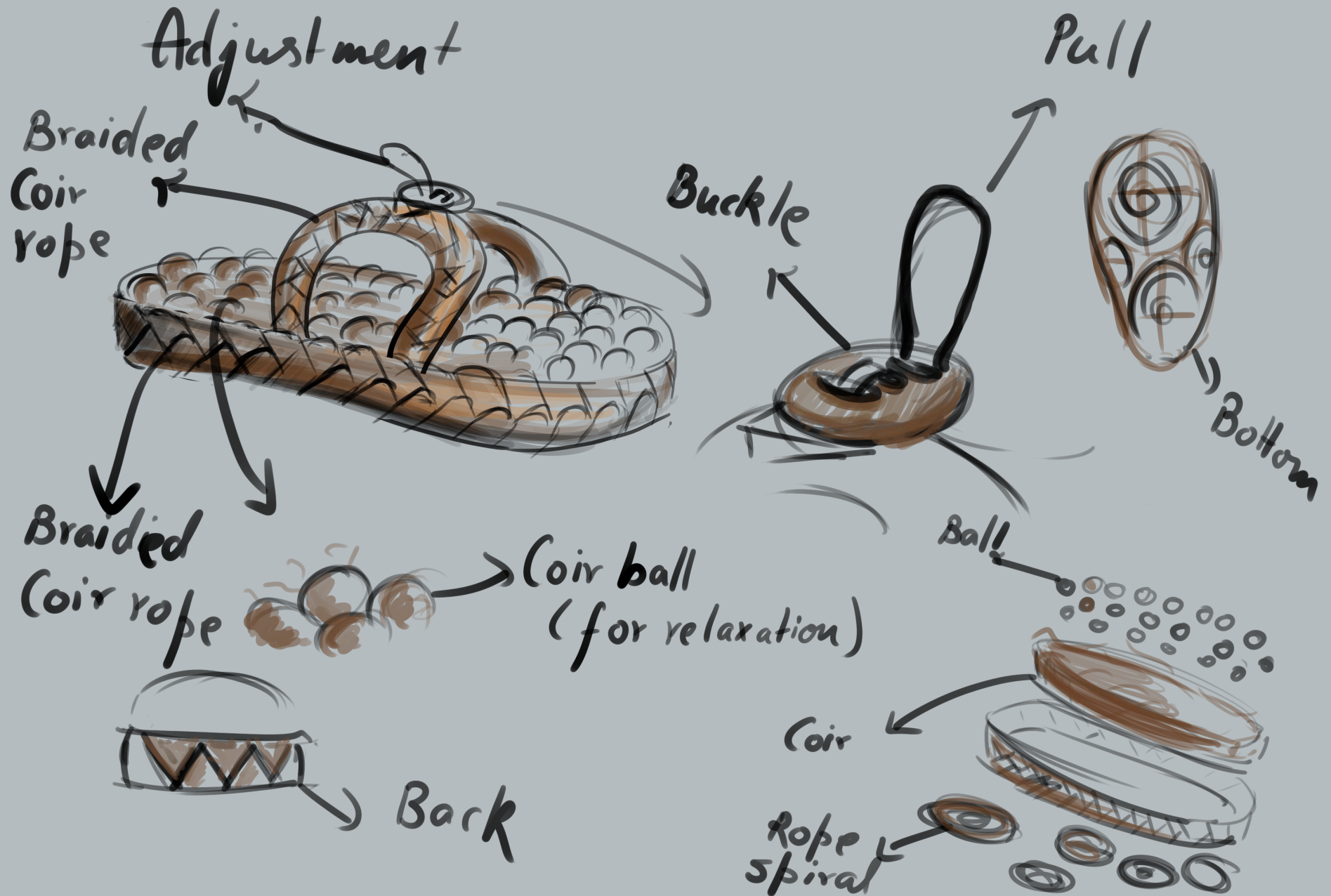


# Material exploration





# Final sketch





# Development

The making process began with braiding coconut coir rope, which was then stitched and shaped using jute rope to form the base outline of the slipper. A belt strap was created and stitched into place. To form the sole, coconut coir was filled and pressed properly using a steam iron, ensuring a firm and even surface. The coir was then stitched together with the braided rope to strengthen the structure. Coir balls were added and stitched securely to enhance texture and comfort.

Next, a spiral rope was stitched to the bottom of the sole to improve grip and structure. Coconut shells were cut into small shapes to create adjustable features and decorative elements. These shell pieces were stitched onto the belt for fastening. Triangle-shaped shell pieces were stitched to the back of the slipper to give a clean, finished look. Finally, for the finishing step, fire was used carefully to burn off protruding coir fibers and smooth the surface.

