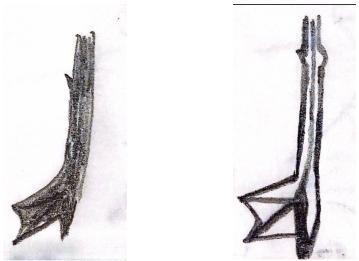
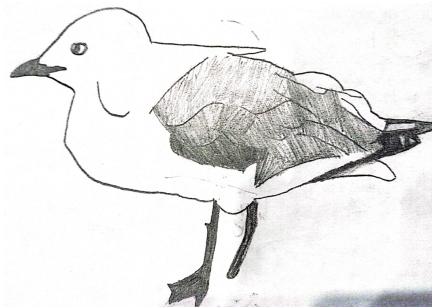
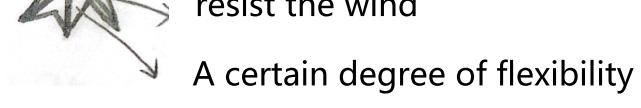


Low-Fidelity Model

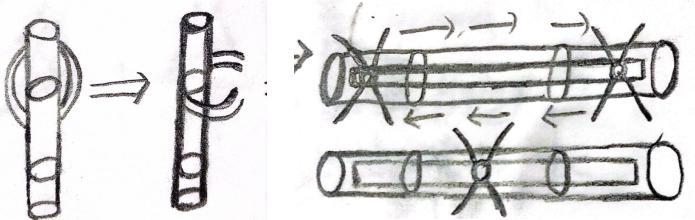


fixed to lost seagull' s leg

elastic, can adjust the length
according to the lost leg,
can also adjust to the ground

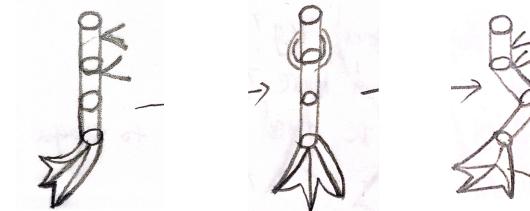


can hold the ground
resist the wind
A certain degree of flexibility

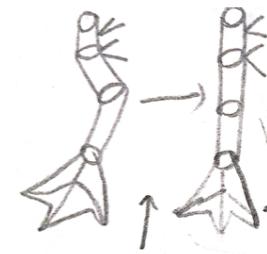


can fixed to the lost leg,
stretch out to change position,
can slide around the slide bar

At this time, when walking, webbed-foot is able to bear forces from up to down



can hold against the ground

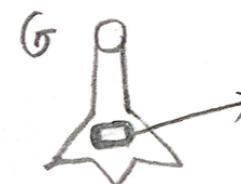


when flying, the leg will stretch out to be straight

when walking, seagull want to fly, the webbed-foot can push the ground to give it a force up

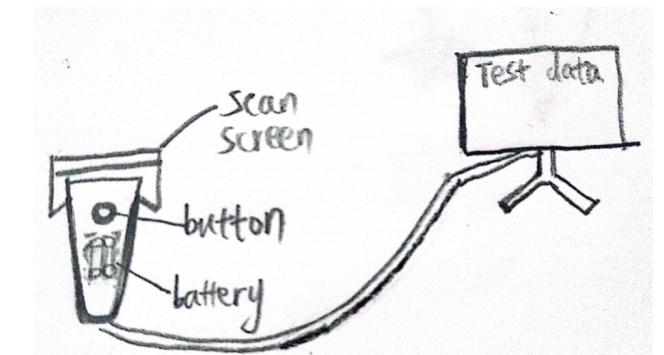


chip inside which can track the trace of the seagull



charging port for electricity periodic recovery

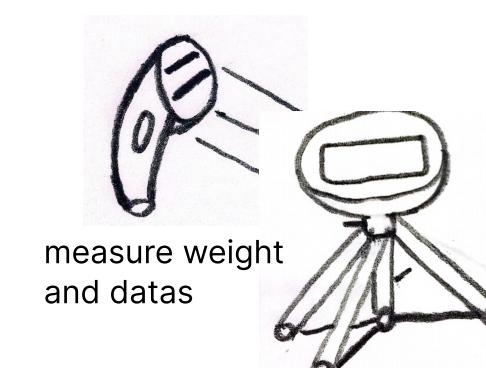
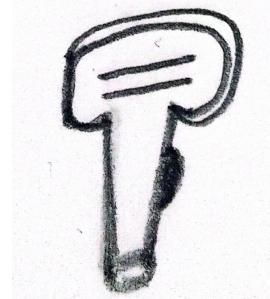
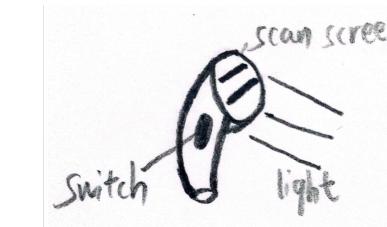
3D print seagull for testing the leg



side

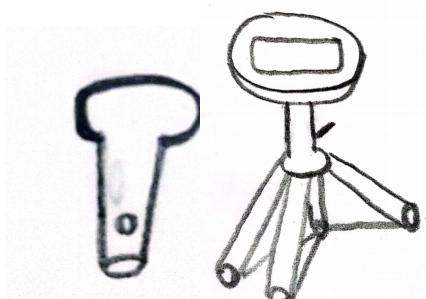
back

front



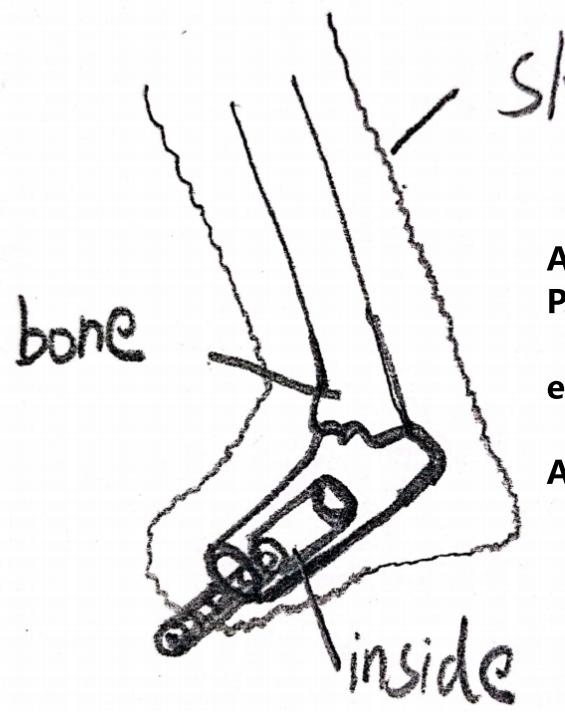
measure weight and datas

scan table



Adjust height

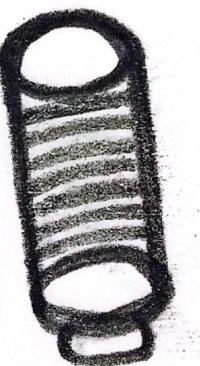
Mid-Fidelity Model



This is the top part of the gull's prosthetic arm, implanted into the bone to create a fixed effect

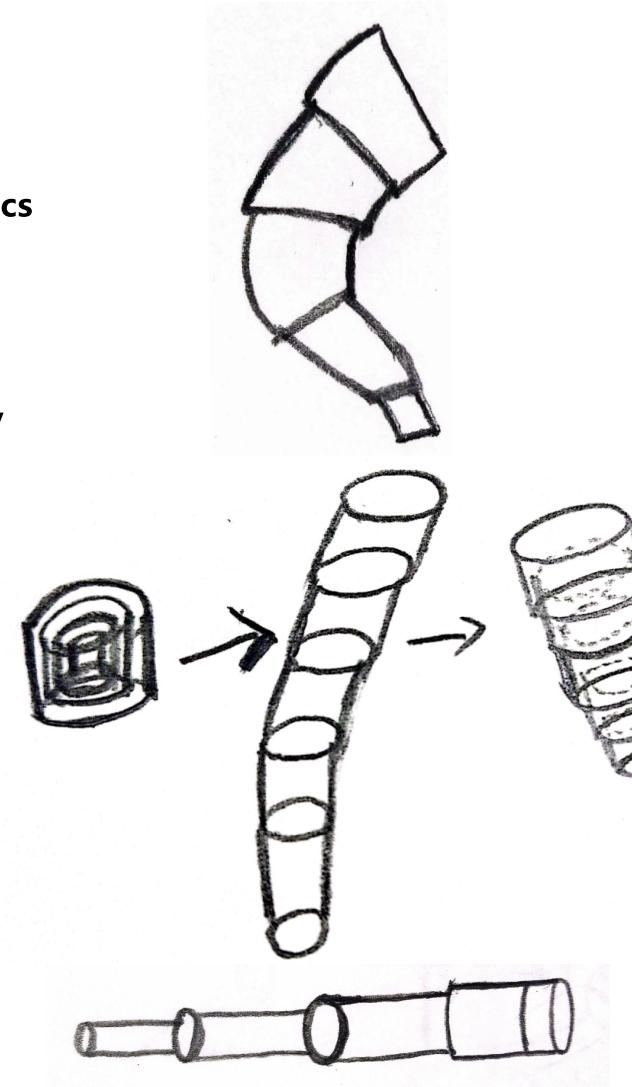
Benefits: The top of the leg can be fixed inside the bone
Light weight and no harm for inside tissues

Limitations: Plug into the bone is painful
If it needs to be changed, it must also be plugged out and do this again



What kind of material should I choose,
which is harmless, perdurable, toughness

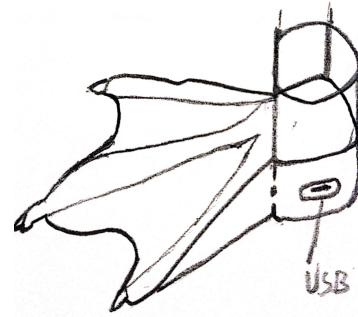
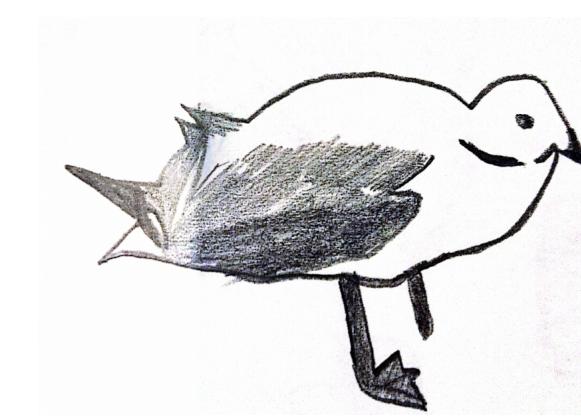
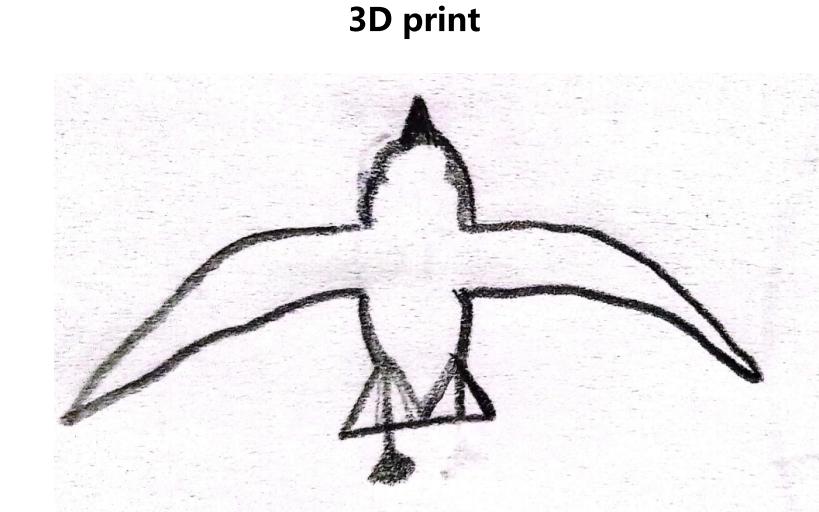
Are Pets suitable for prosthetics
Prosthetic training?
expense
Assess the possibility of injury



This is the gull's prosthetic leg, which can stretch and support the ground

Benefits: compact in size and yet easily deployed,
It can be extended or shortened within a certain length

Limitations: can it twists or moves?
How it can bear forces from the bottom to top
when walking
How can it connects to the fixed top and
webbed-foot



This is a model of a seagull, a test for a seagull prosthetic
The model guarantees maximum simulation

Benefits: Low cost option, Reduced time
It can effectively simulate the real seagull shape

Limitations: Can not move and dynamic simulation

High-Fidelity Model

Implant titanium



fine thread

Viscous soft material



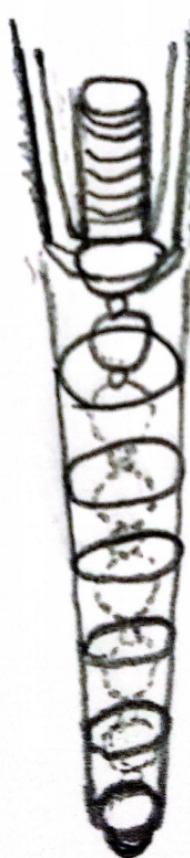
The top is fixed in a threaded pattern by inserting metal into the bone

The implanted metal is bonded to the lower chain using a viscous material

Internal structure and connection of gull prosthesis

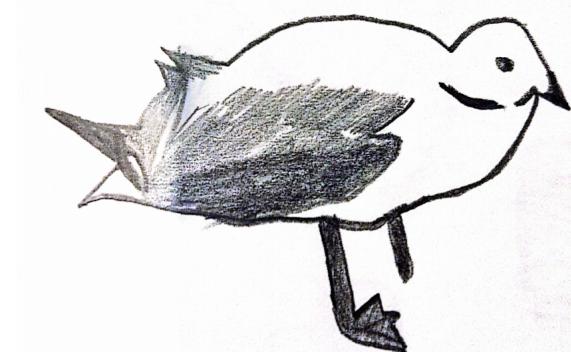
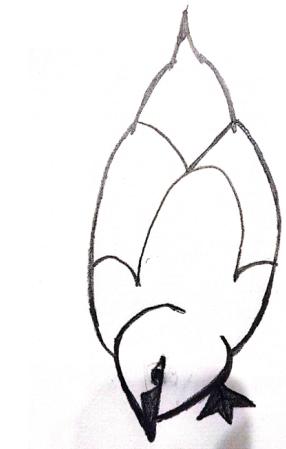
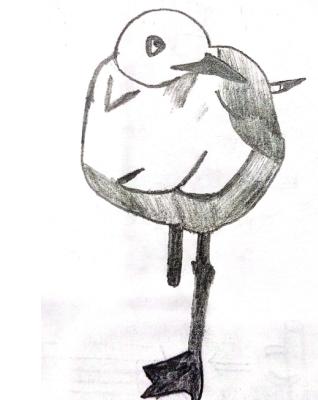
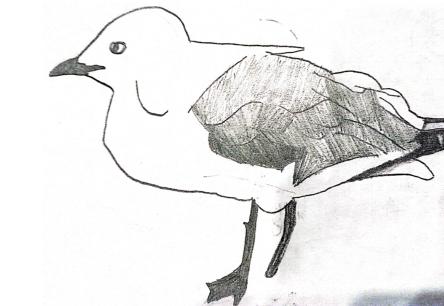


External prosthesis



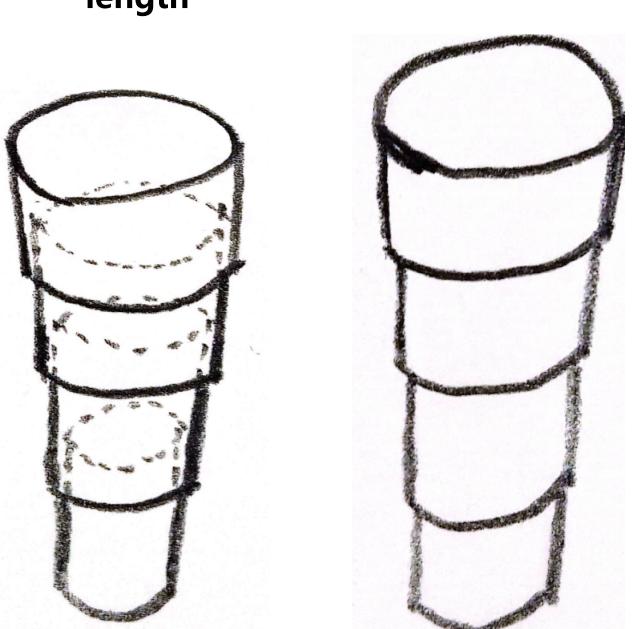
The chain is welded together with the bottom of the leg, and the chain has a certain mobility

connected and fixed to the bottom

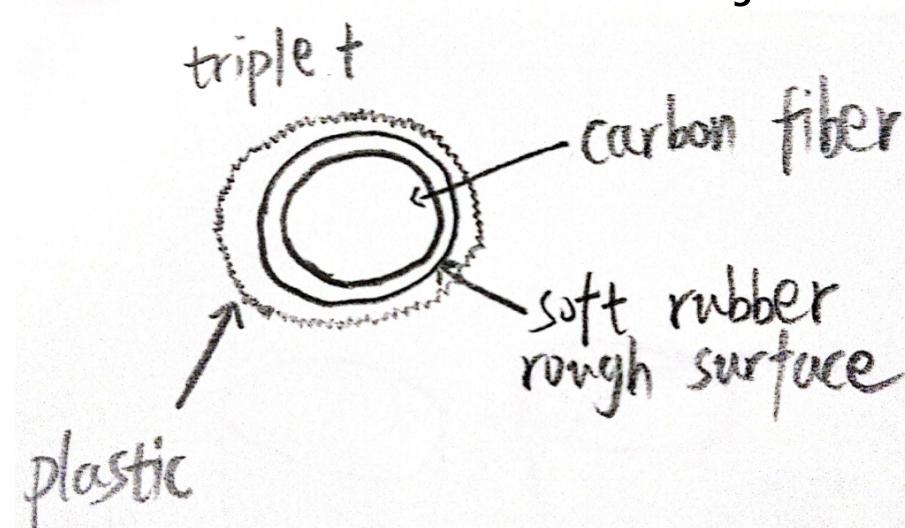


min length

max length



The structure of the prosthetic leg ensures a degree of movement, allowing the gull's legs to slide up and down during movement



will material cause Chronic ulcers which further complicate the wound, gradually infecting deep tissues and bones?



Users can observe real models of seagulls and test them interactively with prosthetic legs connected to Arduino

Shock absorption
Foot shape
gait

how to apply embedded system to add more functions?

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